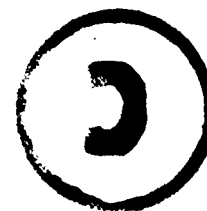


The Medical Practitioner.

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The Medical Practitioner

A Monthly Medical Journal

EDITED BY
Dr. V. Rama Kamath,
Member, Madras Medical Council.

THE CAUTIOUS PHYSICIAN

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MENESTRIN CAPSULES.

How do Menestrin Capsules prevent pregnancy?

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THE Medical Practitioner

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[NO. 8

Original Articles

THE ZONDEK-ASCHHEIM TEST FOR PREGNANCY.

By DR. E. ACHYUTHA MENON, F.R.C.S. (ED.)
Surgeon, Antenatal Department, Government
Hospital for Women and Children, Madras.

The Zondek Aschheim test for pregnancy is one of the most notable advances in the field of Obstetrics and Gynaecology in recent years. Unlike several other laboratory tests for pregnancy which have been described in modern times, the Zondek-Aschheim test has been found to give uniformly accurate results in the hands of workers even other than those who originated it. The technique is simple and the test can be done by any competent medical practitioner with a small laboratory and so is of particular value to the doctor who lives away from a well-equipped laboratory.

I daresay most of you have, in the course of your practice, come across cases where it has not been possible to come to an immediate decision as to whether a patient is pregnant or not, and you have had to ask the patient to call again after a fortnight or a month for another examination when you hoped to be able to discover one or other of the sure signs. This of course causes inconvenience and in some cases, anxiety to the patient and to some extent loss of prestige to the practitioner.

In the early months of pregnancy, for instance, amenorrhoea which is an import-

ant symptom, may be absent in some cases. Some women continue to menstruate in the first few months of pregnancy; and there may be other causes of bleeding during these months from conditions such as erosion of the cervix, cervical polypus, cancer of the cervix, double uterus with pregnancy in one—all conditions in which the patient may attribute the bleeding to ordinary menstruation. Again, amenorrhoea may be due to constitutional conditions like tuberculosis, anaemia, heart and kidney diseases etc., endocrine disorders, or to local causes in the genital organs. Other subjective symptoms, such as morning sickness, giddiness, loss of appetite, salivation, frequency of micturition, and constipation are not always present, or are not observed by ignorant patients and so are not to be relied upon individually or in some cases collectively for a diagnosis. Softening of the vaginal walls and cervix, pulsation in the fornices, and bluish discoloration, are also sometimes not recognisable, and when present, may be due to other causes of congestion of the pelvic organs. Enlargement, with softening of the uterus, generally a most valuable sign, may also be due to other causes, and is occasionally difficult to obtain in primigravidae or in women with very fat abdominal walls. Hegar's sign, when elicited, is also a very valuable probable sign but is likewise not always available. So also the breast signs and the intermittent contractions and Ballotement. It is a consideration of all these and other symptoms and signs taken collec-

Note.—This paper read at a recent meeting of the All-India Mission Medical Conference is published in response to enquiries received by the Superintendent, Government Hospital for Women and Children, Madras, for details of the test.

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view that generally enables one to arrive at a conclusion in any particular case. The necessity for an immediate decision may be urgent due to several causes which need not be gone into in detail now. The Zondek-Aschheim Test comes in handy in such cases.

Even in the later months, difficulty is sometimes met with. Extreme adiposity of the abdominal wall, tenseness of the uterus from hydramnios or twins, ascites, tenderness of the abdomen, large cystic or solid tumours, may all cause difficulty in diagnosis. Foetal movements may not be perceptible, foetal parts may not be felt, the foetal heart may not be audible as in hydramnios or vesicular mole, or when the foetus is dead. Visualisation of the foetal bones in a well taken skiagram cannot be obtained earlier than about 12 weeks and often not until much later.

The Zondek-Aschheim test is based upon the fact that large quantities of a substance resembling in its action some of the hormones of the anterior part of the pituitary gland are excreted in the urine during pregnancy. It has been known for some time that the anterior lobe of the hypophysis undergoes hypertrophy during pregnancy and some portion of the excess of its secretion circulating in the blood is excreted by the kidneys. Experiments on animals have shown that total or partial removal of the anterior lobe results in a state of adiposity accompanied by a secondary hypoplasia of the genital organs in adults and in persistence of sexual infantilism in adolescents. Administration of the extract by injection into such animals produced very definite changes in the reproductive organs. Transplantation later of the anterior lobe into hypophysectomised white rats was seen to bring about restoration of normal growth with partial repair of the injury to the sex glands and the ovaries show signs of ovulation. Zondek and Aschheim succeeded in inducing precocious sexual maturity in infantile mice by such transplantation. They therefore came to the conclusion that one important function of the anterior lobe of the hypophysis is to act as a motor to the ovary and that such activation produced ovarian hormones which act upon the uterus and other genital organs. They took

advantage of the presence in the urine of pregnant women of large quantities of the gonad stimulating hormone of the anterior pituitary to evolve the test which is now well known. What brings about the hypertrophy of the hypophysis is still not definitely established, but it is surmised on reasonable evidence that the presence of chorionic tissue bears a causal relationship to it. Other authorities think that it is the chorionic tissue itself that directly stimulates the ovaries.

TECHNIQUE.

The original test of Zondek and Aschheim is done as follows: A morning specimen of the patient's urine is obtained and injected subcutaneously into five or six infantile mice about three weeks old and weighing six to eight grammes. Varying quantities are injected 0.2 c.c. into mouse number 1, 0.25 c.c. into number 2, 0.3 into numbers 3 and 4, and 0.4 into number 5. Six injections are given three on the first day and three more on the second. The urine should be preserved in ice to prevent decomposition. One hundred hours after the first injection, the mice are killed and the ovaries examined. These organs are found to be bigger and congested. Large ripe Graafian follicles and blood spots and recent Corpora Lutea are seen. These latter constitute a positive reaction. If they are not evident to the naked eye, microscopic examination will show them. The presence of one such Corpus Haemorrhagicum or Corpus Luteum in any of the test animals is sufficient for a positive reaction, their absence indicating a negative reaction.

RESULTS.

Out of over one thousand cases examined by the authors, the Zondek Aschheim test gave accurate results in 98.6 per cent of cases. These included 470 controls where urine from normal healthy women, those after menopause or with irregular bleeding, healthy men, cases of internal diseases, disturbances of internal secretions, inflammatory gynaecological conditions, benign ovarian tumours, fibroid uteri, carcinoma and amenorrhoea due to causes other than pregnancy, all these being negative except in two cases where further test also gave negative reaction and two cases of carcinoma. (In carcinoma, the reaction is limited

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to cornification of vaginal epithelium, congestion and enlargement of the genital organs and the formation of a large number of ripe follicles). Four hundred and ten cases of pregnancy ranging from five weeks to full term, all gave positive reaction, except eight, most of which again on further test proved positive.

It must be remembered in interpreting the results that the reaction depends upon the presence of living chorionic tissue in biological contact with the maternal circulation and so the reaction is positive in cases of ectopic gestation as long as the embryo is alive. It becomes negative some days after its death. Both in these cases and in cases of missed abortion or in latter months in cases of intrauterine maceration, it becomes negative about the eighth day after delivery. The test is found to be strongly positive in hydatidiform mole and chorion epithelioma. The detection of the hormone in weak dilutions is availed of to diagnose these conditions.

This technique has been improved upon by the authors in certain respects. It has been found that a certain number of the test animals died probably due to the presence in the urine of some toxin, the nature of which is not well known. This has been obviated by a process of detoxication which has been reported to be giving good results. Thirty to forty c.c's of early morning urine is weakly acidified with acetic acid and filtered 120 c. c. of ether is added and the mixture is shaken for about three minutes. After allowing it to stand for a little while the supernatant ether is decanted off and the urine is then placed in a hot water bath at 45 degrees C., till all the remaining ether is evaporated off, taking particular care that the temperature does not rise above that. The urine that is left is free from toxicity and is used for the injection.

Aschheim and Zondek further tried to shorten the period of the test by a process of concentration of the hormone to accelerate the reaction. This is done by shaking up for five minutes 66 c.c's of urine with 240 c.c.s. of alcohol and after standing for half-an-hour, the sedimented hormone is separated by centrifugalisation and is then detoxicated by the addition of thirty to fifty c.c.s. of ether. The resultant

urine, though a little cloudy in appearance, can be safely injected and found to contain about six times the concentration of the hormone. The result is obtained in fifty hours instead of hundred hours, but only positive reactions are of value. When negative, the test should be re-done.

MODIFICATION OF THE ZONDEK-ASCHHEIM TEST.

The test has been modified by Friedman and Lapham and by Schroeder by substituting the rabbit as the test animal. The original test requires five or six animals of a particular age and weight, which are not to be had except when special arrangements are made for the breeding of large families of them. Besides, it takes as long as four days to obtain a reliable result. It has been found that the rabbit is more suitable because only one animal is required and the results can be made out with the naked eye always. Besides, the rabbit is one of the few animals which do not go into a natural oestrus. Its ovaries do not show any ripening of follicles, ovulation etc., except after copulation, and then these changes occurred as early as eight to ten hours after the act. The same result occurred after injection of the pregnant woman's urine. Hence the result is obtained in a much less time. Any adult female rabbit of any age may be used, the only precaution needed being that the animal should be kept isolated from male rabbits and even from female ones for a period of about thirty days.

TECHNIQUE. Friedmann and Lapham inject the urine into the marginal vein of the rabbit's ear thrice daily for two days; and forty eight hours after the first injection, a laparotomy is done and the ovaries examined. 4 c.c.s. are injected each time. The urine which is preserved in ice to prevent decomposition, is first filtered to remove any gross sediment and then warmed to the blood heat by immersion in warm water at a temperature not higher than 45 degrees C. for a minute or two, and is then ready for injection. The veins are rendered prominent by mechanical irritation and proximal pressure and the injection is done slowly. Technical difficulties are few in number and can be easily got over with a little experience. Toxicity of the urine sometimes kills the animal when the test has to be repeated. Smallness of the veins of animals kept

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encaged for a long time due to their suffering from mange, and thrombosis due to previous injections, are minor difficulties which can be got over.

Still more recently, autotransplantation of the ovary into the anterior chamber of the rabbit's eye has been done, so that the result may be visible by inspection, without having to open the abdomen of the test animal.

RESULTS. The modified test has been found to give quite as good degree of accuracy as the original one. I have been myself using this method for over four years and am satisfied with the result. I inject 5 or 6 c. cs. twice daily for two days. Out of over 130 cases I have done, inaccurate results were seen only in two instances, in one of which the animal was too weak to react, being emaciated from prolonged captivity. A repetition of the test gave accurate result in this case. The earliest time when a positive result was obtained was fourteen hours after the first injection.

What constitutes a positive reaction? The presence of one atleast recent Corpus Luteum or a recently ruptured Graffian follicle with haemorrhage into it indicated by red elevation of a conical form, a millimeter or two in diameter with a small depression in the centre. It should be distinguished from unruptured Graffian follicles which sometimes appear red when the vessels over them are engorged. These, however, are paler and clearer and are rounded, rather than conical, and do not show a central stigma or depression. There are some times seen also unruptured follicles with haemorrhage into them (peculiar to rabbits) likely to be mistaken for corpora haemorrhagica. These are dull red, smaller and less prominent. Unruptured clear follicles sometimes seen are suggestive of ovarian stimulation, but are not characteristic of pregnancy.

USES. (1) For the diagnosis of early pregnancy, whether uterine or extrauterine. It must be distinctly understood that the test is meant only to supplement information obtained by clinical examination, and not to supplant it. It becomes negative when the ovum is dead. It may be positive even as early as one week after a missed period.

(2) For the diagnosis of vesicular mole and chorion epithelioma. In these condi-

tions, the reaction is available in weak dilutions of the urine, a quantitative method having been evolved.

(3) For diagnosis of intrauterine death of the foetus, early or late.

(4) For diagnosis of uterine pregnancy complicated by fibroids and of pregnancy from degenerated fibroids and from ovarian and other pelvic tumours.

TUBERCULOUS DISEASE OF BONE*

By LIEUT. COL. M. M. CRUICKSHANK, I.M.S.,

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Bone tuberculosis is a chronic inflammatory condition and an osteomyelitis with secondary periosteal involvement occurring in early life, choosing particularly the ends of long bones, the short long bones and the short bones; displaying as a rule an excess of bone destruction over bone formation and yet with a decided tendency towards limitation of spread and spontaneous healing owing to the same fibrous tissue formation, so characteristic of tuberculous disease in the lungs and other organs.

Though essentially a disease of childhood and of adolescence, it may become manifest at any age, even in senility, but in these older patients it can be proved to be a recrudescence of any affection, latent perhaps for many years.

Route of Infection.—The infection is carried to bone by the blood stream probably in the form of a tuberculous embolus from some other part of the body.

Site of infection.—Tuberculosis commences in cancellous bone, seldom in compact bone.

The most frequent sites are, ends of long bones especially the tibia and femur, the short long bones, the short bones of the tarsus and vertebrae; as all of these are in close proximity to joints, bone and joint tuberculosis are very frequently associated.

The common situation to be affected is usually the metaphysis, occasionally the epiphysis of a long bone.

Both are richly supplied with capillary loops in which an infected embolus may lodge.

The circulus vasculosus (of Hunter) containing the vessels responsible for carrying the infection lies in the reflection of the synovial membrane on to the bone. When the reflection includes the metaphysis as at the upper end of the femur, the disease will originate in that part; when on the other hand the reflection lies entirely in relation to the epiphysis as at the upper end of the humerus and to a lesser extent at the lower end of the femur the primary focus will be in the epiphysis, but another factor is present which may well determine which bone is to be attacked. The blood vessels which supply the bone become affected with tuberculous endarteritis, due to the circulating tuberculous toxin.

The nutrient arteries of the short bones are especially so affected, and as a result the bone marrow undergoes a gelatinous or fibromyxomatous degeneration, and in such a bone tuberculous osteomyelitis readily develops.

Occasionally the diaphysis is affected.—Why? Typical tuberculous diaphysitis is seen in the affection of the phalanges, metacarpals and metatarsals and in the bodies of the vertebrae.

There are two considerations which explain in the development of this form of the disease.

1. The vascular distribution in the smaller bones is peculiar; the nutrient vessel as soon as it enters the interior of the bone, breaks up into a complete network of vessels and there is therefore a tendency for any circulating tuberculous material to be held up before it reaches the metaphysis.

2. The nutrient vessel is sometimes the site of a tuberculous endarteritis and the peculiar marrow changes which appear secondary to this condition are responsible for the lodgment and development of the tuberculous lesion.

This is the influence which explains the infection of the larger long bones.

The common forms of tuberculous diaphysitis such as "spina ventosa" are practically confined to the earlier years of life, because it is during this period that the nutrient vessel is the main source of blood supply. After growth has ceased the periosteal vascular supply becomes of greater importance than the nutrient and there is a corresponding fall in the incidence of tuberculous diaphysitis.

Occasionally the Epiphysis is affected.—Why? The impression abroad is that the epiphysis like the metaphysis is frequently the site of tuberculous disease, but this is not so. The error has arisen through erroneous nomenclature and confusion of the terms metaphysis and epiphysis.

There are however conditions in which a tuberculous epiphysitis does occur.

The most common is the secondary infection which extends from a related infected joint.

The second condition is an anatomical one. If the reflection of the synovial membrane is related only to the epiphysis and does not extend on to the diaphysis, then that epiphysis may become the site of a primary tuberculous epiphysitis, because into such an epiphysis a large number of vessels enter from the neighbouring joint and it is therefore liable to be infected from the joint itself or by a blood borne infection from other parts (Fraser). Such a statement might give one the impression that tuberculous epiphysitis is rare but this is not so in long bones.

As Greig puts it, "In long bones the initial tuberculous infection does not occur so invariably at the metaphysis as does the acute septic process; commonly it is epiphyseal and as such, may by early perforation, cause a tuberculous arthritis or more rarely spread towards the marrow cavity. When the tuberculous affection begins in the diaphysis it may be periosteal but more frequently is endosteal or medullary. Of the long bones the tibia is probably the most commonly affected".

Changes which result from the lodgment of the Bacilli. The Primary Bone lesion.

Probably the bacilli become deposited by an extravasation of blood, from a vessel, the wall of which has been previously weakened by Tuberculous endarteritis.

In the effused blood the Bacilli form, just as they do in tuberculosis elsewhere and as a result of their growth a typical tuberculous follicle is found with giant cells, epithelioid cells and lymphocytes, a central mass of endothelial cells with a surrounding zone of lymphocytes—a miliary tubercle. A mass large enough to be apparent to the naked eye, a small translucent greyish white area in the centre of the marrow. Changes appear at the centre, caseation occurs and at the periphery there is an attempt at fibrosis and

localisation of the follicle-the grey tubercle has now become a yellow tubercle. Independent of the growth of the miliary tubercle changes appear in the various constituents which comprise the bone.

The marrow around the focus shows tissue changes similar to those associated with tuberculosis elsewhere.

An acute irritant is at work and a leucoblastic reaction on the part of the marrow gives rise to great numbers of polymorphonuclears. The tuberculous toxins then begin to make their presence felt and lymphocytes replace polymorphs.

Later still the fibrosis which plays so great a part in the healing of a tuberculous lesion begins to develop and the fat is replaced by connective tissue which in time will become fibrous tissue and wall off the original focus.

In acute spreading forms this does not happen.

The arteries of the marrow and the bone itself show a marked endarteritis obliterans similar to that so characteristic of syphilis, save that it is a late feature of the disease and is unaccompanied by any perivascular infiltration of lymphocytes.

"The presence of tubercles, their bacilli and their toxins, within the marrow cavity or within the haversian canals, or even on the surface acts as a foreign body and as such provokes a histamin-induced hyperaemia" (Greig.)

When this hyperaemia reaches a certain degree there is proliferation of fibroblasts, plump fusiform cells with vesicular nuclei and branching processes - granulation tissue; there must therefore follow a decalcification of bone.

The bone lamellae show two characteristic changes, osteoporosis or rarefaction, osteosclerosis or condensation.

Osteoporosis or caries is brought about by

- (1) action of osteoclasts.
- (2) erosive action of cellular granulation tissue, which is formed in relation to blood vessels and which enlarges haversian canals and erodes bones under the periosteum and in contact with the medulla.

Branching tuberculae of bone are left, the interspaces being filled with granulation tissue.

Osteosclerosis.—Seldom well marked in tuberculosis, is the analogous process in bone to fibrosis in marrow. By osteoblastic action fresh layers of bone are laid down on the laminae and so increase their thickness and density. When osteosclerosis occurs it is always the result of superadded sepsis plus exposure to toxins of the septic process, together with the presence of endarteritis.

"The process by which the portion of a diaphysis affected with tuberculous osteomyelitis changes from its normal shape to a thin walled fusiform expansion is not generally appreciated. There seems to be prevalent the idea that the bone is distended by pressure of tubercles from within. As bone is a rigid structure such a supposition is manifestly absurd. Bone can no more expand or dilate than it can bend without initial decalcification. Such a change in shape however presents no mystery." (Greig.)

When the bony tube becomes soft as a result of the histamin-induced hyperaemia, then it can accommodate itself to its contents, with this relief the hyperaemia diminishes and at once the local excess of calcium is utilised to form new bone.

The factors in this enlargement or false expansion typified in the spina ventosa of tuberculous dactylitis, may be stated shortly so.

- (1) the presence of tubercles acting as foreign bodies.
- (2) provides a histamine-induced hyperaemia which
- (3) is followed by decalcification which
- (4) renders the affected area simply a soft pliable tube in part or in whole, allowing it to alter in shape, and
- (5) with the cessation of the hyperaemia, the local excess of calcium is utilized, new bone is laid down, recalcifying the area of bone in its altered shape, thus rendering this shape permanent

As the periosteum reaches its limit of expansion, the stretching diminishes its vascularity and the local excess of calcium is again available for the formation of bone.

This sheath or case of new bone is formed at the periosteum because there and there only in the diseased bone can there be the necessary combination of adequate blood

supply and excess of calcium salts, but it is not formed by the periosteum. Though subperiosteal it is by no means of periosteal origin.

THE QUESTION OF THE SEQUESTRUM IN TUBERCLE

A sequestrum is not common in tuberculous disease because of the increase of peripheral hyperaemia which the tubercle provides and of the degree of periosteal hyperaemia which it excites. Should minute spicules or fragments of the trabeculae escape decalcification, they may find their way into an avascular, purulent or caseous area of fused tubercles, where they may remain as fine particles.

In severe forms of infiltrating tuberculous osteomyelitis, however, larger areas of bone may be more or less isolated and in the short long bones the whole of the body of the bone may be affected. Even then the so-called necrotic bone lies in a mass of tuberculous granulation tissue and in virtue of the granulation tissue is undergoing rapid decalcification. It never forms a true sequestrum, a dead homogeneous entity, unless sepsis be superadded.

In the absence of sepsis any dead osseous tissue will be dealt with by the inflammatory process and will ultimately disappear, its decalcification providing an immense amount of excess calcium which goes to form the light porous fusiform involucrum, standing well away from the necrotic shaft, so characteristic of tuberculous dactylitis. It is misleading to speak of this granulation-impregnated necrotic osseous tissue as a "sequestrum", it is not isolated, but retains its attachment to the extremities of the metatarsal and is connected freely with the new porous bone in which it is encased. If closely examined the "sequestrum" if large will be seen to be porous.

TUBERCULOUS PERIOSTITIS

While usually associated with tuberculous osteomyelitis, it may occur as a separate entity. It is usually found in superficially placed bones but may occur in the long bones. The pathological process is due to the presence of tubercles and their toxins, producing a hyperaemia in the periosteum with slight serous exudation with resulting rarefaction of cortical bone: this is later replaced by light porous subperiosteal bone.

Excess of this porous spongy bone on one aspect of the bone as compared to another is due to posture, the exudate raising the periosteum further from the bone over the dependent parts.

Superficial bones such as clavicle, sternum, ribs, vertebrae, skull, occasionally show this new bone formation. It is much less frequently seen in the long bones of the limbs.

In superficial bones such as the sternum the formation of tuberculous granulation tissue in the deeper layers of the periosteum and its subsequent caseation and liquefaction is attended by the insidious development of a doughy swelling which is not as a rule painful, although tender on pressure. While the swelling often remains quiescent for a time, it tends to increase in size, to become boggy or fluctuating and to assume the characters of a cold abscess.

In deeply seated bones such as the upper end of the femur the formation of a cold abscess in the soft parts is often the first evidence of the disease.

THE PROGRESS OF THE DISEASE— PATHOLOGICAL VARIETIES

Tuberculosis may behave in various ways in bones as in other organs. It is unnecessary to introduce a special series of names to denote different varieties. It is sufficient to recognise.

BOYD FRASEK

- | | |
|----------------------|---------------------------------------|
| 1. a localised form. | 1. encysted. |
| 2. a spreading form. | 2. infiltrating. |
| 3. an atrophic form | 3. atrophic. |
| or caries sicca | 4. hypertrophic? mixed with syphilis. |

The localised form is much the commonest and most chronic. The defence is sufficiently strong to hold the disease in check and this form corresponds to a localised nodule in the lung. The lesion, which is about the size of a marble presents a centre which is either caseous or converted into a semi-fluid material.

Around this is a pale pink zone blending with the surrounding marrow. This is the limiting band of new fibrous tissue. The condition is essentially chronic so that the slow process of rarefaction results in complete absorption of the lamellae. If the lamellae are not absorbed completely, then they separate as and from small sequestra.

The spreading form.—Where the fibrosis is insufficient to limit the spread of the disease, it corresponds to diffuse tuberculosis of lung. The central caseous mass is surrounded by a zone of gray infiltration representing tuberculous granulation tissue which has not yet become caseous. Around this there is a red zone of reaction.

Thrombosis of vessels which occur early greatly weakens resistance. Rarefaction is not so marked, because active processes are arrested and necrosis supervenes, with the formation of comparatively large sequestra. The disease may spread down the medullary cavity until the greater portion or the whole of the shaft is involved. It may spread to the cartilage of conjugation and involve the epiphysis and neighbouring points. It may spread to the periosteum and form a subperiosteal abscess. It may ultimately discharge on the skin. Where the medullary spread is marked, expansion of bone with deposition of new bone is seen as in tuberculous dactylitis.

The atrophic form.—Caries sicca is a rare condition chiefly affecting the upper end of the humerus. The deeper portion of the bone becomes rarefied owing to the formation of granulation tissue and new bones is deposited on the surface which itself in turn becomes eroded. Finally the granulation tissue becomes dried and fibrosed.

With the replacement of marrow by granulation tissue, the bone lamellae undergo a rapid absorption. The process begins in the centre of the medulla and gradually extends to compact bone at the periphery: the lacunae are increased in size and the whole appearance is one of extreme porosity.

True suppuration never occurs.

The changes may extend to articular cartilages but *never involve it*.

The absorption is due to the activity:

(1) of osteoclasts; (2) of granulation tissue.

A periosteal hyperaemia brings about a deposition of subperiosteal new bone which tends to become absorbed near the original shaft, so that a ring of granulation tissue lies between the new bone and the original shaft. This goes on and on giving an increased but unstable circumference.

"Tuberculous osteomyelitis as seen in the long bones and short long bones has no

counter part in the bones of the cranium and face. In the membrane, bones of the skull tuberculosis is of the greatest rarity, yet tuberculoma of the brain and tuberculous meningitis are common occurrences.

There is a vast difference between the anatomical and functional relations of the pericranium on the outer table and the dura matter on the inner table, to the cranial bones, and the periosteum and endosteum in the long bones, and there is no parallelism between the diploe and the marrow cavity.

In the long bones the central canal is naturally evolved as being an essential part of the mechanism of stability under the stress and strain to which such bones are subjected by function and by muscular strain; but the diploe is a covered way whereby the venous intracranial circulation finds ready transference by an alternative route in the event of unilateral temporary obstruction, be it postural or from extraneous pressure.

In the limbs temporary obstruction to the venous return is met by the system of superficial subcutaneous veins, but in the calvaria, the physical features of the scalp and of the galea aponeurotica make impossible a similar arrangement of such superficial cisterns for venous overflow. The prime importance to the organism of the intracranial contents make it imperative that venous congestion be avoided and for this no more efficient plan than the venous canals of the diploe could be devised. The occurrence of true intrasosseous tuberculosis is practically confined to the zygomatic bone. When tuberculosis occurs the osseous changes are due to the hyperaemia it provokes and they conform to the changes found in the milder inflammatory conditions and are sooner rather than later complicated by the addition of sepsis.

When tuberculosis does occur in the skull it begins in the diploe and extends outward so as to perforate the outer table. It is found most commonly in children and in the frontal, parietal and temporal bones, and usually with the formation of a fine, worm eaten, circular sequestrum.

The pathology of Pott's Disease cannot be discussed here, but two points with regard to tuberculous disease in a vertebrae must be borne in mind:

(1) that the varieties of the disease in a

vertebrae depend on the blood supply of a vertebrae;

(i) Medullary; (ii) Epiphyseal; (iii) Periosteal; (iv) Anomalous:

(2) that while compression of the cord with paraplegia may be due to

(i) oedematous membranes; (ii) tuberculous granulation tissue; (iii) abscess formation; (iv) sequestrum or tissue debris; (v) pathological dislocation;

yet paraplegia may arise apart from mechanical compression as a result of toxic and vascular changes, which often account for transitory paraplegias; this is due to repeated minor circulatory damage by chronic disease going on year after year with little outward sign.

Abstracts

THE APPENDIX VERMIFORMIS

By W. D. HAINES

EDITORIAL COMMENTS

In the study and management of diseased conditions physicians are prone to overlook the important assistance which a knowledge of the embryology and physiology of the organ involved add to a clear conception of the pathological process.

The appendix vermiformis in pre-natal life is proportionately much larger than in the adult, the organ being one-fifth the size of that of the caecum, whereas in the adult the proportion is as one to fifteen, retrograde changes accounting for the discrepancy.

Retrograde changes in the appendix, in the absence of disease, are fairly constant in the various stages of post natal life, comprising a steady diminution in the character and amount of secretions, with a marked tendency to obliteration of the lumen.

This phase indicates that the appendix vermiformis, like the thyroid gland, plays an important though not fully comprehended part in foetal development; furthermore, that the appendix should be classified with the external ear of reptiles and other vestigial structures in the development scheme of nature.

Ribbet observed, in his dissections, a gradual tendency to the obliterating process of the lumen of the appendix vermiformis in 25 per cent of the subjects at the

age of 35 years, with regular graduation of increase until the period of three score and ten at which time nearly 75 per cent of his subjects showed manifestations of retrogression

There is a close analogy in Ribbet's findings, which are based upon a large series of dissections, and the incidence of appendicular diseases.

His observations relative to age have been confirmed time over and again by surgeons of large experience. One occasionally finds a small shriveled appendix, a mere string, without lumen, while operating for other pathological conditions. An important question awaiting solution pertains to the influence which the retrograde, obliterating process in the appendix has upon the digestive functions.

In the embryo the appendix vermiformis is situated under the right lobe of the liver, and in some instances does not descend into the right iliac fossa. The presence of this anomaly renders disease of the organ extremely hazardous to life and operation difficult.

The appendix vermiformis is only found in man, higher types of anthropoid apes, and some marsupials (*genus phascalomys*).

In the herbivora there is a large pouch situated in the lateral wall of the caecum in lieu of the appendicular process found in man. The organ is completely surrounded by peritoneum; still one frequently hears surgeons speaking of an extra-peritoneal appendix vermiformis.

Entrance of the appendix into the caecum is similar in mechanism to that of the ureter into the urinary bladder, or the common bile duct into the duodenum; the organ enters the wall of the caecum and runs for a short distance before opening into the bowel.

The appendix vermiformis derives its chief blood supply from the post-caecal artery, which is subject to pressure from over distention of the caecum, predisposing the appendix to congestion and infection. There is a fold, not constant, of mucous membrane (Bauhin's valve) at the caecal orifice, indicating that at one time in man's life this structure acted as a valve to prevent regurgitation of bowel contents. The necessity, however, for this valve action is seemingly disappearing in man, as the fold is very rarely present.

Surgically the appendix vermiformis may be found in remote regions from the normal site. This is due to failure of rotation of the ascending colon in the embryo, length of the appendix, and perhaps other causes.

"The lamented luminary of the microscope (Metchnikoff) advanced the theory that all creatures without a colon or large intestine are very long lived, because they do not have a receptacle in which to harbor enormous bacterial flora, and in which are developed and thrown off the complex chemical substances that bring about old age."¹

Absence of the appendix vermiformis is conceded as a possibility, an anatomical anomaly, but the occurrence is as rare as a governmental code without an alphabetical cognomen.

The presence of food in the stomach is said to stimulate the secretory functions of the appendix vermiformis, the secretions being emptied into the caecum long before remnants of food reach the terminal ileum.

If the stomach or intestinal digestion is disordered, or there is delay in the emptying time of the stomach, the secretory functions of the appendix are diminished or held in abeyance.

From this short review may we not conclude that the appendix vermiformis has a part in the intrauterine development of the child and in the digestive functions of post-natal life? Furthermore, when such demands are fulfilled, the organ diminishes or ceases to function and retrogrades?

This is but a concrete example of nature's abhorrence of lost motion; that is to say, when the function of an organ is no longer needed in development or maintenance of the body, the organ retrogrades or ceases to exist.

Doctors of medicine have known for many generations of the existence of appendicitis under various names. In the seventeenth century Saracenus described an abscess in the region of the appendix, but seemingly did not determine the origin of the pus.

Mestivier, in 1759, described perforation of the appendix with abscess formation, and Lamotte, in 1776, found postmortem a

¹ Campbell, Charles A. R.: Bats, Mosquitoes and Dollars.

"petrified foreign body," in the appendix of a subject dead of "Tympanties."

Jadelot, 1808, Wegler, 1813, and Louger-Villermay studied the disease. The last named confirmed his clinical diagnosis at autopsy, reporting his observations in a paper entitled "Observations to Serve for the History of Inflammation of the Caecal Appendix." He is credited with being the first to assemble the facts pertaining to cause and effect in appendicular disease.

In 1827 Melier, from his own study of the symptomology, course, duration and tendency of the disease to destroy life, suggested the advisability of surgical intervention for the relief of "Typhilitis," but Duputren, who was the leading surgical authority in France at the time, opposed operation.

Shortly following this era the internists came to the assistance of advanced thinkers in surgery. The work of Whittaker, Osler, Pepper and other leading doctors of medicine fully endorsed the surgical dictum that in operation lay the safety to life and future health of patients suffering of "Typhilitis."

The eloquent, classical scholar and brilliant teacher, Whittaker, said: "In all cases relapses are very frequent, as repeated occurrences of the disease constitute the rule..... A case may terminate fatally in a few days, or may extend itself over many months; or, with its effects, over years or for life."²

Fitz of Boston, 1886, from his post-mortem experience, correlated the work of his predecessors, formulated the rationale of appendicectomy, and placed the subject of appendicitis on a solid surgical foundation. In his description of the disease Fitz used the following delineation: "As a circumscribed peritonitis is simply one event, although usually the most important in the history of inflammation of the appendix, it seems preferable to use the term appendicitis to express the primary conditions."

An interesting observation was made over fifty years ago by Toft, who found that more than one-third of the subjects in a series of three hundred which he posted had had typhilitis; the comparative relation

² Whittaker, James T.: A Contribution to the Clinical Study of Typhilitis, *Trans. Med. Soc. Penn.* 1883.

which he established being, perhaps below that of present day pathologists.

It is entirely impossible for doctors of medicine of the present generation, wherein from ten to fifty appendices are removed daily in every large hospital in America, to comprehend the exultation and joy which Dr. Fitz experienced on finding his post-mortem and clinical deductions confirmed, witnessing removal of a diseased appendix and the recovery of the patient.

"Peace had her victories, no less renown than war." Lister had blazed the way (1867) to safe laprotomy. Willard Parker, New York, and Hancock, England, advocated and practised in the early 80's opening appendicular abscesses, and there were many adherents to their views in America.

Two divergent surgical schools developed immediately following Dr. Fitz's epoch-making work, one declaring in favour of surgical intervention, the other for temporizing, and appendicitis became the chief topic of discussion at medical gatherings for long weary succeeding years.

The subject degenerated into a sort of oratorical contest, wherein each side presented views with some eloquence, little logic and much acrimony. In the course of time surgeons began reporting large numbers of operative recoveries. One in his enthusiasm really out-Heroded Herod in reporting a large series of successful appendicectomies which he had performed in the preceding five months. He included one recovery in excess of the total number of operations.

A miracle? Not at all. He had simply acquired some of the cunning and all of the mendacity exhibited by the astute, ancient herdsman in the allocation of jointly-owned bovine. This type of reporter, few in number, was soon engulfed in the bogs and fens of mordant criticism and the merciless acerbity of ridicule which not alone stilled his voice but likewise precluded his presence at medical gatherings. Peace to his ashes!

At the beginning of the present century the question *whether* to operate for appendicitis left the surgeons cold; the all important question *when* to operate occupying the full stage with dissertations. At this juncture a Daniel, in the person of the late John B. Deaver, appeared to interpret the dreams. He said in part:

It suffices to say that even a hasty glance at records tells again the old and oft repeated

story. The mortality is in direct proportion to the extra-appendicular involvement, the latter being dependent upon the duration of the disease and character of the infection. While every surgeon of experience is urging the need of early operation and impressing the evils of delayed operations upon the general practitioner as well as many surgeons, nevertheless case after case is sent to us reeking with pus or slimy with exudate. The peril of waiting for the interval is not only due to the evil caused by accumulating pus, but, in a far greater measure, to the damage into which such teaching may lead the medical man or layman.

If immediate operation were universally practised, there would be no necessity to devise methods to resist the spread of infection.

In the early hours of the attack the removal of the diseased appendix eliminates the source of infection before the latter event has taken place, and the surgeon has merely treated a case of appendicitis, a trifling matter and not one of virulent peritonitis.

I conclude with the tiresome but necessary statement that an early operation, preferably in the stage of appendicular colic, is the only rational treatment which will reduce the mortality in appendicitis to insignificant figures.³

A tabulated record of 566 patients is appended to his report which shows the mortality following operation in the various stages of appendicitis to have been as follows: general peritonitis 61 patients, mortality 31 per cent, abscess 183 patients, mortality 12 per cent and 367 patients, acute appendicitis, death rate 0.8 per cent. May we not remind the reader that almost a third of a century has elapsed since Dr. Deaver issued his proclamation, that the soundness of his teaching has successfully withstood the acid test of time and experience, that he achieved a record in operating for appendicitis which has been rarely equalled and never excelled. Joseph Price, the Mayos, Senn, J.B. Murphy, Wier, Corner and other surgeons were pre-eminent in the formative period of surgical intervention for the relief of appendicitis.

Theories relative to causation, in those far-off days, were almost as numerous as the number of pathologists investigating the subject, foreign bodies in the appendix held a prominent place for a long time as causal factors.

Recently the writer of these lines heard a discussion on the "American disease" in a London clinic in which the speaker said

³ Deaver, John B.: One Year's Work in Appendicitis, *Am. Med.*, Oct. 17, 1903.

the frequency of appendicitis in America is due to particles of metal, becoming detached in the process of grinding wheat, which find lodgment in the appendix.

The speaker appealed to this writer for confirmation of what he had said. We replied, with the exception that the foreign body theory had been long ago exploded, the discussion was very interesting.

From a generous experience in witnessing surgical operations in England, for the past 35 years, this writer is persuaded to believe that the occurrence of appendicitis in England is much less frequent than in America. Many authorities now concede a close relationship between tonsillitis, apical canal and sinus infection as etiological factors in the production of appendicitis, experience tends to the confirmation of this view.

This is but a restatement of a very old doctrine promulgated by our forebears who spoke so eloquently of *Cryptogenic pus*.

Loveday, Manchester Royal Infirmary, recently investigated the influence of diet as a predisposing cause in appendicitis. He found the ingestion of large quantities of carbohydrates reduced the alkaline reserve of the blood by conversion of these substance into CO₂ and H₂O, and believes the heavy drain on the hydrogenion concentration of the blood together with diminished alkaline reserve lowers resistance to infection.

Commenting on the above findings one author, Craig, said: "The future progress of medicine might lie in the hands of the biochemist."

Facts were not infrequently subordinated to theories by pathologists in some of the earlier investigations of the causes of appendicitis. Very little in the way of assistance in the diagnosis of appendicitis has been added recently by the laboratory, however, the value of the Shilling test is being tested in some clinics.

Eisenberg and Menes⁴ say this count is helpful in atypical symptoms of infection, the number of non-segmented neutrophils when increased, 15 or 20, indicating the presence of pus. "The Shilling count has in addition to the old method (a) the immature (unsegmented) staff of band

neutrophils, are separated from the mature (or segmented) neutrophils, (b) the presence of occasional metamyelocytes or megelocytes means an ever greater danger than rise of band cells, the more immature the blood cells the more severe the infection."

It is a common observation by physicians that appendicitis, gastric and duodenal ulcer and other gastrointestinal complications are seasonal diseases, they occur most frequently during hot weather, a time when the patient is enervated and his resistance is lowered. "Acute appendicitis and gastrointestinal upsets tend to come when the temperature is rising and barometric pressure is falling—that is when a low pressure, cyclonic storm center is approaching...At such times rupture of the appendix and peritonitis may develop quickly."⁵

The typical symptoms of acute appendicitis are sufficiently well known to render accurate diagnosis reasonably certain at the hands of a competent doctor of medicine, the atypical symptoms, however, may defeat the aptitude of the most skilful.

In the differential diagnosis the following conditions should be kept in mind, pneumonia, especially if the patient is a child, ruptured gastric or duodenal ulcer, renal calculus, intestinal obstruction, cholecystitis, ectopic pregnancy, diverticulitis, left-sided appendicitis, pyelitis and twisted cyst pedicle.

With the diagnosis established there is still urgent need for a real doctor, not a graduate specialist, one who has acquired an operative surgical technic, one who can intelligently scrutinise the entire physical field of the patient, special reference being given to the physical condition of the tripod upon which life rests, the heart kidney and lung.

This examination should reveal that while the patient has a disease, the disease also has a patient, furthermore, that the acute form is menace to life demanding immediate action, that the chronic form will impair health until the appendix is removed.

In the choice of anaesthetic agent one should be guided by the amount of toxemia present and the influence which the process is exerting upon other organs of

⁵ Mills, Clarence A.; Heady, James T.: Living With the Weather.

the patient. Can the patient withstand in halation anaesthesia and operation, or should preference be given to local or spinal anaesthesia, are important questions in the decision, a comprehensive grasp of these features is an important factor in the success or failure of appendectomy.

The removal of an appendix may be a very simple or a very complicated surgical procedure, however, the diseased organ should be removed at the earliest possible moment after the diagnosis is established.

When operating for the relief of acute appendicitis we emphatically warn the operator against the indulgence of an insatiable urge, possessed by some surgeons, to investigate the various abdominal organs, this practice reminds one of a child's curiosity on Christmas morning as the child gaily skips from one toy to another. The practice is a half-confession of uncertainty in the diagnosis this musing around in the abdomen of a sick patient may be very gratifying to the surgeon but the examination increases post-operative distress and diminishes the patient's chances for recovery.

As a guide, in operating upon acutely ill patients, the slogan of Dr. Robert T. Morris is golden, he said, "Get in quickly, get out quicker." The subject of drainage following operation wherein perforation and peritonitis complicates the attack of acute appendicitis has had in recent years, a stormy passage in the field of debate. The extensive coffer dam, sometimes called taxidermy, a great number and variety of rubber tubes, some with surgeon's name attached, others nameless and combinations of gauze and rubber have earnest, honest advocates who in their efforts to provide ample drainage sometimes loose sight of an immutable law of physics, the influence of gravity.

Some surgeons claim that pus in the peritoneal sac is physiological and do not drain, that drainage ceases in a few hours in consequence of the tube becoming occluded by lymph or omentum, that the tube tends to post-operative hernia development and lastly the tube renders the patient very uncomfortable and liable to mixed infection. With the first assumption many surgeons will not agree, the second objection may be overcome by frequently withdrawing an inch of the tube, hernia may be obviated by making an independent stab wound for drainage

and the last objection to drainage is negligible. In placing the drainage tube one should remember the kidney sulci as being the lowest points in the abdominal cavity. Usually in discussions wherein men are obsessed with preconceived notions there is more heat than light dispensed and nothing is settled, however, in the presence of pus there should be no uncertainty of opinion as to the imperative necessity for drainage.

For the twenty years just passed the writer of these lines and his assistants have been putting from 10 to 90 CC. of ether, the amount being governed by the age of the patient, into the peritoneal sac of peritonitic patients before closing the abdomen, results encourage the belief that this procedure will assist in turning the scale in favor of the patient. Ether should not be introduced into the peritoneal sac while the patient is in the Trendelenburg position as the influence of ether on the diaphragm interferes or may stop respiration. Divergence of opinion relative when to operate and the problem of drainage is accountable for some of the mortality of acute appendicitis, which according to Graham, is too great in American hospitals.

When the patient is returned to his room strict surveillance by surgeon, houseman and nurse is indispensable for the succeeding days of the week following operation, in the language of the redoubtable mariner, we have just begun to fight. Avoid the depleting influence engendered by swathing the patient in many blankets. A complete operative procedure may be followed by disaster in consequence of sheer neglect in the postoperative management of appendicular patients. Post-operative dilatation of the stomach is a somewhat frequent and very serious complication which if not recognized early and controlled will destroy life in 90 per cent of the patients thus effected. Decubitis and the stomach tube or indwelling nasal catheter are our best means of combatting dilatation of the stomach and when employed early in the occurrence will be almost universally successful.

Of prime importance in the after care of all operative patients is the prevention of a break in the water intake, water preferably introduced through the rectal mucosa or intravenously.

Fluids given subcutaneously are slowly absorbed and when placed in the axilla

⁴ Eisenberg and Menes: Year Book of Surgery, 1934.

interfere with free excursion of the chest wall and ventilation of the lungs, predisposing the patient to pulmonary complications.

In the administration of fluids to acutely sick patients, post-operatively, one must think in terms of thousands, 5 or 6 cubic centimeters for each 24 hours for the first 72 hours following operation.

Peritonitic patients are dehydrated by vomiting and perspiring, they require large amounts of water to replace lost fluids, quench thirst, assist in eliminating toxins, favor return of peristalsis, prevent meteorism and allay pain. Instruct the patient to freely ventilate his lungs by taking frequent deep inspirations as soon as he recovers from the anaesthesia. By keeping constant vigil on the heart action one is enabled to detect early signs of flagging and the necessity for using appropriate remedial agents. Strive to prevent rather than overcome postoperative complications.

(*The Journal of Medicine, April, 1935.*)

Notes on Therapeutics, Diagnosis and other Medical Subjects.

League Committee on Nutrition Problems

A new League Body, the Mixed Committee on the problem of Nutrition, of which Lord Astor is the Chairman, met at Geneva on February 10 to begin its examination of the interrelated aspects of the problems of nutrition and public health, a matter to which public attention is being increasingly directed. The appointment of the Committee is the outcome of discussions in the Assembly, in which the Australian Government drew the attention to the co-existence of malnutrition and of surplus production of foodstuffs in the world to-day and urged the social, economic and hygienic importance of co-operation between those endeavouring to solve each of these problems.

Special interest was aroused by the report on nutrition published by the Health Organization of the League. But in view of the inter-dependence of the multiple aspects of the problem—social, medical and welfare, economic, agricultural, administrative, financial—it was regarded as desirable that it should be further studied

by a mixed committee including agricultural, economic and health experts. The desire was also expressed that the Committee should collaborate with other international organizations and particularly with the International Labour Office and the International Institute of Agriculture in Rome. The Assembly accordingly resolved to appoint a Committee instructed to submit a general report on the whole question in its health and economic aspects to the next Assembly.

The nineteenth session of the International Labour Conference in June, 1935, adopted a resolution requesting the Governing Body to give directions for a comprehensive examination of the problem on a somewhat similar basis for presentation to the 1936 session of the Conference. These two enquiries will thus be inter-connected and will, to some extent, run concurrently.

At the opening meeting Lord Astor Chairman, stressed the vastness and complexity of the task before the Committee and the need for prudence as well as for zeal. Accurate and authoritative information on the amount and kinds of food necessary for adequate nutrition would be something new and might have a profound influence on the policy of Governments and the attitude of public opinion. If the needs indicated in the Committee's findings were met by Governments, the result might be a considerable step forward toward the solution of the agricultural crisis, a rise in popular well being and an improvement in the relations between the nations.—*A. P. I.*

A Pathognomic Sign for Chronic Appendicitis

RUHBAUM and SIEGMUND (*Deutsche med. Wschi.* No. 46, 1935) write that the complaints of patients with chronic appendicitis really change so much and are so various that the diagnosis can hardly be made from them alone. The authors found a new and very reliable sign of chronic appendicitis. Small doses of castor oil produces in unclear cases focal reaction in the shape of increased sensitiveness to pressure over McBurney's point and a slight temperature. A necessary requirement is that the temperature should be found normal when taken 3 times a day for 3—4 days before the test. Then $\frac{1}{2}$ —2 tablespoonfuls of castor oil are

given in the morning and temperature (axillary) recorded every 2 hours. If chronic appendicitis is present, on the test day and on this one day, there is a rise in temperature of 1°F and sensitiveness to pressure develops over McBurney's point or increases if it was already present. If the test does not help the patient is asked to take an intestinal bath (enterocleaner) in the morning of one of the days following, which will certainly show the same focal reactions. The authors with the help of these two tests diagnosed appendicitis in 33 out of 35 unclear cases and the diagnosis was proved by operation, the other two patients refusing operation. They could not determine for want of cases whether this method is useful for women in differentiating gynaecological conditions.

Autohæmotherapy in Juvenile Asthma

Maddox and Back carried out an investigation on 16 boys and 8 girls to determine the value of injections of the patient's own blood in the relief of asthma. 10 cc. of the child's own blood was withdrawn from the median basilic vein and injected forthwith into the buttock without admixture with citrate and without any attempt to separate either plasma or serum. Five such transfusions of blood were made in each patient at weekly intervals. In assessing the results the mother's description of the number and nature of the attacks was the only criterion. They found that in 9 children no attacks of significance occurred at least during six months. In 8 children there were fewer and less severe attacks and in the 7 children attacks were as frequent during the period of observation but less severe. This shows that these injections do certainly exert some beneficial effect on course of the condition. Discussing the probable manner in which the benefit might accrue they say that there was no general reaction with these injections as with protein shock therapy. They consider that it is possible that the tissue digestion of the blood protein released peptone which was gradually absorbed as such. Very small amounts of Oriel's proteose may be present in minute sensitizing doses in the injected blood.

(*Archives of Disease in Childhood, Oct. 1935*)

Diphtheria Immunisation

In answer to a query from a reader the Editor quotes McGinnes Stebbins and Hart who reported their experience with alum precipitated toxoid. "Seventeen hundred and sixty-five Schick positive individuals were given one dose of 0.5 or 1 cc. of alum precipitated toxoid of a potency of from 12.5 to 31.5 flocculating units per cubic centimeter and retested two months later; 94.4 per cent of these were found to have been rendered Schick negative." Among 1,026 individuals, originally Schick positive, ranging in age from 4 years upward, 96.3 per cent were Schick negative two months after receiving one dose of alum precipitated toxoid. In many instances there have been reports showing that from 98 to 100 per cent of Schick positive children were rendered Schick negative within two to six months after receiving 1 cc. of alum precipitated toxoid given subcutaneously.

Park has stated that this procedure can be relied on to produce a Schick negative condition within two months in 95 per cent of the children so treated.

It is now more or less generally agreed that a single dose of alum precipitated toxoid administered subcutaneously is as efficient as two doses of untreated toxoid, provided the alum precipitated toxoid is of sufficient potency.

From the foregoing it is obvious that a single injection for the purpose of diphtheria immunization has many advantages over former procedures in which two or three administrations of the immunizing agent were given.

(*J. A. M. A.* Nov. 15, 1935, p. 1209).

Tetany in the New Born without Convulsions

Rothstein reports a case of a premature baby of 7½ months, weighing five pounds who developed during the first thirty-six hours of life projectile vomiting of all feedings and a constant temperature of 101°F. There were no twitchings or convulsions. Physical examination revealed presence of Chvostek's sign, normal Moro phenomenon and a brawny, sclerema-like oedema localised to the vulva, the perineum and the lateral aspects of both thighs. The heart and lungs were normal. The fontanelle was not tense and there were no

abnormal neurologic signs. Carpopedal spasms or laryngospasm were not present. The infant groaned and cried intermittently, drawing its thighs up on to the abdomen as though in pain. In view of the evidence of marked gastro-enterospasm (projectile vomiting and colicky cry) the positive Chvostek's phenomenon and the unusual type of localised oedema, a diagnosis of tetany of the new born was made. 10 cc. of a 10 per cent solution of calcium gluconate (15 grs.) was immediately given intravenously. The blood calcium concentration was 7.0 mgm. per hundred cubic centimetres of serum. There were no X-ray evidences of congenital rickets. Urine was normal. Intensive intravenous, intramuscular and oral calcium gluconate therapy given. A daily dose of 1 gm. (15 grs.) of calcium gluconate was injected intravenously for a period of ten days. A similar dose of calcium gluconate was given intramuscularly for each of the first three days. Vitamin D in the form of viosterol was given by mouth to favour better absorption of the calcium for the intestinal tract. The temperature dropped promptly and the vomiting lessened and finally ceased within 36 hours from the beginning of treatment. The oedema decreased and disappeared within 48 hours. The Chvostek's sign was present though diminished for the next five days. After ten days of calcium gluconate therapy, the blood calcium rose to 9.3 mgs. per 100 cc. of serum. The infant was discharged from the hospital at the age of one month weighing six pounds, i.e. one pound more than its birth weight. Oral calcium gluconate and viosterol medication were continued at home for several weeks in order to prevent possible recurrences of symptoms.

(J. A. M. A. Oct. 12, 1935, p. 1189.)

Hormone of the Suprarenal Cortex and Vitamin C in Circulatory Failure of Diphtheria

In cases of malignant diphtheria severe circulatory failure sets in at the end of the first week or at the beginning of the second week, which neither large doses of serum or cardiac tonics are able to prevent. One notes during autopsy of such cases, the alterations in the suprarenals and considering the inefficacy of adrenalin in such cases, one is led to think that the hormone of the cortex of the suprarenal as well as vitamin C, which is abundantly present in this part of the suprarenal, may have something to do in this condition. These considerations led Barabarger and Wendt to utilise the hormone of the suprarenal cortex and ascorbic acid in severe cases of diphtheria. In one severe case they administered 30,006 anti-toxin units. When on the second day they found that the pulse was soft, and there was pallor and vomiting, they gave 500 miligram of vitamin C and 6 cc. extract of suprarenal. This was repeated on the second day. On the 13th day the patient's pulse had improved, and ultimately he recovered. They obtained similar results in four other cases. They were unable to save three other children though there was temporary improvement. In these cases electrocardiography showed a complete heart block, a condition that did not exist in those children who were saved by the treatment.

(*Klinische Wochenschrift*, abbv. *La Presse Medicale*, Nov. 27, 1935.)

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MADRAS MEDICAL COUNCIL.

REVIEW OF WORK FROM OCTOBER 1934 TO MARCH 1936.

BY

DR. V. RAMAKAMATH.

Member, Madras Medical Council.

Last year when I gave an account of the activities of the Madras Medical Council I inadvertently referred to some items of the proceedings of the Council transacted in October 1934 and March 1935, though the Review was meant for the period covering from October 1933 to March 1934. As the affairs of the Medical Council are at present normal, consistent with the purpose enunciated and contemplated in the Medical Act and rules framed thereunder, it will be in future possible for me to review the work soon after the proceedings of a particular session are published by the Registrar. I intend reviewing the proceeding in the order I did previous years.

STAFF

Major-General Sir F. P. Connor continued to hold the office of the President of the Council and Mr. J. P. Pinto has been the part-time Registrar.

REGISTRATION.

Last year I gave the number of practitioners registered in the I, II and III parts of the Medical Register at the beginning of 1933 and at the end. The latter number practically indicates the total number of practitioners in all the parts at the beginning of 1934. I have mentioned below the number of practitioners on the Register at the beginning of 1935 and at the end of the year. This will give an idea as how many are being registered for the year 1935.

	P 1	P 2	P 3
1. Total number at the beginning of 1935	238	1253	3921
2. Number added by Registration in 1935	4	84	154
3. Number erased from the Register	Nil	Nil	4
4. Number removed by death	2	6	6
5. Total number remaining at the end of 1935	44	1330	4062

Two practitioners from Part II transferred themselves to Part I after getting into the British Register, one from Part III got into Part II after qualifying himself for the Madras M. B. B. S. degree, while three from Part III registered themselves in Part I after

getting the British Registrable medical qualifications and first registering themselves in the British Register. There is a pretty good number of practitioners in the Part II mostly those in Government Service who possess the British Registrable qualifications and who have not so far cared to be in the British Register and consequently could not be registered in the Madras Medical Register in Part I as the Madras Medical Registration Act as it exists, does not recognise British qualifications as such for the purpose of registering practitioners unless they are registered in the British Register. It is this anomaly which has been the main cause for registering the practitioners under three different heads, a practice unknown in any other part of civilised world except in India. I did attempt to put an end to this meaningless distinctions amongst the registered practitioners though the fee charged for all for registration is uniformly the same amount of Rs. 15. The Government were requested by the Council to amend the Medical Act to have all the registered practitioners under one head. I have my own misgivings whether this and other resolutions passed by the Council requesting the Government to amend the Medical Act did actually reach the Government at all as all this happened during the years 1929 to 1932 when the affairs of the Council were far from satisfactory. The Medical Practitioner has been commenting in its columns all about the affairs of the Council ever since its inception especially with regard to the Registration of the practitioners and how an amount nearly Rs. 5000 could be misappropriated from the money received by the Registrar for registration till about the year 1932 and how this was possible yet could have been averted if only care was taken by the authorities concerned to have the Medical Register published regularly year after year as was required by the Statute. Apart from a large loss of money to the Council and inconvenience and annoyance to the practitioners who for years did not find their names in the Medical Register in spite of their paying the fees at the office of the Registrar, the Medical Registers could not be published as a clean document as could be seen from the current Register. The practitioners who suffered most during the 'Black Days' of the Madras Medical Council were those in the Part III of the Register almost all of

them being those possessing the L. M. P. Diploma. We refer the readers to the last page of the Medical Register where two columns have been published one under the heading, 'persons having two Registration certificates numbers and under another heading 'two persons having the same Registration certificate number. How this was possible could only be answered by those who published the Registers during the Black Days. The publication of these two columns though it might serve the purpose of a reminder to posterity for depicting the Black Regime, unless would be a blot to the fair regime since established. Ways and means are not found to remove these two columns from the future Registers.

The Medical profession in this province should be congratulated that unlike in other provinces (especially in Bombay) registered practitioners' names were not erased from the Registers for infamous conduct. The four names that have been erased from the Register Part III were of those who could get in to the Register during the Black Days referred to above by fraudulent means. (1). Mr. C. Seshachalam Nayudu got in to the Register as L. M. S. and D. T. M. H. of the Calcutta university in 1929; his name was erased in March 1934; (2) Mr. A. Thiruvengadam got registered as L.M.S. (Singapore) in 1931, name erased in December 1934; (3) Mr. K. Narasimha Rau Nayudu registered as L.C.P.S. (Bombay) in 1931, name erased in October 1934; (4) Mr. S. P. David registered as L. C. P. S. (Bombay) in 1932, name erased in October 1935; (5) Mr. D. W. Pandiyan registered as L.M. & S. Calcutta was removed from the Register in October 1935; (6) so also Mr. A. Sitaram who was registered as L. C. P. S. (Bombay) in 1929 was removed from the Register in October 1935. The present Registrar has been able not only to maintain the Registers up to-date but publish them within time. And I am glad I had no occasion to hear any complaint from the practitioners for the inordinate delay in registering.

Occasionally there have been applications for registering practitioners possessing foreign qualifications apart from those who are in the British Register. Such applicants are usually Germans or Americans. Sections 13, 14, 15 16, 17 and 20 of the Madras

Medical Registration Act deal with all the questions regarding the registration of practitioners and it has been specifically provided in section 20 that the Government should not include in the Schedule which they have to publish under the Medical Act (for the guidance as to the qualifications which could be registered) practitioners possessing degrees, diplomas and certificates granted in any British Colony or foreign country which does not recognise the medical degrees, diplomas or certificates of a British Indian Government, or University. In spite of this specific clause in section 20 of the Madras Medical Registration Act, the Madras Medical Council has been registering persons holding foreign qualifications granted in countries which do not recognise the Indian medical qualifications. Last year at the March session of the medical council, a German medical practitioner was refused registration by the council though a year earlier it permitted the Registration of a German medical practitioner holding identical medical qualification. As reported by me in a previous review the council has been appointing a committee every year to advise the council about the registration of practitioners not included in the Schedule for Registration. The committee at the time consisted of Lt. Col. Mahadevan, Drs. N. Venkatasami Chetti and U. Rama Rau. This committee's endorsement regarding their opinion for not registering the German practitioner ran thus, "We do not recommend the Registration of Dr. Hans Loebl, M.D. (Bonn) though the council has in previous instances registered doctors with the same qualification because in Germany, our doctors are not allowed to practise." To avoid inconsistency of action by the Council I proposed, "That the Registrar be directed to write to as many foreign medical councils (if they exist or to the Government concerned) as have their medical practitioners enrolled in the Madras Medical Register, enquiring whether the medical qualifications registrable in the Provincial Register are recognised by them and in case those are not registered by them, the applicants for registration from such countries be not registered in future and that the names of those who are already registered be removed from the Madras Medical Register. I thought at the time and even now am of opinion that the medical council is competent to remove the names from the

Registrar of practitioners once registered by them incorrectly as provided for in Section 16 (1).

It is regrettable that the Registration Advisory Committee which would not recommend a German Practitioner for registration in 1935 on the plea of want of reciprocity, recommended exactly a year later the registration of two American practitioners Drs. Gladys Morgan and C. W. Richardson. But it refused to recommend to the Council for registration two more American practitioners, Drs. (Mrs) M. Richardson and (Mrs) M. M. Keithahn, as the Committee were of opinion that the latter two could not practise throughout America. But the Council unanimously and rightly refused registration to all.

Four Practitioners who were trained at Neyoor Missionary Medical School some years ago and who are now employed in Missionary Medical Institutions in Travancore State, applied to the Registrar for Registration. The Registration Advisory Committee refused to recommend them. Dr. (Mrs.) O. M. Monahan proposed and Dr. U. Krishna Rao seconded that all the four be registered. I then proposed an amendment to the effect "That while permitting the registration of these four Practitioners, the Council is of opinion that all Medical Practitioners holding qualifications granted by Neyoor Medical School and other Indian Medical Institutions and which qualifications were once recognised by the Council in the past, should also be considered eligible for registration and in order to give effect to this decision that a Notification be published in a suitable manner calling upon them to apply for registration within a year from the date of this Resolution and intimating at the same time that the Council will not take into consideration applications for registration from such individuals if they are received beyond the time-limit specified in this Resolution." This amendment was seconded by Dr. Y. Suryanarayana Rao. My amendment was first put to vote and lost, myself, Dr. Y. Suryanarayana Rao and Dr. N. Venkataswami Chetty voting for and Drs. (Mrs.) Monahan, Miss Findlay, Satakopan and Guruswami Mudaliyar and Krishna Rao, Lt. Col. Hingston and Major Ebdon voting against the amendment; Lt. Cols. Mahadevan and Pandalai remained neutral. Dr. (Mrs.) Monahan's original resolution was

then put to vote and also lost. Dr. (Mrs.) Monahan and Krishna Rao voting for the resolution while Lt. Col. Hingston, Major Ebdon, myself, Drs. Guruswami Mudaliyar, Satakopan, Miss. Findlay voting against and Lt. Col. Mahadevan, Lt. Col. Pandalai, Drs. Venkataswami Chetty, Suryanarayana Rao remaining neutral. In Great Britain when the Medical Act was brought into existence in 1858, a Section was introduced into the Medical Act empowering the General Medical Council to register all those who practised Allopathy before 1st August 1815, though they were not qualified. It seems to me that the purpose of this specific Section was to bring even such practitioners under the discipline of the Council, which act was certainly much safer in public interest and safety than not bringing such practitioners within the purview of the Act. Such a provision ought to have been included in the Provincial Medical Acts. For want of such a Section the Bombay Medical Council recently passed a Resolution giving a chance to those who were not trained in recognised Medical Institutions but had been practising Allopathy. I thought that the same thing should be done also by the Madras Medical Council. Readers of the Medical Practitioner might remember my having brought to their notice in the last review the case of a medical practitioner who passed out years ago from the Bengal National Medical College when it existed and who was refused registration in 1933, though his more fortunate brethren passed out from the same Institution were found in the Madras Medical Register and that my proposal to register this person and notify giving a chance to others, was not approved by the majority in the Council. I recommended to the Council at the time the same procedure which I did in the Amendment on this subject in March 1933.

During the period under review four persons not trained in recognised Medical Institutions applied for registration, one of whom, Mr. Asadullah, who was practising in Allopathy and who was certified by Dr. G. Balakrishna Chetty, District Health Officer, Cuddappah, as having co-operated with his Department in preventive work, and another Mr. Mohedeen Khan trained in Malay submitted a memorial to Governor praying for his registration. This memorial was forwarded to the Council. But the Council while refusing to register all these persons

reported about Dr. Balakrishna Chetti to Director of Public health for associating himself with an unregistered practitioner and recommended to the Government to prosecute such of them who assumed medical titles behind their names.

RIGHTS AND PRIVILEGES.

Excepting three resolutions proposed by me and passed by the Council there is not much to report regarding action taken by the Council to protect the rights and privileges of the registered medical practitioners. The first resolution referred to, was passed by the Council while recording a reply received by the Government on the resolution passed by the Council in 1934 requesting the Government to do away with the unethical procedure of procuring countersignatures on the vaccination certificates issued to persons embarking to foreign countries. The Government in a G.O. dated 17th June 1935 declined to waive the need for counter signature of vaccination certificates. While recording the G.O. I proposed, "while recording the G.O. the Madras Medical Council resolves to request the Local Government to inform the Government of India that the new form of vaccination certificate approved by the Government being fraud-proof the Government should not insist on counter signature." The new form of Vaccination Certificate in which the practitioner has to take the thumb impression of the person to whom the certificate has to be issued and mention also the name of the institution from where the vaccine was got, was published in the columns of The Medical Practitioner. The other resolution passed by the Council at the March 1936 session ran thus: "The Madras Medical Council requests the Government most respectfully not to contemplate any changes in the designation of the Honorary Medical Officers depending upon their qualifications as the names introduced by the Government on 29th July 1932, are most satisfactory, being consistent with the spirit of the Medical Registration Act and suggests to the Government to introduce such names as contemplated by them in the designation of the Medical Officers under their employ".

As I learnt that a Government nominated President of a Taluk Board in the Agency tracts would not recognise the procedure of taking a second opinion on the certificates

issued by private registered medical practitioner inspite of his being a Government servant I thought it was desirable to move the following resolution.

"The Madras Medical Council requests the Government to introduce the procedure of obtaining a second opinion on the certificates issued by Registered Medical Practitioners in the Local and Municipal bodies by the method introduced in G.O. No. 2746, P.H., dated 30th October 1930 as applied to the Registered Medical Practitioners, till this procedure is done away with, as recommended by the Madras Medical Council sometime ago."

DISCIPLINARY CASES.

At the extraordinary session of the Medical Council held on 22nd October 1935 the following cases were decided by the Council

(1) Lt. Col. Newcomb I.M.S. informed the Registrar Medical Council that an advertisement appeared in January, February Issue of the Madras British Central Bulletin that Dr. (Miss) A. John was giving advice on Birth Control. Dr. John explained that the advertisement was published without her knowledge by the Secretary the Madras Neo-Malthusian League and the Council accepted this explanation and did not take any action on the information.

(2) Information was received from Dr. E. V. Srinivasan on the publication of an operation by Lt. Col. K. V. Ramana Rao in the 'Hindu' under caption, "Transplantation of Ureters", Novel operation in Masula Hospital." The Standing Disciplinary Committee of the Council which considered the case at first observed amongst other things that the explanation given by Lt. Col. Ramana Rao was not convincing as he would not write to the Editor, the Hindu protesting against such publication when a suggestion was made to that effect by the President of the Council. After a prolonged discussion the Council passed the following resolution. "This Council is of opinion that Lt. Col. Ramana Rao should immediately have disclaimed responsibility for the article that appeared in the press or atleast after the President wrote to him about it and now the Council directs him to write to the Council regretting this omission. Lt. Col. Ramana Rao having failed to write to the Council and having addressed instead to Dr. Venkataswami Chetti the then Vice-President in a private manner, the Council at its session

last March had drawn the attention of Lt. Col. Ramana Rao to the actual wording of the resolution and his reply is awaited.

(3) Information against Dr. V.V. Shenai M.B.B.S. regarding distribution of handbills by him: On the report of the Disciplinary Committee that the practitioner was just a beginner in the profession and that he admitted his guilt, he was summoned before the Council on 22nd October 1935 and only warned.

(4) Information regarding distribution of hand bills by Dr. C.H.S. John M.B.B.S. and Dr. V. Bapanna L.M.P. The Disciplinary Committee recommended that both the practitioners might be summoned before the Council and warned. Accordingly at the March 1936 session Dr. Bapanna appeared before the Council and pleaded "guilty" and let off with a warning; but as Dr. John did not appear, the Council decided to erase the name of Dr. John from the Register and ordered that a notice to that effect be published in the local Medical Journals and the Ft. St. George Gazette and that Dr. John should be invited to appear personally at the October session 1936 with two certificates of good conduct and that at that meeting the Council should decide about further action.

(5) Information from Dr. V. Rangachari M.B.B.S. that Dr. T. S. Doraswami published in the Hindu, notification about the change of address: The Disciplinary Committee was of opinion that such notifications about the change of address amounted to advertisement and that Dr. Doraiswami should be warned. Accordingly he was summoned before the Council on 22nd October 1935. Dr. Doraiswami pleaded, 'not guilty.' Thereupon the President delivered the following verdict, "This house accepts that you had no intention of advertising yourself. But considering that you had so frequently notified the change of address and that you had mentioned of yourself as 'Eye Surgeon' the Council considers that you were indiscrete in notifying the change of address and advises you to be more discrete in future".

(5) Information from Dr. V. Rangachari M.B.B.S. that Lt. Col. R. E. Wright I.M.S published in lay papers about the Elizabeth Mathai lectures delivered by himself: After long discussion it was decided by the Council that no action be taken in the matter.

(6) Information by Dr. V. Ranagachari about the publication of an advertisement by Messrs. Raja D. Mawney & Co soliciting practice for a Ear, Nose and Throat Specialist: The Council approved the report of the Disciplinary Committee which ran thus: "The Committee are of opinion that the doctors to whom Messrs. Raja D. Mawney & Co., if at any time referred their patients for consultation, may be liable for disciplinary action by the Council, though the doctors themselves were not responsible for the publication of the advertisement in the lay press as is done by Messrs. Raja D. Mawney & Co. The Committee therefore recommend to the Council to intimate to Messrs. Raja D. Mawney & Co., the opinion of the Committee, if the same is approved by them".

(7) Publication of reports of meetings of some District Medical Associations: The Council resolved that the existing Medical Associations should label discussions and lectures in their Agenda as not for lay press publication whenever it is considered desirable.

MEDICAL EDUCATION.

As reported by me in my review published in The Medical Practitioner in the September 1935 issue, the report submitted by Lt. Col. Hingston about the final L.M. P. Examinations was the subject for discussion in 1934 at the October session of the Council. The Council decided that Lt. Col. Hingston's report be forwarded to the Surgeon-General for necessary action. I then proposed, "that a Committee be appointed to investigate and report to the Council about any further improvement with regard to the standard of education in Medical Schools and that the recommendation of this Committee together with the report of Lt. Col. Hingston be then forwarded to the Surgeon General for necessary action and in the meanwhile the report submitted by Lt. Col. Hingston be approved and forwarded to the Surgeon-General for immediate action. Before I moved my amendment I made it clear to the Council that Col. Hingston's report was to be approved only to the extent of his proposals, regarding the conduct of examinations. The amendment was approved by the Council and a Committee consisting of Drs. Tirumurthi, Guruswami Mudaliyar, Krishna Menon, Rama Kamath, and

Lt. Col. Mahadevan was appointed by the Council. Dr. Krishna Menon having died Lt. Col. Mahadevan was appointed as convener by the President, and Dr. U. Rama-Rao was appointed by the President in the vacancy in the Committee caused by the death of Dr. Krishna Menon. The Committee met twice in February 1935 and at its very first meeting a resolution was passed by the Committee, Lt. Col. Mahadevan dissenting that the appointment of Lt. Col. Mahadevan was irregular as the Council alone had this power. Dr. Tirumuthi who did not attend the meetings sent his report to the convener and this was submitted to the Council and discussed by the Council on 28th October 1935. I pointed out to the Council at the time that the report could not be complete unless a meeting was held by the Committee and the report of Dr. Tirumuthi was also discussed by them. Lt. Col. Mahadevan reiterated his views as expressed by him in his letter to the Registrar objecting to the re-consideration of Col. Hingston's report.

The Council finally passed the following resolution:

"That in view of the recent formation of the Indian Medical Council and their recommendations in regard to medical education, this Council resolves to appoint a Committee to go into the question of L.M.P. curriculum and examination and report, in supercession of the reports of Lt. Col. Hingston and of the Committee appointed by this Council at its meeting of October 1934."

This was carried, Lt. Col. Mahadevan voting against.

It was then proposed by Dr. U. Krishna Rao, seconded by Dr. V. Suryanarayana Rao and carried unanimously that the Committee be constituted of the following members, with Dr. R. J. Dyson as the Convener:

Major J.A.W. Ebdon M.D., M.S., F.R.C.S., M.S.

Dr. Miss Jessie Findlay, B.A., M.D.

Dr. V. Rama Kamath, L.M.P.

Dr. M. R. Guruswami Mudaliyar, B.A., M.D. & C.M.

Dr. R. J. Dyson, M.B., Ch. B.

Resolved further that the terms of reference of this Committee shall be as follows:

(1) that this Committee has to deal only

with the Medical Schools of the Presidency.

(2) that they are to examine the curricula which they invite from governing bodies and to make suggestions for their improvement for any additions, if considered desirable.

(3) that they should report to the Council on the L.M.P. curricula, instructions and examinations of January and April 1936, and

(4) that the powers under Section 21 of the Act shall apply to the Committee for the purpose of this enquiry.

At the last October Session the following three resolutions moved by me were unanimously passed.

(a) "The Madras Medical Council respectfully points out to the Government that in the interest of Medical Education, the Madras Medical Council should have representatives of all the Medical Institutions recognized by this Council without exception, and while nominating such representatives on the Madras Medical Council, the nomination under Section 5 (a) (f) should be made in the name of the office held by such representatives and not in the name of the persons".

(b) The Madras Medical Council is of opinion that the Preliminary General Educational Qualification for admission into the Medical Schools should be not lower than the University Intermediate Standard, as otherwise the students of the schools will not be able to cope up with the higher standard of Medical Education now introduced in the Medical Schools and therefore requests the Government to raise the standard of Preliminary Education to the Intermediate Standard.

(c) The Madras Medical Council respectfully suggests to the Government the desirability of bringing into existence in this Province a State Medical Faculty in the place of the Medical Board of Examiners for the purpose of controlling education and conducting examinations of the Medical Students for Non-University Medical Qualifications.

The first resolution was seconded by Major Ebdon and slightly amended by Dr. Dyson. At present as expressed by me the nominations are made without giving representation to all the existing Medical institutions for example the Lady Wellington School is not represented at all in the

Medical Council. The second resolution was seconded by Lt. Col. Mahadevan and also the third. I had to make a speech to convince the necessity of establishing a State Medical Faculty as the method of conducting examinations for the L. M. P. Course was not only primitive but objectionable also in several ways. As the subject matter concerning this topic is now *sub-judice* Lt. Col. Mahadevan having filed a complaint against me in the Chief Presidency Magistrate Court Madras, I defer further comments on the subject in a future issue. Suffice it to say that at present the Committee appointed by the Council, under the guidance of Dr. Dyson, the Convener has been considering the subject in all its aspects and it is expected that the report of the Committee will take such a shape as to be a model for the guidance of those who are in charge of Medical Education of the Medical Licentiates throughout India.

ELECTION.

There was only one election during the period under review. Dr. U. Rama Rao having ceased to be a member by efflux of time and not seeking re-election Dr. Suryanarayana Rao who was the only candidate nominated for election notified by the Council was elected as the member to represent practitioners in Group III of the Register. The validity of this election is the subject matter of a suit against the Madras Medical Council now pending in the City Civil Court Madras. I have narrated in the September 1935 issue of the Medical Practitioner the circumstances which led to the suit. The election of Dr. U. Krishna Rao in the vacancy caused by the death of Dr. M. S. Krishnamurthi Ayyar and the re-election of Dr. Tirumuthi, were reported by me in the last review.

MISCELLANEOUS ITEMS.

Action regarding Bogus Degrees Act: There were several cases reported to Council where persons violated this act and assumed Medical titles. The Council reported these cases to the Government requesting them to take action. But the Government has been so far luke warm in the matter. Major General Sir F. P. Connor got information from the Punjab that the Punjab Medical Council was undertaking action under this act, whereas in Bombay the Government themselves were undertaking the prosecu-

tions. The Madras Council had decided to follow the example of Bombay. Lot of harm is being done to the profession and the public by unscrupulous persons assuming Bogus Medical degrees and it is earnestly hoped that under the Regime of an independent Secretary for the Medical Department the Government will be able to realise the danger and do co-operate with the Medical Council and bring the offenders to book.

Defalcation of Council funds: During the regime of Dr. Chatterjee as Registrar of the Medical Council, a fraud in the funds of the Council was detected and a clerk was convicted. But the Council resolved in October 1935 that Dr. Chatterjee, and the clerk were jointly and severally responsible to make good the loss and at its meeting dated 2nd March 1936 the Council decided to inform the Government that Rs. 1,940 and Rs. 151-1-0 the amounts due to Dr. Chatterjee and the clerk respectively towards their salaries be adjusted towards the amount of defalcation and the balance be written off as irrecoverable.

Soon after it was rumoured that Major General Sir F.P. Connor the Surgeon General with the Government of Madras and ex-officio President of the Madras Medical Council was to act as Director-General, Indian Medical Service and ex-officio President, the Indian Medical Council, I had an interview with him and while talking on various topics concerning the Medical profession gathered that his heart was with the Medical Licentiate regarding their grievance in not bringing them within the purview of Indian Medical Act. I thought to take advantage of his sympathy towards the Licentiate and hastened to table three resolutions on this subject which were as here under:

"(a) The Madras Medical Council requests the Indian Medical Council that it is desirable in the interests of public as well as the medical profession as a whole that they should take over the control of medical education of all the recognized teaching institutions so as to establish a uniform minimum standard of medical education in this country and to bring into existence an All India Medical Council to bring under the disciplinary Control of the Indian Medical Council all registered medical practitioners,

(b) That it is the considered opinion of the Madras Medical Council that bringing the Medical Licentiate within the purview of the Indian Medical Council cannot interfere with their control over the medical education of graduates and such a course cannot interfere with the recognition by the General Medical Council, Great Britain, of the University Standard of Medical Education in this country.

(c) That it is not desirable to have two statutory bodies to control the medical education of the graduates and that therefore the Medical Council suggests to the Indian Medical Council to make the Provincial Medical Councils as the branches of the All-India Medical Council."

Unfortunately these resolutions though included in the October 1935 sessions could not be reached and had to be brought forward at the March 1936 session. Quite true to the saying that "misfortunes never come single" which I have been realising these days more than anybody else. Dr. Tirumurthi the graduate sympathiser of the Medical Licentiate who always stood by the side of his Licentiate brethren was absent at the time I moved the resolution and the European member of the Council Dr. Dyson who has been always keeping an open mind in such questions, occupied the chair as the newly appointed Vice-President and could not take part in the debate with the inevitable result that all the three resolutions were not approved by majority. Drs. Krishna Rao, Suryanarayana Rao and myself being only three for the resolution, the rest voting against.

Major General Sir F. P. Connor as the Chairman of King George Thanks Giving (Anti-Tuberculosis) fund while he acted as the Director-General Indian Medical service, referred to the Council for its opinion about the management of King George Thanks Giving (Anti-Tuberculosis) Fund. The Registrar Medical Council gathered the views of the individual members in writing and such of them that were received, were forwarded to the Director-General. In the meanwhile Dr. Dyson showed a desire to discuss the subject in the open Council at its last session which was done by him after taking the previous permission of the Council as this subject did not technically come within the scope of the Medical Council though on broad principles, all that per-

tains the Medical Profession may be dealt with by a Council which is a true representative body of the Medical Profession. After prolonged discussion the following resolution was unanimously passed on this subject:

"This Council is of opinion that the present organizations involved in the control of tuberculosis in India are inadequate and that the lack of co-operation produces deplorable wastage of funds and that the Madras Government be respectfully requested to move the Government of India to establish a Co-operative Anti-Tuberculosis Organization including Central Government, Provincial Governments and Local Bodies together with the Medical Services in India and Public Health Services the Railways and their Medical Services, King George Thanks Giving (Anti-Tuberculosis) Fund, Special Funds, if any, of the Red Cross Society and St. John Ambulance Association and any other organizations and funds which can be incorporated into this co-operative endeavour, the whole of which should be under the direct control of the Central Government having an Advisory Body consisting of medical representatives from each province elected by the provincial Medical Councils and one first-class Railway's Chief Medical Officer nominated by the Railway Board.

Before closing the review, I wish to bring to the notice of the profession that the affairs of the Council under the administration of Major-General Sir F. P. Connor were as satisfactory as could be and much credit should be given to him for the choice of Mr. J. P. Pinto as the part-time Registrar which choice was made by Sir F. P. Connor himself, and unanimously approved by the Council. I thought that the Council should place on record the services rendered to the profession by Sir F. P. Connor as its President and moved the following resolution at the last October session of the Council when he presided for the last time before his departure to Delhi as Director-General of Indian Medical Service. I moved the following resolution:

"The Council records its high appreciation of the sense of duty with which Major-General Sir Frank Connor conducted the affairs of the Medical Council as its President".

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MADRAS BUDGET GRANT

The full text of the proceedings of the meetings of the Madras Legislative Council as published by the Government not being available to us so far, we could not comment on them earlier. As mentioned in these columns more than once, for want of well organised opposition, discussions and criticisms on the policy of the Government are not of a nature as to force the Government to yield to the demands of the representatives in the Council. It has also to be said that at least some members of the Council talk on subjects with little or no regard to the realities; as for example a member in his enthusiasm to have more women medical officers in the state hospitals to attend to the Gosha women, asked the Government 'to open a medical School for Women in some convenient centre on the West Coast.' Such demands take away the seriousness of purpose and adds indifference to irresponsibility. Want of pertinacity of purpose is another glaring weakness which may be observed in the otherwise useful activities of the popular members. Last year during the discussion of the Medical Grant, the Chief Minister declared on the floor of the house that running of private hospitals or nursing homes by the officers of the Government would not be allowed. The determination of the Chief Minister has not so far produced any tangible results. It was up to any member of the Council to rake up this subject so as to enable the public to know the mysteries in the Government machinery which has been preventing a popular Chief Minister to carry out his decision expressed by him in unequivocal terms on the floor of the Legislative Council. There is a mistaken idea in the minds of at least a few that law and order, rules and regulations cannot be

made applicable to those on the higher rungs of the official ladder. Such an impression is likely to gain strength and bring about indiscipline and contempt of authority even amongst those on the lower rungs. The Head of the Medical Department should be aware of the effects of human psychology in the terms of mental experts and ought to apprise the Government of the insidious inroads on human mentality consequent on dereliction of duties. Such inroads have been persistently increasing in a department which in ordinary circumstances ought to have been an ideal to be followed by others. It is not known where the fault lies whether in the machinery or persons running the machines of the Government.

It is commendable that inspite of the non-existence of a strong party for opposition at least a few members of the Legislative Council, have been persistently bringing to the notice of the Government year after year the wishes of the people which, if complied with would have purified the administration without in the least increasing the financial commitments. The necessity of periodical transfers of medical officers from the city to the mofussal hospitals was urged by some members of the Council so that the experience gained by these officers could be made available to all centres in the mofussal. The haphazard and most risky methods of the Government in transforming officers who spent major portion of their official career in an art which was neither Medicine or Surgery or any other branch of the healing art, into Civil Surgeons and posting them as District Medical Officers in important Stations and the indiscriminate choice of Assistant Surgeons to serve as District

Medical Officers without giving them sufficient (refreshing courses) training in the subjects in which they were found wanting have been seriously telling upon the well-being of the public. Years ago when the Administration was an unalloyed Bureaucracy, public safety seems to have been cared for more than it is now. The members of the Indian Medical Service were usually the District Medical Officers. But to our knowledge none of them were given the charge of a District unless they served in some capacity or other in the Madras General Hospital, the most junior amongst them being first made to serve as the Resident Medical Officer of this hospital. It is true that there were transformations even during those days. A Surgeon of to-day was a Physician the next morning or an Obstetrician. We refrain from our remarks regarding the teaching cadre during the Bureaucratic days and the Specialisation as observed during these days of advancement of medical science. We are now concerned about the safety of human lives under the Diarchical system of Government.

In old days much care seems to have been taken even in the selection of Assistant Surgeons as Assistants to District Medical Officers. Invariably the Assistant Surgeons so chosen served in some capacity or other in the Government General Hospital, Madras. They were generally senior to the Assistant Surgeons working in the Taluk Head Quarter Hospitals under the administrative control of a particular D.M.O. During the Diarchical system, one could see a very junior Assistant Surgeon posted as A.D.M.O. in Districts where the Taluk Head Quarters Hospitals were under the charge of seniors to the Assistant of the D.M.O. There have been instances when due to exigencies of service such a A.D.M.O. had to be in charge of the District virtually controlling the seniors under him. In the past, Medical Officers both in the Provincial and Subordinate service had to appear periodically for examinations in important subjects such as Medicine, Surgery, Midwifery and Hygiene and such of those who failed in these examinations had to undergo post-graduate training in the State Hospitals in Madras. Later such examinations were done away with but batches of medical officers were sent to Madras for post graduate training. Such

a training was most conducive to serve as a refreshing course. This system was also given up. Specialisation as it is now in vogue is inconsistent with the duties of a District Medical Officer who, as the Head of the District Medical Administration should be well up at least in medicine, surgery, and midwifery to be able to guide not only his subordinates but serve as a consultant to the independent members of the medical profession. So the responsibilities of such office require that the person to be chosen to serve as a District Medical Officer should have the previous training in all these subjects. It is quite possible to maintain efficiency in such officers, and it should be done in the interest of public safety. The teaching institutions in the province are directly under the Government and the Government have not so far created a teaching cadre and till this is done the medical administration should be run in a way most conducive to human safety. The teaching institutions should be utilised in such a way that the staff should teach not only those who qualify to be medical men but also those who after qualifying themselves are given sufficient training to be consultants as District Medical Officers. The Assistants to the Physicians, Surgeons and Obstetricians in these teaching institutions should be invariably Assistant Surgeons who have put in not less than 10 years service and these should be posted by rotation every two years as Assistants to the Physicians, Surgeons and Obstetricians, so that within 15 years of their service all of them are made fit and ready to be posted as District Medical Officers. Efficiency of medical service in mofussal centres may thus be ensured. Very junior Assistant Surgeons are now posted as Assistants to Professors in the teaching institutions on the plea that some of them possess higher academical qualifications. The history how these juniors managed to possess high academical qualifications will reveal that what has been happening these years in the teaching institutions has subverted both efficiency and discipline and the profession and the public are dumbfounded how such happenings have been possible under the very nose of the Government. There are at present and have been in the recent past very junior Assistant Surgeons a few of them just recruited as such, posted as Assistants to the Physicians, and Surgeons in the General Hospital Madras, who qualify-

ed themselves subsequently for the M.D., M.S. Degrees or foreign medical qualifications. One amongst them was so lucky to get study leave out of India even before he put a couple of years of service as temporary Assistant Surgeon. Almost all such lucky juniors have been maintained in the City Hospitals because of their academic qualifications. The Government also knows that one such junior Assistant Surgeon thought it expedient to resign service when posted to another teaching institution outside Madras. We do not wish to say anything more on this subject but endorse the views expressed on the floor of the Madras Legislative Council during the recent Budget discussions that medical officers who have gained experience in teaching institutions in Madras, should be transferred to the mofussal centres so that the public may get the benefit of their up-to-date scientific knowledge. The Officers in the teaching institutions can train some more in their place. Almost all the present junior Assistant Surgeons in the teaching institutions had at first no such experience when these officers wanted them to serve as their Assistants. The mofussal stations are also entitled to have the benefit of the Specialists in the Medical Department who got such training at public cost. There are atleast four such Specialists in the Ear, Nose and Throat Department and as many perhaps in the Eye Department. Specialists are not wanting in Bone Surgery nor are they wanting in the Venereal department. Almost all of them had their training either here or in foreign countries at public cost and the public rightly claim their services and the Government cannot deny the same. The Government should therefore post these Specialists in convenient centres in the District Head Quarter Hospitals so that the whole Presidency could avail of specialist—services without necessarily going to Madras. They may be posted as Assistants to the District Medical Officers and such of them who have been made Civil Surgeons in the past might serve in the teaching institutions where they are at present and transferred periodically to another teaching institution so as to remove the wrong and false impression in the minds of the public that only the best man is posted to General Hospital Madras. This can be done without violating existing laws, rules and regulations and without any additional expenditure to the Government. Such transfers

will also necessarily bring harmony in the Department and do away with discontentment and indiscipline which usually follow favouritism. There is at present a false and professionally dangerous notion that a Surgeon need not be a Physician, the Ear, Nose and Throat Specialist need not concern himself about the diseases of other organs nor should an Eye Surgeon know anything of other branches of Medical Science. Human machinery to be healthy should be working in harmony and co-operation, one organ depending upon the other for its well-being and the well-being of all the organs constitutes good health. It is our considered opinion and so it is of all professional men that a specialist cannot serve his patients as such unless he has a knowledge of medical science as a whole. So the posting of the Specialists under the District Medical Officers as A. D. M. Os. will have most salutary effect in all directions.

Serious allegations are made year after year by the elected and even the nominated members of the Madras Legislative Council on the floor of the house about corruption and corrupt practices in the State hospitals; last year a nominated member went even to the extent of naming the institutions. A reference was also made this year by a member to an anonymous pamphlet circulated widely. The reply of the Minister in charge of Medical portfolio who took shelter under anonymity was as faulty as the action of the author of the literature on the subject of corruption in State Hospitals was irresponsible. It is true that corruption reflects as much on the society as on the sons who are benefitted by such practices and the cure of such ills can only be effected by the society alone where such corruption exists. It cannot be said that the existing machinery of the Government is helpless to do anything against corruption especially when it is alleged to be existing on a large scale. Referring to the anonymous pamphlet, can it be conceived for a moment that the Government could not get at the author if they wish to know who it is? Does anything prevent the Government to demand proof of the serious allegations from this person? If so why should not the Government be pleased to set the law in motion at least for the purpose of investigation, in the interest of the public and more in the interest of their officers. We could do nothing more than interpellate the Government through

these columns hoping that the Government will treat these interpellations in the spirit they are made. Though these interpellations cannot have the same force of questions on the floor of the Legislative Council they are meant to request the Government to purify the atmosphere of suspicion which in the case of medical institutions will have most deleterious effect on the well-being of the patients if not on the morals of all concern-

ed. Government have now rightly put the Medical Department under the charge of an independent Secretary and Major-General Sir F. P. Connor, the Head of the Medical Department is, we are told very much concerned to put down corruption in his department if as alleged it exists, in case the members of the public including the members of the Legislative Council bring to his notice a few concrete cases.

News and Comments

Ourselves : We quite realise our humiliation when we have been forced almost every month to bring to the notice of our readers our difficulties in not being able to publish the Journal within the Scheduled time. Our misfortune to lose quite suddenly our beloved Chief and Origin Founder of The Medical Practitioner, in the November 1934 and our inability to find a suitable person to take his place inspite of several applications from the members of the profession, had been our first handicap. The indifferent health of our Dr. Kamath ever since 1932 was another factor which had been telling upon us. The fact that the running of the Medical Practitioner is a hobby with the Proprietor of the Journal and not a means for earning money, has been our only capital to earn not only the good-will but the sympathies of the members of the profession almost all of whom most graciously and magnanimously have been putting up with all our faults and defaults. We have been most conscientiously attempting not to take undue advantage of the kindness of our sympathisers and wellwishers, and took great care inspite of the infirmity of our Managing Editor to make the journal not only useful but interesting. The purpose and policy of The Medical Practitioner being quite different from all the existing Medical Journals in India, its chief attraction of usefulness being its Editorial and News and Comments columns, we have been striving hard that our discussions in these columns about topics concerning the life and prosperity of not only the independent members of the Medical Profession but also of the members in Government Service and other special services-were not stale and beside the purpose advocated by the journal. We trust that the entire Medical Profession whom we

have been serving through the agency of our Dr. Kamath in the various fields of his activities such as the Madras Medical Council must have now realised our zeal and earnestness to serve them fearlessly and without minding favours.

Before our Dr. Kamath could take a deep sigh on account of his co-operative activities both with his past and present colleagues thrust upon him by those who are in charge of the co-operative machinery of the Government, Lt. Col. Mahadevan filed a libel case against Dr. Kamath for publishing the Editorial, 'Madras Needs a State Medical Faculty' in 1935 in the October issue. We did almost succeed to have the collaboration of eminent members of the Medical Profession to serve as a Standing Board of Contributors. We hope to publish their names on the front cover page of the journal after some time. In the meanwhile we appeal to our readers most gratefully to continue their generous sympathies towards us. Though our ambition has been to depend upon our subscribers for our existence as The Medical Practitioner was brought into the existence as an organ for Service and Propaganda, we did get quite substantial help from our Advertisers without whose help the Medical Practitioner would not have been able to command All India popularity as we spent every pie that we could lay by for increasing the circulation. A few of the firms who have been publishing their advertisements in the journal did complain about the delay in the publication of the journal saying that if the journal was published behind the Scheduled date it would lose its popularity. This is true to a great extent about lay journals and news-papers but cannot be so with regard to Medical Journals especially

(Continued on Page 189.)

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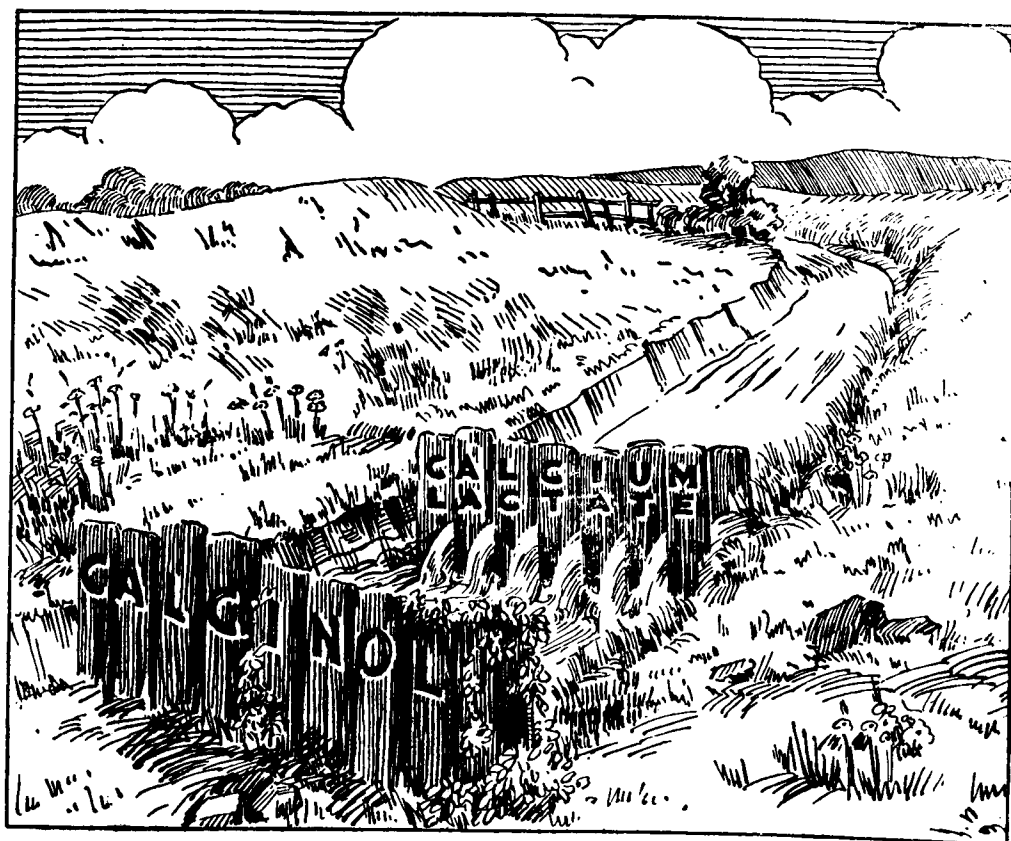
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The Medical College, Vizagapatam.

INSPECTION OF THE COURSES OF INSTRUCTIONS.

*Joint report by the Inspectors in Medicine
and Midwifery January, 1935.*

We inspected the Courses of instruction at the Medical College, Vizagapatam and have the honour to report as follows:

(1). The Courses of instruction, at the Medical College, Vizagapatam extends over a period of five and half years.

The first half year is devoted to what is known as the Pre-registration Subjects, viz. Inorganic—Chemistry, Physics, and Biology.

A Candidate, after his matriculation, has to pass the Intermediate Science examination, prior to his admission to the Medical College. He spends two years, before appearing for the Intermediate Science examination. The subjects in this examination for candidates, intending to join the Medical Course are:

1. English.
2. Vernacular.
3. Inorganic Chemistry.
4. Physics.
5. Mathematics or Natural History.

This examination is more or less a literary test as although a candidate spends two full years in the study of Scientific Subjects such as Physics and Chemistry, yet, it is necessary for him to undergo an additional course of six months at the Medical College in Physics, Chemistry, and Biology to acquire the requisite knowledge in these subjects, to pursue his Medical Studies.

We are of opinion that a prospective candidate for the Medical degrees should receive a sound secondary education and possess efficient knowledge of Physics, Chemistry, and Biology.

The average life in India is very much shorter than in Europe and with the present University Curriculum, a Medical Student can rarely get through his qualifying examination, under 25 years of age. But, on the other hand, a student at the European Universities can get through his qualifying examination, in five and half years, after he has passed his Matriculation examination; and it is unfortunate that in

India students should spend $7\frac{1}{2}$ years, i.e., two years more, to achieve the same object. If the fault lies in the Secondary School training or elsewhere it is up to the authorities concerned to remedy the fault rather than to penalize the Medical students for the faults for which he is not to be blamed.

Though we believe that efficient training must be maintained in our Medical College so as to turn out able Medical Practitioners, yet, it is fair to suggest that much unnecessary burden is thrown upon the students which could be lightened by reducing the period of secondary education to a minimum period, without in the least affecting the efficiency, so as to enable a graduate to start his professional career at an early date, with a reasonable hope and prospect of enjoying at least a few years of retired life after a strenuous professional career.

We therefore suggest that the University of Andhra be advised to raise the standard of the Intermediate Science examination as early as possible and to institute a separate science group consisting of the following subjects;

Physics

Chemistry

Biology

Organic.
Inorganic.

The examination in these subjects then should consist of a written, oral and practical test of considerable duration to enable the examiners to assess the knowledge of the candidates. 40% in the written and 50% in the practical and oral tests should be the minimum standard required to pass the examination.

From those who pass the intermediate Science examination and who wish to pursue the study of Medicine, fifty are admitted each year to the Medical College. The admission of these students is based on territorial and communal basis rather than on the individual merit. There appears to be no arrangements whereby the authorities of the College may interview the students before the admission, so as to satisfy themselves that the candidate by his physical and mental equipment is likely to be a credit to the institution. Such a method of selection is likely to deprive the college of the best students and therefore we suggest that a competitive examination may be held and the students selected in order of merit.

Use of Title 'Surgeon' Illegal Unless Registered

An appeal which raised the question whether a man who was not registered under the Medical Act, 1858, had committed an offence by describing himself as a "manipulative surgeon" was decided by the Lord Chief Justice (Lord Hewart), and Justices Humphreys and Singleton in a King's Bench divisional court.

Summonses against Captain Horace Barrow, of Belle Vue Road, Paignton, Devon for "unlawfully, wilfully and falsely using, the title surgeon," had been dismissed by the Paignton magistrates. They had held that Captain Barrow, who had practised as a manipulative surgeon for fifteen years had not acted unlawfully, as the title was used to describe his work or craft.

For the appellant, Mr. W. E. Jutson, it was stated that the law prohibited the use of the title "surgeon" by an unregistered person. Captain Barrow's contention was that the title "manipulative surgeon" had been used for at least twenty years as representing a person not registered under the Act, and that the words were used to show that he could manipulate bones and joints for the purpose of healing.

The Court allowed the appeal and directed the magistrates to convict.

Lord Hewart, giving judgment, said it was proved or admitted that Captain Barrow after his name used the words "manipulative surgeon." He was similarly described in the telephone directory and on his motor-car. He was not registered under the Medical Act and his name had never appeared in the Medical Register, nor was he a qualified medical practitioner within the meaning of that Act.

It was contended on Captain Barrow's behalf that the words "manipulative surgeon" for over twenty years had been understood to mean a person not registered under the Medical Act and not recognised by law as

a surgeon. Captain Barrow said that he used the title "manipulative surgeon" to direct attention to the fact that he was not a surgeon within the meaning of the statute. For Mr. Jutson it was contended that the statute contained an absolute prohibition against the use of the title of "surgeon" by an unregistered person and that the use of the word "manipulative" would not justify or legalise the use of the word "surgeon."

Captain Barrow even went so far as to say that if any other name would properly describe his work, he would gladly adopt that name.

"It is quite obvious," said Lord Hewart, "that there are other names which would fulfil that purpose, as for example, the words 'manipulative healer.' Apparently he does not like the name 'bone-setter,' but his counsel seemed to be a little reconciled to the description 'manipulative healer'."

After quoting the section of the Medical Act Lord Hewart said: If a person is not a surgeon, he must not call himself a surgeon, and it seems to me to be quite idle to say that in his context the word 'surgeon' is used to qualify or modify the word 'manipulative.' Dental and veterinary surgeons were expressly protected by statute. If Captain Barrow desired to represent that he was not a qualified surgeon it was unfortunate that he chose the description "surgeon." The thing which made the name "surgeon" appear to be attractive and useful was precisely the thing the section was enacted to prevent.

It was clear that in law the magistrates had no alternative but to convict. The appeal must be allowed and the case sent back to the justices with a direction to find that the offence which charged had been proved. Justices Humphreys and Singleton concurred, and the appeal was allowed with costs. The justices' order awarding Captain Barrow fifty guineas' costs was quashed.

(Journal of I.M.A., April 1935)

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CONGESTION.

(Continued from page 186)

of the type of The Medical Practitioner. We assure the advertisers that our past-troubles did not in any way interfere with our popularity or usefulness. We will suggest to them to verify our statement through their representatives who visit the members of the profession more often in the course of a month than does The Medical Practitioner. Many a time unearned and unsolicited troubles have been turned out by the Almighty as a blessing in disguise. We pray it will ever be so with us as we have been serving causes and not persons and will continue to do so, as long as The Medical Practitioner exists with Dr. Kamath at its helm.

Excuse in Another Form: As Medical Education comes largely within the purview of the activities of the Journal and as this is the subject-matter of the libel case against Dr. Kamath, in some form or other, we will have to curtail our discussions on such and similar subjects till Dr. Kamath comes out of the courts. Will our readers kindly excuse us for not being able to be as elaborate regarding these Columns as we have been.

Value of Interpellations: During the discussion of Madras Budget last March one Hon. Member of the Legislative Council asked the Hon. Minister in charge of Medical Portfolio about the discharge of a patient from the General Hospital Madras, who subsequently was admitted into the Government Hospital Royapuram and died. Another Hon. Member wished to know from the Hon. Minister about the Qualifications of the Professor of Bacteriology, Medical College Madras and a third question was to elicit information that the fees charged for private patients at the Guindy Institute and other Special Institutions under Government, were exorbitant and were more than the fees charged for such work in Great Britain.

It is our experience that interpellations many a time do not serve the purpose for which they were meant. It whitewashes the persons or the system and makes them appear as what they are not. Government is really anxious to put down obnoxious practices wherever they are found but naturally resent exposures when they could be avoided. It is our considered opinion that plain and frank correspondence on any subject serves

the purpose much better. Government machinery has to be run by human agency and erring being quite human, persons who run the machinery could be got at by correspondence more easily than by beating about the bush on the floor of the Legislative Council. Will the Hon. members please try this method?

War Supersession: Our comments on this subject have naturally attracted the attention of those affected either favourably or adversely. It is just possible that we, though not intentionally, did wound the feelings of a few, at least the three favoured officers of whom we have been hinting, it is said that our comments were uncalled for and not just. The columns of The Medical Practitioner are open to the members of the profession and we are bound to publish any statement criticising our comments and open discussion on subjects of professional or public importance as always conducive to reform and progress. We learn that memorials have been submitted to Government by the aggrieved Civil Assistant-Surgeons pointing out to the Government that a previous order of theirs, which in unequivocal terms expressed the policy and intention of the Government in not recognising War Service for promoting officers superseding seniors, when a few years ago an Assistant Surgeon memorialised to the government to recognise his "war service and grant him seniority by four years. It is also said that the memorialists are not satisfied with the reasons mentioned by the Government in their G.O. justifying the supersession, as neither the financial nor administrative purpose mentioned in the service rules has been justly served. We leave the matter at that, requesting the Government to satisfy themselves if recommendations even though they emanate from the proper quarters may at times be very faulty and even unjust as has been in this department in the past. We may also point out that quite recently the Government are said to have overlooked such a recommendation and did justice to a senior and well qualified medical officer to the entire satisfaction of the public and the profession.

A Lesson: Our readers might remember that a few years ago when the Public Service Commission advertised for the post of the Professor of Pathology, Medical College Madras, we pointed out that Rao

Bahadur Dr. T. S. Tirumurti, who once served as such and who since then had been serving as the Professor of Pathology Medical College Vizag and who occupied though temporarily much higher positions, as the first Indian Principal of the Medical College, Vizag and was honoured by the Andhra University being made its Vice-Chancellor, should be brought back to the Madras Medical College as the Director of the then future Pathological Institute. The Government had their own way and on the recommendation of the Public Service Commission entertained Dr. A. N. Goyle in spite of his being a Bacteriologist and not a Pathologist as indicated by his qualifications. It looked to us then that recommendations counted more than service or qualifications. The irony of the choice of Dr. Goyle should serve as a lesson to the Government. Dr. Goyle was appointed on a contract for five years from 1st March 1932 and the contract should cease in March 1937 in the ordinary course of events and as per the terms of the contract. But Dr. Goyle must have got a better job and his contract seems to have been terminated on or about 23rd December 1935. Such a termination must necessarily serve Dr. Goyle more than the purpose of his contract with the Government of Madras. The natural inference is that the post as the Professor of the Madras Medical College was a stepping stone for Dr. Goyle though a loss to the Madras Medical College or perhaps to the Government as the College cannot be poorer as a matter of fact; for luckily its own old Professor in the person of Dr. Tirumurti is now the Professor. Dr. Tirumurti's re-transfer to the Madras Medical College should also serve as yet another Lesson. As pointed out in our Editorial in the current issue it is desirable to effect periodical transfers from one teaching institution to another of Professors including Specialists to correct the erroneous impression in the mind of the public and the profession that only the best men are chosen for Madras. It is probable that there will soon come such an opportunity for the Government to effect this necessary and harmless yet most desirable reform and we request the Government to give effect to it so that there may be not only inter-University cordiality and equality but justice to all concerned under Government service. There will be a distinct all round gain and no loss

on any account either financially or in the interests of Medical Education.

Selection in Medical Schools and Colleges: Selection of candidates into Government Medical Schools and Colleges has a history of its own in the Madras Province. Till about 1918 when the Medical Department was under a member of the Executive Council of the government, there seemed to be no complaints from the public about partiality, favouritism and other terms which must have been used by the public in complaining to themselves or those in authority about admission of candidates into Medical Institutions. The Medical College Madras was the only college existing during the Bureaucratic days as against the later Democratic days under popular Ministers. As attraction to this college was more than for the medical schools where Government stipendiary students were chosen by open competition and as the choice of candidates in the medical college had to be judged on the merits of the candidate as depicted on their applications, there grew an atmosphere of suspicion if all was well in the matter of selection. During earlier days perhaps till about 1907 or so when the office of the Principal Medical College and Senior Medical Officer Govt. General Hospital, were combined, the Principal could devote his undivided attention to the Administration of the teaching institutions under his charge, this officer not being allowed private practice. With the advance in Medical Science and with the popularity of the scientific system of medicine, the Principals Medical College were allowed private practice perhaps in the interest of science as well as the public. Unfortunately this change of policy was not an unmixed good if we may use the term and naturally the principals could not devote as much attention to the administrative work and had to depend upon their subordinates. The good or bad effects of this reform made the people complain more and more till the Government thought it desirable to have a selection committee consisting of lay and medical men and women to assist the Principal in the matter of selection. Affairs in the Medical Schools also changed materially so that in both these institutions there are now only private students excepting in Madras College where a few Military Assistant

Surgeons are trained. These few years inspite of the Selection Committee there have been great dis-satisfaction some saying the formulae adopted by the Government are not satisfactory while a few others complaining that even the formulae underwent twisting. So far, this year we did not hear any complaint regarding the twisting. We are told that the Ag. Principal Madras Medical College Lt. Col. Plumptre who was the Chairman, Selection Committee had a ready made list to help his colleagues for selecting the candidates into the Madras and Vizag Medical Colleges in strict accordance to the Government formulae and the whole work of selection went off as quickly and as peacefully too. The selection of candidates for the men and women Medical Schools is conducted at the office of Surgeon-General. All these years the Superintendent Stanley Medical School was the chairman of this committee. This year there has been a change; the Chairman for the selection of boys being the Superintendent Stanley Medical School and for girls the Chairman was the Lady Superintendent of the Willingdon Medical School. It is said that the Superintendent Stanley Medical should being not well, the Lady Superintendent was the Chairman for the selection of both boys and girls. We have published in the correspondence column the preliminary portion of the report of the Inspectors appointed by the Indian Medical Council to visit the Vizag Medical College and trust it will attract the attention of the Government as well as the public. Political considerations seem to be the only guiding factor considered by the Government for admitting students into teaching institutions and this policy is having a most baneful effect on society and also on the learned professions. It will continue to be so till we have a well organised and harmonious Medical Profession. This again seems to be not a possibility unless the entire system of Government is

changed. Even the political formulae are as faulty as they are unworkable. The territorial formulae of dividing the province as West Coast the Tamil and the Telugu areas does not give representation to individual Districts and the unfortunate District of South Kanara seems to have been hit the most both in Schools and Colleges. Madras Medical Council the statutory body to control School as well as College Medical Education, is the only legitimate authority which should guide the Government in all matters regarding Medical Education. Is it too much for us to suggest to the Government to consult this body and ask their advice even with regard to selection of candidates for admission into Medical Schools and Colleges?

An Important Decision: An important decision regarding the use of title 'Surgeon' by a person whose name does not appear in the Medical Register published by the General Medical Council, Great Britain has been published by us in the correspondence columns. There is no corresponding section in the provincial Medical Act in India to punish unregistered and unqualified persons assuming the title of Surgeon or Physician. There is a section in the Indian Medical Degrees Act popularly known as Bogus Degrees Act which implies but not in clear words that no person could assume a title indicating that he is qualified to practice Allopathic System of Medicine. But very little attention has been paid by the Madras Government to book the offenders of the Indian Medical Degrees Act inspite of the Madras Medical Council requesting the Government to take action on such offenders. We would suggest that the Indian Medical Degrees Act be incorporated in to the existing Provincial Medical Acts till India has a council for all India of the type of the General Medical Council Great Britain with all its powers.

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It is with feelings of most profound sorrow that we have to report the sudden passing away of Dr. S. RAMASUBBU, Subsidised Rural Medical Practitioner, Viraganur, Salem District and Secretary, the Provincial Subsidised Rural Medical Practitioners' Association, Madras, which sad event took place at the Government Head Quarters Hospital, Salem on the 26th June. Dr. Ramasubbu was in perfect health till 23rd June on which day late in the evening, it is said, he felt tight feeling at the lower jaw and late at night the feeling of tightness was also felt at the wrists. Early morning on the 24th June, before he left Viraganur for Salem, Dr. Ramasubbu, the sagacious and clever doctor as he was, diagnosed his ailment to be Tetanus and anticipating that by the time he reached Salem he might develop complete lock-jaw, he was prudent enough to write on his Visiting Card, "I am suffering from Tetanus", so that he could be immediately attended to, at the Government Hospital, Salem, where he went for treatment. Unfortunately as was expected by Dr. Ramasubbu, by the time he reached Salem he was not able to talk. The cruel disease took a most serious turn and in spite of the best efforts of the entire staff of the Hospital, Dr. Ramasubbu passed away at noon on the 26th June.

Dr. Ramasubbu came from a respectable Brahmin family and was born in 1898 in the village called Namasamudram in Pudukottah State. He passed out of the Madras Medical College in 1924 and soon after, in 1925 February chose his lot to practise in a rural area being subsidised by the Government of Madras. He was one of the very few members of the Medical Profession who deliberately chose service to humanity in a rural area. He led a life of a typical Family Doctor to the



villagers around him at Viraganur. In appreciation of his services, the Taluk Board had been paying an additional subsidy of 25% of the subsidy he was receiving from the Government. Though a Village Doctor he was not a frog in a well. He was up-to-date in his scientific knowledge and gave his patient the full benefit of his learning. His love to serve the rural population was so keen that soon after the inauguration of the Rural Medical Scheme, he started an association of the Subsidised Rural Medical Practitioners and though his income was meagre, he kept the Association going with great sacrifice. If the Government of Madras has been able to run the Subsidised Rural Medical Relief Scheme more methodically and on a larger scale than in the sister provinces in this country, a large share of credit should go to Dr. Ramasubbu. He organised yearly conferences of his comrades, arranged interviews and deputations with the authorities concerned in running the subsidised scheme and tried his best to popularise the scheme to the utmost he could. He was in close touch with the activities of The Medical Practitioner ever since it came into existence and did help the Editorial Staff not only with articles of Scientific interest but with news of general interest to the profession, the Subsidised Rural Medical Relief Scheme being his pet theme. The village atmosphere did not tell upon his natural instincts and he successfully fought not so much for himself but more for his brethren in the rural service and made their lives, less burdensome. He was a constitutional fighter of a very high order and would not yield when he knew his cause was just. Soon after the control of rural dispensaries was taken up by the District Boards after the abolition of Taluk Boards, he was asked by the Salem District Board to sign a new form of agreement fixing the period of service for one year. As such a term was against the very spirit of the scheme which expected the Rural Medical Practitioners to make the village their permanent abode, Dr. Ramasubbu would not sign such an agreement till the

last day of his existence. He appealed to the Government against this injustice and as he had no reply from the Government till about the 15th June 1936, he wrote to us for our advice as to what he should do as he was pressed by the President, District Board, as well as the District Medical Officer, Salem, to sign the new agreement. We could not be as prompt in our reply as he expected us to be normally and he sent us a reminder and we posted our reply to him on 22nd June but Alas! we are not aware whether we satisfied the eager craving of a soul which we could never dream would leave the mortal body of our beloved Ramasubbu so soon and so suddenly. His loss to us is as irreparable as it is to his loving old parents both passed seventy years of age and his most dear young wife and his most affectionate children two boys and two girls all of whom not even in teens and his last still in arms, not to mention his two brothers who were brought up and educated by the only hopeful of the family, their dearest Ramasubbu. The void either in his domestic circle or in the home of service he built for Rural Medical Practitioners, himself being the founder and the sole organiser cannot be filled in at all. It was the will of God to take him back to Him. He only knows His purpose. To us mortals it looks so cruel and so sad. Yet we bow down to His decision all mourning and praying that God the merciful bless the departed soul with everlasting bliss. Our last consolation to all including ourselves and his comrades in service cannot be anything more than the singing of the following quotation:

"A rose's brief bright life of joy
Such unto him was given.
So, thou must play alone my boy
Thy brother is in heaven."

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READING NOTICES THE MODERN ANTISEPTIC

"DETTOL" is now available to doctors in India.

This antiseptic has become widely adopted by hospitals and doctors throughout the United Kingdom although it was introduced only 2½ years ago. The reason for this is not far to seek.

The government report on maternal mortality and morbidity in 1932 stated that the antiseptics then in use left a great deal to be desired and apart from 2 per cent aqueous iodine nothing could be relied upon to effect complete destruction of haemolytic streptococci on the skin, and to remain an effective germicide when dried.

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The full report appeared in THE JOURNAL OF OBSTETRICS AND GYNAECOLOGY OF THE BRITISH EMPIRE (XX, 966), and further details were given during a speech at the British Medical Association Meeting in Dublin.

In QUEEN CHARLOTTE'S QUARTERLY for February 1935 it is now shown that consequent upon the introduction of Dettol into the labour wards there was sharp drop in the sepsis rate. Reports of reductions elsewhere, even on a considerable scale, are being received by the manufacturers.

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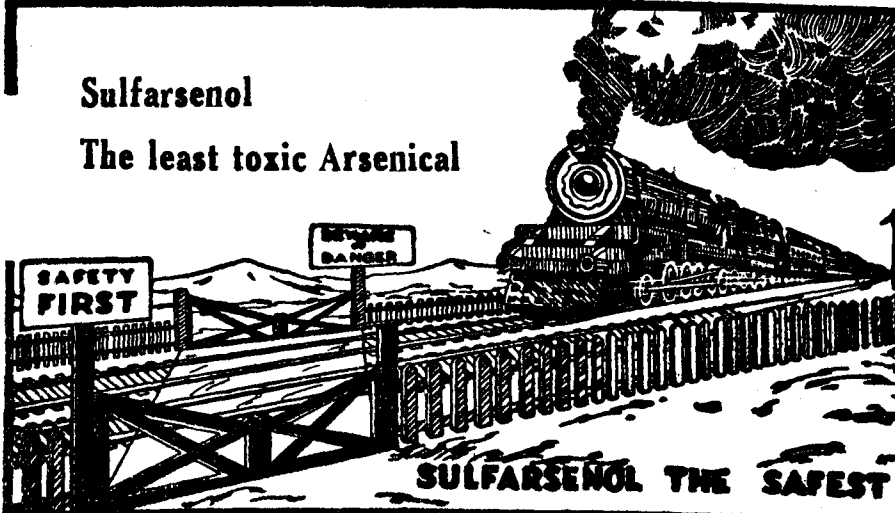


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The Medical Practitioner

A Monthly Medical Journal

EDITED BY
Dr. V. Rama Kamath,
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VOL. VII.]

JULY 1936.

[NO. 10

Original Articles

ACUTE RHEUMATISM.

ABSTRACT OF THE MADRAS UNIVERSITY
ELIZABETH MATTHAI LECTURES 1935.

BY

MAJOR G. R. McROBERT, M.D., F.R.C.P.,
I.M.S.

Lecture One.

Nearly twenty years ago, on my first voyage to the orient—a journey performed by the Cape of Good Hope route on account of the submarine situation in the Mediterranean—I spent a pleasant and convivial evening at a civic entertainment in the township of Verulam, in Natal, along with a number of fellow officers and a small body of British troops.

As the night wore on I was accosted by the hospitable secretary of the local social club—in private life the village druggist.

He had had considerable experience of former South African wars and, as he had just discovered that I was a newly fledged doctor he was most anxious to give me good advice and useful information.

I can well remember his recommendation of decoction of simarubra bark as the only real specific for dysentery and his enthusiastic praise of the hygienic habits of the native of India who, he said were entirely free from two of the great curses of civilization—piles and pyorrhoea—on account of their natural squatting mode of defecation and of their habitual use of the toothstick after meals.

Alas, I was to discover only a few weeks later that amongst the commonest causes of rejection of Indian recruits and of invaliding from the Indian army were the two diseases which my mentor had declared to be non-existent in its ranks.

Such was my first introduction to a tropical medical myth.

It was not so many years before the war that it was generally believed that the inhabitants of India were not susceptible to enteric fever and I can recall meetings in Mesopotamia with senior officers of the I.M.S. who were not quite convinced that the rank and file of the Indian army could really contract typhoid.

Only within the last few weeks a medical man has thought it worthwhile to report as a rarity in the Lancet a case of duodenal ulcer occurring in a native of the tropics and again and again I have been faced with frank amazement when I have diagnosed diphtheria in natives of India.

One of the most cherished doctrines regarding the distribution of disease is that acute rheumatism is not found in the tropics.

Every now and again correspondence arises in the medical journals on this subject and in the past not a little acrimony has been shown on either side.

Quite a number of cases have been reported from the Punjab but the opposition generally refer scathingly to the map and point out that the Punjab is not in the tropics and that it has a real cold weather in the winter.

On my arrival in Madras just over a year ago I was struck by the number of cases of

Wassermann negative mitral disease in young persons and I had not been here very long before I encountered what were, to me, typical cases of acute rheumatism in children with gross cardiac involvement, subcutaneous nodules and transitory swelling of the joints with an antecedent history of sore throat.

My medical colleagues in the General Hospital treated my surprise with evident amusement and informed me, one and all, that among the practitioners of Madras the occurrence of acute rheumatism had been well recognised for many years. I was told that the disease is even more prevalent on the wetter West Coast, and Dr. Guruswami Mudaliar, our Professor of Therapeutics informs me that during his last European tour he personally drew the attention of Dr. Poynton and other European experts on rheumatism to the existence of that disease in S. India.

If any climate can be described as typically tropical, it is surely that of our Presidency Capital with its three seasons of hot and damp, hotter and damp, and hot and wet.

So far as I can find however the occurrence of the disease in S. India though well recognised here has not been recorded. The tendency to allow interesting and important cases in S. India to go unrecorded is very marked—I can only suppose it to be due to a combination of modesty, overwork and climatic inertia.

When I was honoured by receiving an invitation from the University of Madras to deliver the Elizabeth Matthai Memorial lecture this year, I decided to take acute rheumatism as my subject as it is essentially a disease affecting those members of the community whose ailments fall especially within the purview of the Elizabeth Matthai Memorial foundation, namely women and children.

It is moreover a disease which requires more than average skill for diagnosis and treatment in the all important early stages and for real understanding of its difficulties and dangers.

To-night I intend to put before you some points with regard to the pathology of the disease and to draw your attention to the present trend of thought with regard to its causation.

Although I shall not deal with the clinical manifestations of the disease until subsequent lectures, it is advisable, I think, at the outset to state emphatically that the old name acute *articular* rheumatism must be abandoned as it tends to draw undue attention to joint involvement which is probably the least important feature of the disease.

Nevertheless it was comparatively late in history—only 120 years ago in fact that the grave cardiac involvement in this condition was recognized by Balfour who described rheumatism as a general disease of what he called “the cellular membrane” including the tendon sheathes, fibrous tissues, blood vessels, pericardium and pleurae.

All observers up to that time had regarded it as essentially a disease of joints, with fever, transient swelling and redness but no suppuration. Attention was drawn to the association of the subcutaneous fibrous nodule with the disease about the year of Waterloo, only a short time before cardiology was established on a good clinical basis by the introduction of the stethoscope by Laennec in 1819.

Just a hundred years ago the clinical signs of rheumatic endocarditis were first described by a Frenchman, Bonillara and it is to another member of that nation, that we are indebted for the graphic statement which has found its way into our textbooks that rheumatism is a disease which licks the joints, the pleura and the meninges but it bites the heart.

It was not however until the earlier years of the present century that the conception of a pancarditis or involvement of the entire heart structure was accepted and even now one finds students and practitioners thinking too much in terms of endocardial involvement in general and valvular damage in particular, forgetting the more important damage to the heart muscle itself.

I shall not weary you with a detailed account of the gradual development of the infective view of the origin of acute rheumatism other than to state that up to the eighties of the last century, physicians had perforce to devote than speculations to altered conditions of the body itself—a depressed vitality on account of cold or damp, an excess of this or that product of

disordered metabolism, an invasion of the joints with a cold humour or rheum emanating from the brain and so on.

With the great advance in the science of bacteriology in the eighteen seventies and eighties, the attention of scientific investigators was drawn away from the study of human body to observations on vegetables in test tubes, and it is not until recent years that the great importance of the relationships between body resistance and virulence of pathogens has received adequate attention.

So far as the morbid anatomy is concerned, a characteristically proliferative granuloma, the submiliary nodule, is found in the affected cellular tissues. It may be considered to be the fully developed reaction to the causative agent.

In the cardiac tissue we find the body originally described by Aschoff and now named after him, but throughout the entire mesenchyme we find modifications and developing forms of this granuloma differing somewhat in appearance and structure in accordance with the actual tissue involved.

The Aschoff nodule consists of a homogeneous core of fibrin with a certain amount of cellular debris surrounded by large elongated cells with numerous wheel shaped nuclei. These cells are endothelial in origin. Numerous fibroblasts and mononuclear leucocytes are also present.

Most pathologists regard the Aschoff nodule as a specific rheumatic lesion like the granulomata characteristic of tuberculosis and syphilis. They are essentially intercellular in situation.

If their development be traced it will be found that they commence as a fibrinised swelling of the jellylike ground substance or supporting material which exists between the cells and fibres of the tissues. A diffuse infiltration of the connective tissue with resulting oedema and invasion by wandering cells ensues. Soon however proliferative changes appear. The area of fibrinised swelling becomes necrosed and surrounded by multinuclear large cells. As the morbid process develops the large cells become elongated, more collagen is laid down and finally the granuloma is replaced by a fibrous scar.

There is therefore an exudative stage followed by a proliferative and sclerosing

stage. The exudative process seems to be amenable to treatment with drugs but the same cannot be said of the fibrosing and sclerosing process.

Granulomata may be found readily in various stages of evolution in tissues removed from joints during the stage of swelling and also in periarticular ligaments, tendon sheathes and aponeuroses.

The most striking clinical feature of severe rheumatism in children is the transitory appearance of hard subcutaneous nodules in the tendons, aponeuroses, over the elbows, vertebral spines, scalp and other prominent places.

We have had several cases in Hobart ward showing characteristic examples of this condition which is simply a superficial, palpable evidence of similar changes going on in the heart and other deep structures.

In the subcutaneous nodule there is first exudation of fluid into the tissue spaces, fibroid degeneration and invasion with wandering cells followed by proliferative cell changes and finally contraction with the formation of a minute and impalpable scar. To the beginner the rapidity with which subcutaneous rheumatic nodules come and go is always a source of wonder—one day so hard, nodular and evident, and next day almost gone with a fresh crop appearing in a differing situation.

The pleura and the pericardium are common sites for the appearance of specific granulomata as is also the fibrous peritonsillar tissue.

Pulmonary lesions are also described.

In the heart the spindle shaped Aschoff nodule is found in the intermuscular fibrous trabecula near the small blood vessels. They are found in great numbers in the subendocardial tissue near the mitral and aortic valves—invading the structures which are involved in a primary inflammatory valvulitis with secondary sclerosis and organisation.

It is now generally believed that vegetations on the valves which were formerly attributed to primary destruction of the endothelium are really secondary to subendothelial inflammatory changes characterised by the presence of the specific granulomata.

Schlesinger however points out that although the presence of Aschoff granulomata is apparently specific in acute rheumatism, they

do not represent the only morbid change in the heart as the nodules are primarily situated in the tissues between the muscle cells whereas poisoning of the actual muscle fibres obviously occurs in this disease.

Besides being present in the heart itself rheumatic granulomata occur in the outer coats of the arteries and veins supplying the various viscera.

A consideration of the morbid anatomy and microscopic appearances of the tissues in this disease have led to its being regarded as an infective condition. I shall now come to a brief consideration of the lines which have been followed in investigating its origin—a search which is still going on.

In 1886 the recovery of a diplococcus from the blood with joint fluid of a case of acute rheumatism was recorded by Mantle, but it is to the members of the Great Ormond St. Hospital staff that chief credit must be given for the streptococcal theory of the origin of the disease.

Dr. Poynton and Payne in 1905 isolated from the blood, pericardial fluid, synovial membrane and heart valve vegetations a diplococcal organism—the so called diplococcus rheumaticus—which on culture became a short chain streptococcus.

Since that time much work has been done on the association between streptococci and rheumatic fever in many different countries—notably in America, and although Kochs postulates have not been fulfilled, the claims of a streptococcus to be at least an important associated factor in the production of acute rheumatism are fairly generally accepted.

Numerous workers have succeeded in isolating streptococci from actual rheumatic lesions, but then isolation has not been a constant feature such as we find with the specific organisms of syphilis, diphtheria, and plague.

Further more the streptococci isolated have been of many different cultural types, sometimes haemolytic, sometimes the viridans type and occasionally non-haemolytic indifferent strains.

It is generally believed that the tonsillitis which so frequently precedes an attack of acute rheumatism is streptococcal in origin, but again there is no uniformity in the type of streptococcus isolated though haemolytic strains seem to predominate.

Recent work has tended to show that increased activity of haemolytic streptococci in the upper respiratory tract accompanies exacerbations or recurrences of acute rheumatism and it has been shown that the titre of streptococcal antibodies in the blood waxes and wanes with the increase and decline of the clinical relapses.

The difficulty found however in demonstrating actual streptococci in the blood and actual lesions in a large percentage of cases has led to the development of an explanation of the diseased symptoms in acute rheumatism as a manifestation of streptococcus allergy.

As the allergic condition has been invoked as an explanation of so many different pathological conditions including asthma, eczema, angioneurotic oedema, mucous colitis, hay fever and certain manifestations of tuberculosis, it may not be out of place for me at this point to make some remarks concerning it.

You are all aware of the fact that if a guinea-pig is inoculated with a small amount of foreign protein, say, egg albumen, it is apparently unaffected, but if the process is repeated with even a minute portion of the same protein some ten days later, a violent reaction ensues with severe broncho-constriction, capillary dilatation and death from the condition known as anaphylaxis.

The symptoms of anaphylactic shock experimentally produced in guineapigs were noted to have many points in common with a group of diseases such as asthma which occur naturally as a result of the exposure of certain individuals to various exciting factors.

These persons respond in an abnormal manner to substances which are quite harmless to an ordinary individual and appear to be naturally hypersensitive to foreign material introduced into the body by swallowing and inhalation or skin contact. Their body cells are in a state of "altered reactivity" or allergy.

That term, allergy is now used in connection with natural hypersensitiveness of an individual as contrasted with anaphylaxis which is hypersensitiveness artificially induced by inoculation—clinically the relationship of allergy and of anaphylaxis are almost identical.

The onset of the allergic condition may be congenital—as many infants are sensitive

to articles of diet with which they have never come in contact but which have formed part of the mother's dietary.

It may be acquired—as for example, to inhalants such as pollens—sensitivity to which results in hay fever. Substances which induce sensitivity are known as allergens and each allergen has its own particular sensitive tissue, e.g., nasal mucus membrane—(hay fever) bronchial muscle—asthma, capillary linings—angio neurotic oedema. Not only is specific sensitization produced but such hypersensitivity may be passively induced in another person by blood transfusion.

An interesting development of this is the Prausnitz-Kustner reaction in which specific hypersensitiveness is transferred to local areas on normal people by intradermic injection of serum from a hypersensitive person.

In many cases of allergy the actual sensitive substance can be determined by placing a number of solutions of different suspected substances on the skin and lightly making a scratch or prick through each. The scratch through the real sensitizing substance is followed by a wheal and red flare.

Alternatively the suspected substances may be injected intradermally and the resulting wheal and flare looked for.

When on account of infancy, nervousness or distance, it is impracticable to carry out the pricking or intradermal sensitivity tests on the patient direct, the passive transfer reaction of Prausnitz and Kustner may be employed.

A small quantity of serum is removed from the patient and sent to a convenient laboratory suitably cooled (its activity lasts for a least 6 months.) A little of the serum is injected intradermally into a relative, laboratory attendant, doctor or other volunteer. It is rapidly absorbed so that without quite a short time there is no trace of the injection.

The immediate site of the injection becomes sensitized to whatever allergen affected the original patient though the remainder of the body is unchanged, and this absolutely local transferred allergic sensitization may persist for several weeks.

In recent years it has been shown that the cells of the body can become superficially sensitized not only to such foreign substances as food proteins but that special tissue sensitivity can also be developed to

the disintegrated products of bacterial breakdown.

During the primary attack of a non-fatal disease certain tissues become sensitized towards the breakdown products of the specific organism concerned. When as a result of fresh infection or from the lighting up of a latent focus of infectivity a further liberation of the sensitizing antigen occurs, a violent allergic inflammatory reaction arises in the specific tissue concerned.

The tuberculin reaction in the skin in cases of healed tuberculosis is a good example of this kind of allergic activity and for some time now it has been generally accepted that many of the manifestations of tuberculosis in adult life are allergic in nature and due to reaction of previously sensitized lung tissues to freshly liberated tuberculin.

As Bach states in his recent book "It is becoming continually more apparent that the hypersensitive state plays an important role not only in tuberculosis but the pathogenesis of bacterial infection in general." In typhoid and in streptococcal, staphylococcal, pneumococcal and other infections specific antigens similar to tuberculin are in clinical use and reveal the presence of hypersensitiveness on intra cutaneous injection, and it is becoming evident that in an increasing number of infections, the various lesions and symptoms are not, as was formerly supposed, the direct results of bacterial poisons but are actually the results of the hypersensitive state of the individual.

There is considerable animal experimental evidence to show that streptococcal infections may remain latent, that streptococci may lie dormant in hidden foci and from time to time become stirred into activity, liberating toxins into the circulation and setting up allergic reactivity in tissues already sensitized by a former attack.

Viewed from an allergic standpoint the streptococcus in such provocative infections as scarlet fever and tonsillitis may be described as the rheumatic antigen, the symptoms of acute rheumatism which appear after an interval as an allergic reaction to streptococcal toxin.

As Paynter and Schlesinger state in 'Recent Advances in Rheumatism' far from supplanting the streptococcus the allergic theory helps to strengthen the view that this microorganism is the exciting cause of the disease.

It must however be fully admitted that although streptococcus allergic sensitization seems to play an important role in the causation and clinical manifestations of acute rheumatism, it has not been proved to be the ultimate cause of the disease.

In May of this year Schlesinger of G.I. Ormond Street Hospital, whose name has been so closely associated with work on the streptococcal nature of the disease, published in the *Lancet* along with laboratory colleagues an important paper on experimental evidence of a virus as the real cause of the disease.

Fluid from rheumatic joints and pericardial effusions were shown on examination by dark ground methods with a magnification of 1000 diameter to contain countless small particles of uniform size which to experienced observers closely resembled the elementary bodies associated with virus diseases—pericardial, pleural, and joint exudates from non-rheumatic diseases showed no signs of these bodies.

In a number of virus diseases these elementary bodies, which are regarded as the causal agents of the disease, are agglutinated by corresponding specific antisera and such agglutination reactions provide additional evidence in favour of the view that the minute elementary bodies represent the actual infective agents. By using the agglutination method the development by the body of immunity to the virus can also be studied. Schlesinger and his co-workers found that formalized suspensions of these bodies obtained from rheumatic joints and pericardial fluids are specifically agglutinated by the sera of patients who are suffering from and successfully resisting an acute rheumatic infection.

Serum from normal persons and from those suffering from non-rheumatic diseases give completely negative results.

These workers therefore seem to have made out a good case for regarding a specific virus as the primary causative agent of rheumatism but much work remains to be done on the waning and waning of immunity which causes the exacerbations and remissions which we know clinically to be so characteristic of rheumatic infection.

It is possible that streptococcal infection with hypersensitivity to streptococcus toxin may so lower the resistance of the body as

to permit invasion by a specific virus and may cause the relapses by damaging the anti-virus immunity which is developed during the recovery process from the primary attack. The virus which had become dormant would then temporarily gain a further period of ascendancy with exacerbation or recrudescence of the symptoms.

Enough has been said to indicate that acute rheumatism furnishes an interesting problem so far as its etiology is concerned. In the subsequent lectures I hope to deal with its actual clinical manifestations.

INGUINAL HERNIA AND HERNIOPLASTY.

BY

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HISTORICAL: Hernia is as old as the human race. It was known to Egyptians as early as 3000 B. C. and was treated, by bandaging. The first operation was done by Celsus in the first century A. D., of ligating and excising the sac. The popular name of "rupture" for this disease was apparently due to the view expressed by Galen that hernia was due to a rupture of peritoneum.

A greater advance in the knowledge of this condition took place in the 18th century through the work of Littre, Richter, Campor and Gimbernaut and in the 19th century Cooper and Scarpa added to the knowledge of the surgical anatomy of the part.

CZERNY introduced the method of high ligation of sac through the external abdominal ring with closure of the pillars snugly round the cord by sutures. This became the standard operation till the twentieth century. But recurrence was 30% or more after this operation. Opening of external oblique for high ligation was introduced by Lucas Champoniere in 1883. Bassini introduced his method of hernioplasty in 1883-84. This has now become the standard method of treatment. But recurrences have induced surgeons to modify the methods in various ways. In 1887 Halstead placed the cord subcutaneously with

plastic suturing of the muscles of the canal behind the cord. It was given up but has been reintroduced with modifications for repair of direct hernia. In 1893 E. W. Andrews introduced a modification of Bassini operation called the "Imbrication or lap-method". Coley and Ferguson introduced the method of suturing the conjoint tendon to inguinal ligament in front of the cord. Halstead performed a similar operation in which he reduced the size of the cord.

Mac Arthur in 1901 suggested the use of live fascial sutures, using strips of fascia from the aponeurosis of external oblique. Gallie and Le Mesurier introduced the method of using strips of fascia lata for the repair of the inguinal canal in 1921. This method has become most useful in the repair of large and long standing oblique hernia, direct and recurrent herniae and has displaced the filigree operation.

1. **THE TRUSS.**—In 1306 Gordon introduced the iron truss and in 1628 Le Quin introduced the steel truss. The English crossbody truss was introduced in 1806. Since then several modifications and improvements have been introduced.

Three chief types of hernia are noticed in connection with inguinal canal:—the oblique, the direct and interstitial herniae.

THE OBLIQUE INGUINAL HERNIA:—In this the sac emerges through the internal abdominal ring lateral to the deep epigastric artery and lies in front of the cord and is covered by all the coverings of the cord. After traversing the canal it emerges through the external ring and descends downwards into the scrotum. According to the length and position of the sac in relation to the inguinal canal and neck of scrotum three clinical degrees can be recognised.

Bubonocoele or incomplete hernia in which the hernia is entirely within the canal. The complete type in which the hernia just emerges through the external ring. The Inguinoscrotal type in which the hernia has passed down into the scrotum.

2. **DIRECT HERNIA:**—In this the sac, always an acquired one emerges through the inner part of the inguinal canal medial to the deep epigastric vessels. It stretches out the transversalis fascia and conjoint tendon in front of it. In about 10% the sac may emerge through gaps in the transversalis fascia. The sac always lies behind the cord.

After emerging through the external ring, it seldom or less frequently becomes scrotal, but more often rises towards the pubic region.

3. **INTERSTITIAL HERNIA:**—In certain cases of oblique inguinal herniae there is an irregularity of the sac due to the development of a lateral diverticulum or a complete congenital displacement of the entire sac into the planes of the abdominal wall. They are usually seen in arrested descent of testis or its maldevelopment. These herniae are rare.

4. SLIDING HERNIA:

FREQUENCY.—In males 95% of all herniae are of inguinal type and of these 70 to 80% are oblique and 30—20% are of direct type. In women 45 to 50% of herniae are inguinal (Watson), 98% of which are oblique and only 2% of direct type. The sex ratio for the oblique type is 10 males to 1 female. Keith says that 4.4% of male children have oblique herniae in the first year of life and two-thirds of these are cured spontaneously or by a simple truss (Bull). About 1—2% of male adults in the third decade (20—30) suffer from oblique herniae.

It is more common on the right side than on the left in the ratio of 3: 2. This is probably due to later descent of testis and later closure of processus vaginalis in the male and the canal of Nuck in the female. In the male oblique inguinal hernia shows a tendency to become bilateral in 25% of sufferers and in women about 20%.

ETIOLOGICAL FACTORS:—1. The persistence of a patent funicular process as a whole or in the proximal part in males and the canal of Nuck in women provides a potential hernial sac. Keith found a patent funicular process in 30% of infants up to four months after birth and in 12% of adults. Russell found it in 10% of adults. In women the canal of Nuck was found open in 10% (Nobbe). Sachs found a patent funicular process in 29% of male adults and a patent canal of Nuck in 25% of adult women. It is generally accepted now that 90% of oblique herniae have congenital defect in the obliteration of the funicular process. In most cases developing in young adult life there is usually a tiny sac which in course of time enlarges at the expense of abdominal peritoneum.

Though the potency of this process is about equal in both the sexes, the ratio of

incidence of hernia is 10 males to 1 female. Hence other factors must influence this condition. These are:—(1) The processus-vaginalis is wider and longer in males than in females. (2) Both the rings and inguinal canal are much wider in men owing to the descent of testis. (3) The drag on the patent funicular process is in opposite directions in the two sexes. In the male the increase in size, weight, and mobility of the dependent testis exerts a pull on the patent process in an inward and forward direction. In women this process is adherent to the round ligament which is subjected to a backward pull towards the pelvis by the uterus. (Hitzrot). The incidence of oblique inguinal hernia in the two sexes is more even before puberty.

2. *Inadequacy of inguinal sphincter surrounding the cord.*—According to Keith, the conjoined tendon acts like a shutter coming down against the fixed inguinal ligament and closes the canal snugly round the cord during abdominal strain. Hence a weakness in this tendon either congenital or acquired permits a weak point for the development of a hernia. Relaxation of the tendon occurs when the thigh is slightly flexed or in stooping postures. Under these conditions repeated sudden increased intra-abdominal tension is liable to force out an enlarging cone-like process of peritoneum into the canal. The presence of any small cone of peritoneum at the proximal end of canal (a congenital sac) favours formation of hernia. Conjoined tendon may be weakened by starvation, wasting diseases, fatty degeneration or atrophied by a previous operation. Damage to its nerve supply as after a Mac Burney or Davis' incision may also weaken the tendon. A greater development of cremaster muscle in the male is at the expense of conjoint tendon.

3. Presence of subserous lipomata in the inguinal canal is liable to drag down a cone like process of peritoneum. These are often seen in stout individuals. Weakness of the shutter-action is also caused by growth of these lipomata.

4. Increased intra-abdominal pressure would force its contents through gaps in the abdominal wall or points of weakness. A pre-existing sac or weakness of inguinal canal or both would at once favour the formation of a hernia. This increased intra-abdominal pressure may be brought about by

chronic cough, straining in chronic constipation and urinary obstruction, by intra-abdominal tumours, or by increase of intra-abdominal fat, etc.

5. **HEREDITY**:—According to Eccles 25% of cases give a family history of hernia. This probably consists of an inherited weakness of the conjoined tendon and an incomplete obliteration of the funicular process.

6. **OCCUPATIONS** subjecting one to severe abdominal strains in stooping posture as in stokers, coal-heavers, porters, etc., are liable to cause hernia. In the stooping position the conjoined tendon gets slightly relaxed and hence cannot completely close the canal and if the intra-abdominal pressure is increased repeatedly, a gradually increasing peritoneal cone is liable to be forced through the internal ring.

7. **AGE**:—In the first two decades of life hernia is usually of the indirect type and due to presence of a patent congenital sac. In the third decade new hernia formation is not common. But from fourth decade onwards the incidence increases and is 50% more common than in the first decades. This is partly due to weakening of the conjoined tendon from age, increase of fat, subserous lipomata and partly due to causes, that induce repeated increased intra-abdominal pressure such as urethral strictures, enlarged prostate, chronic bronchitis, chronic constipation, etc.

DIRECT HERNIA

In this the sac presents through the inner part of inguinal canal and neck of sac lies medial to the deep epigastric vessels. It stretches the transversalis fascia and conjoined tendon or more often slips under a poorly formed conjoined tendon and finally projects through the external ring but shows little tendency to descend into the scrotum. In about 10% of cases the hernia may push through gaps in the transversalis fascia. 25 to 30% of herniæ belong to this type and 98% of all direct herniæ occur in males. They occur from fourth decade onwards in life. 50% of recurrent herniæ belong to this type and are usually due to atrophy of conjoined tendon. 60% of direct herniæ are liable to be bilateral sooner or later. They are prone to recurrence in 30–50% of cases after operation.

ANATOMY:—HESSELBACH's triangle is bounded laterally by deep epigastric vessels,

medially by the lateral edge of rectus abdominis for a distance of 3 to 5 centimeters in people with poorly formed conjoined tendon and below by the inguinal ligament. Where the conjoined tendon is well formed, its arching fibres cover the inner two-thirds of the space. But where it is poorly-formed, only the transversalis fascia and extra-peritoneal fat intervene between the peritoneum and the aponeurosis of external oblique. The obliterated hypogastric artery crosses this space and may be found stretched over the sac. More often a direct hernia projects at the lower inner angle of this space, near the margin of the rectus. Where the conjoined tendon is atrophied by the existence of a large hernia or destroyed by a previous operation, the gap near the outer edge of rectus may be as wide as 7 c.ms. the lower fibres of internal oblique and transversalis being inserted into the rectal sheath 7 c.ms. above the pubic crest. The floor of this triangular space is formed by transversalis fascia which is well formed in the upper and medial part but thins out below. In the upper part it is reinforced by arching fibres passing from medial to lateral side. The lower central part of the floor is weakest and it is here that hernia first begins to bulge out.

CAUSES:—1. A congenital or acquired deficiency of conjoined tendon and the presence of a large external ring favour the production of a direct hernia. A well formed cremasteric muscle is always at the expense of the conjoined tendon, and the external ring has to be wider to accommodate for a thicker cord. The conjoined tendon is also damaged by previous operation and more than 50% of recurrent herniæ are of direct type owing to this damage.

2. Increase of both intra-abdominal and sub-peritoneal fat favours the formation of a direct hernia. According to Cloquet fatty masses project through gaps in transversalis fascia caused by blood vessels penetrating through it. The cord also is liable to be loaded with fat thereby widening the external ring.

This hernia first appears as a bulge in the inguinal triangle, stretches the transversalis fascia, then usually clips below the conjoined tendon. It next meets the aponeurosis of external oblique and projects upwards over the internal oblique. But if the external ring is large, it projects through it and as-

cends upwards showing little tendency to descend into the scrotum. The sac is globular or dome shaped and situated on the inner side of inguinal canal just above the pubic bone. Often the bladder is adherent to its inner wall and sometimes the colon on the outer side in herniæ of left side. In about 25% of these cases there is also a small indirect sac giving rise to a "pantaloon or saddle-back" sac made of two components, a small one lateral to the deep epigastric vessels and the larger sac medial to them. In a large sac the obliterated hypogastric artery is found stretched across the sac. In a few cases a large indirect sac may be accompanied by a small direct sac. In about 10% of cases narrow necked sacs may project through gaps in the transversalis fascia. It is this type of direct sac that is liable to slip through the external ring early and is liable to incarceration and strangulation. It resembles very much an indirect hernia. Direct herniæ rarely grow to large size and rarely get strangulated. Only about 2.5% of strangulated herniæ belong to this type. Patients with direct hernia often complain of indigestion and constipation but these are not relieved by operation. The bulge of a direct hernia subsides suddenly on recumbency and appears as suddenly on standing. The bulge appears on straining even in the recumbent posture, but this does not occur in an indirect hernia till the internal ring has become wide. The expansile impulse is more evident and communicated to the entire sac at once in a direct hernia. If the little finger is introduced well into the canal and with pulp directed to the floor, one may appreciate the laxness of the floor and deficiency of conjoined tendon in direct herniæ. On coughing the impulse is felt by the pulp in the floor in direct type and by the tip of the finger in the indirect type.

INTERSTITIAL HERNIÆ

These occur with retained testis or undescended testis. There is an absence of cremaster and the abdominal rings may be superimposed. The external abdominal ring may be partially obliterated. They are very liable to strangulation and the lateral sacs may be missed during a radical operation. This type should be suspected when the testis is absent from scrotum and a bulge is noticed lateral to or above the

internal ring. According to frequency the following varieties may occur.

(1) A patent processus vaginalis is present in the scrotum with lateral diverticulum lying between.

(a) the peritoneum and transversalis fascia (Properitoneal).

(b) sac lying between internal and external oblique muscles. Sac between transversalis and internal oblique muscles is rare. This type is called interparietal.

(c) sac lying between transversalis fascia and muscles.

(d) sac lying between the peritoneum and iliac fascia-retro-peritoneal.

2. Processus vaginalis absent from the scrotum and sac is found between external oblique and the skin (pre-parietal), or between the peritoneum and iliac fascia. Often these lateral diverticula may be missed unless looked for. However these types are rare.

SLIDING OR SACLESS HERNIÆ

The caecum on the right and the sigmoid on the left, slide down preceded by the iliac peritoneum. They commonly occur as direct and less commonly as indirect herniæ. At first a small sac may be present but as the hernia enlarges the peritoneum is displaced upwards and bowel slides down behind it. Finally a small sac is found high up on the anterior aspect, the bowel forming the posterior and inferior wall. These most often occur in people with visceroptosis. Some are due to congenital deficiency in the endoabdominal fascia which fixes the different organs to the posterior abdominal wall. In some, elongation of their mesentery may be a cause. These herniæ are liable to become irreducible and may get incarcerated. They are a difficult problem for operative treatment. They are rare.

TREATMENT OF OBLIQUE HERNIA:—In infants and children under 18 months, 65% of herniæ are cured spontaneously or by the use of a simple truss. Hence any exciting cause as phymosis, anal stenosis etc., should be dealt with and a truss tried. After the age of ten years, hernia cannot be cured by trusses and requires operative treatment for cure. Herniæ occurring with undescended testis should always be treated for both conditions by operation as early as possible. After the age of 60, operative treatment except for strangulation or obstruction is

inadvisable. These should be prescribed trusses. Long standing large inguino-scrotal herniæ are best left alone. These have such large openings that strangulation is rare. They are generally irreducible from adhesions and the abdominal cavity is unable to accommodate all the hernial contents and respiratory difficulty and distension are likely to follow if operation is done.

After puberty an oblique inguinal hernia is best treated by operation. It is always liable to strangulation and efficient surgical aid may not be spot. This liability is greater in manual workers. If left alone, it is certain to increase in size and the conjoined tendon undergoes atrophy from pressure and then an elaborate hernioplasty would be required. "A stitch in time saves nine" is a true saying in this connection.

The following important principles should be observed in the operative treatment.

(1) A free exposure of inguinal canal by slitting the external oblique and the pubic attachment of conjoined tendon and inguinal ligament should be well defined.

(2) The sac should be freed right up its neck and the peritoneum all round it and especially on the medial aspect of the canal should be tightened by twisting the sac before its ligature and excision.

(3) Where the conjoined tendon is poorly formed or atrophied an adequate plastic repair should be done.

(4) Avoid leaving any weak points in the floor of the triangle, especially at its medial end.

(5) So that the union of fascia with muscle may be firm, it is essential to free them well of all areolar tissue by gauze dissection.

(6) In such union no tension should occur and hence fascial darning after the method of Gallie should be resorted to if the conjoined tendon cannot be brought down to inguinal ligament without tension.

(7) Since at least 21 days would be required for firm union to take place, catgut should be chromicized or efficiently tanned and size 1 should be used. Linen thread or silk may be used as knots are fine, but "shooting" of sutures is liable to take place. Kangaroo tendon is too thick for the purpose and if used should be of fine quality. Living fascia is best and should be autoplactic, the ideal one is fascia lata. I must mention here that a doubt has been cast about the union of muscle fibres with elastic

tissue, on the basis of animal experiments. But other Surgeons affirm that firm fibrous union can take place, if muscles and fasciæ are completely denuded of all areolar tissue. But in this recurrences though small—4—5% do occur. Gallie reports excellent results without recurrence by the use of fascia lata suture. These living fasciæ are not absorbed and do not stretch and remain as a permanent support for the weakened canal.

In young adults and children where the sac is of congenital nature and hernia is a small one and conjoined tendon is adequate it is enough if the sac is removed after high ligation and tightening of peritoneum. If conjoined tendon is slightly weak, than a suture at the medial end between the conjoined tendon and insertion of inguinal ligament is enough. The transversalis fascia has to be tightened in some by plecting, if found lax. The internal ring should be closed by suture snugly round the cord, if found to be large. Similarly the external ring should be snugly closed round the cord.

In complete oblique herniæ of some standing Andrew's modification of Bassini should be done. If the cord is found to be large the cremaster muscle should be excised in addition.

THE FERCUSON COLEY OPERATION:—In this the conjoined tendon is sutured to the inguinal ligament in front of the cord. This operation is indicated in herniæ with undescended testis of children, in complete herniæ of children and in oblique herniæ of women.

DOWNE'S MODIFICATION OF ANDREW'S OPERATION:—This operation is of use in large oblique herniæ and some of the direct herniæ. It is also indicated for the pantaloon type of sac. In this the cremaster is excised and size of the cord is reduced. The fibrous part of the transversalis fascia is brought down and sutured to inguinal ligament and the internal ring is also snugly

closed round the cord. The conjoined tendon is sutured to inguinal ligament. Then over-lapping of the two leaves of external oblique is done in front of the cord on the lateral side and behind the cord on the medial side. For recurrent hernia and large direct hernia Gallie's method should be employed. In this, strips of fascia lata are used in the form of basket work between the inguinal ligament and conjoined tendon and the rest of operation is as in Andrew's method.

I might stress here the point that the operation has to vary according to conditions found in the canal after it has been adequately exposed. There is no set method that could cure hernia. It is necessary for one to note if any exciting causes are present in such cases as phimosis, stricture, etc., and remove these causes before the operation is undertaken. The whole aim should be to reduce the chance of recurrence for the sake of the patient as well as the Surgeon's reputation.

RECURRENCE:—Andrews says that Bassini's operation gives 25% recurrences, 2.5% only for fascial repairs. Gallie says that with his method, he had no recurrence. Max Page—his recurrences, for 5 years were 11 5 % in the Metropolitan Police force.

Indications for prevention of recurrence:

(1) Early and adequate operation before the conjoined tendon gets atrophied.

(2) Use of fascial transplants as sutures for large herniæ with poor conjoined tendon.

(3) Avoid tension when suturing the conjoined tendon to inguinal ligament.

(4) Suture material used should not be absorbed in less than three weeks.

(5) Absolute asepsis and dryness of wound, all bleeding points being ligatured.

(6) Sufficiently prolonged convalescence—3 weeks in bed, 3 weeks on a couch. Return to work only after three months. Lifting weights and straining to be avoided for six months.

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Abstracts

Eye Complications in Systemic Diseases

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When I was invited by your secretary to deliver a paper on eye complications in systemic diseases, I realized the immensity of the task and the time it would consume in covering such a subject; unless it were condensed in as few words as possible consistent with a comprehensive survey of the more important points and only casual mention of the less frequent conditions. Therefore, I trust that my selections and discriminations will meet with your approval.

ETIOLOGIC FACTORS

To begin with, it seems to me altogether proper to classify the etiologic factors which tend to produce injurious influences leading to morbid changes in eyetissues. We find here as elsewhere in the body that physical, mechanical, chemical and parasitic, as well as congenital conditions, are the underlying agents. With the first three we are little concerned here. In dealing with infection, only the endogenous or metastatic ophthalmias will be taken up i. e., pathogenic germs or their toxins circulating in the blood which are carried to the vessels of the eye.

ACUTE INFECTIONS

Ranking first in this category is the streptococcus family, with the pneumococcus as a close runner-up, and the specific bacteria, such as the meningococcus, pneumobacillus, and the germs of influenza and typhoid, puerperal fever, and the ordinary pyaemias either of a pure or mixed type. These usually produce pan-ophthalmitis, that is, purulent infection of the eye; yet occasionally the inflammation is of a light character, and may be limited to individual spots on the retina, chorioid or iris, producing a plastic inflammation. Cerebrospinal meningitis frequently takes on a mild inflammatory course in the eye, as also does the spirillum of relapsing fever. A mild case of influenza or a small purulent focus of infection in a remote part of the body, however, may cause panophthalmitis which to the casual observer has apparently developed spontaneously.

CHRONIC INFECTIOUS DISEASES

Of the chronic infectious diseases, tuberculosis must be mentioned first, with syphilis and gonorrhoea next in order of frequency, also the rheumatic types which are undoubtedly of strepto- or gonococcal origin. These do not cause acute or purulent infections of the eye, but rather inflammatory changes of a chronic nature complicating and attacking the different membranes of the globe in varying degrees of violence, not depending on the vascularity of the tissues at all, as the cornea is frequently involved, which is a non-vascular tissue. It is assumed that the organisms or their toxins possess a varied degree of affinity for the individual tissues of the eye. The uveal tract is by far the most frequent eye-tissue attacked by the tubercle bacillus, the syphilitic organism, or the gonococcus. Its participation in a general infection may be caused by the organism or its toxins. In tubercular iritis, tubercular nodules are sometimes seen, which without a doubt are caused by the tubercle bacilli, but more frequently do we encounter cases that neither clinically nor microscopically can tubercular nodules or tubercle bacilli be demonstrated. The cornea sometimes becomes involved through the aforementioned agencies in such manifestations as keratitis parenchymatosa, phlyctenulosis, or sclerosis. In these keratitis it is likewise unknown whether the organisms or their toxins lodge in the cornea as they enter through the adjacent limbic vessels.

Keratitis has been produced in experimental animals and the spirocheta pallidæ recovered by inoculation with syphilitic material.

DEGENERATIONS

Of the degenerative types, mention may be made of the senile changes, such as the formation of pinguecula, gerontoxin, senile cataract, hyaline degeneration of connective tissues and elastic fibers, formation of the arcus senilis, drusen formation, macular changes such as the senile retino-chorioiditis, cystic degeneration, and arteriosclerosis with narrowing or occlusion of vessels, hemorrhages, and degenerative processes of the retina. Many of the above named conditions cause considerable loss of vision, and even total blindness. These affections do not confine themselves solely to the old; indeed, in certain systemic degenerative diseases, the

comparatively young may be likewise afflicted.

HEREDITY

Among the hereditary of familial types of oculo-systemic degenerative diseases, such as nodular, or lattice type keratitis, keratoconus, lenticular opacities in many forms, retinitis pigmentosa and Sachs' amaurotic family idiocy, there probably exists congenital tissue-defects which latter manifest themselves as disease. Some, on the other hand, are probably due to structural defects lacking vital force, which latter causes degeneration. Another class is due to fetal diseases and malformations, the former due to a defective constitution of the germ-cell such as result in congenital ptosis, etc., or to transmitted diseases from either parent, lues, for example.

Heredity, then, takes place in two ways, either by transmitting the disease itself, or by transmission of a defective tendency which later develops in disease or malformation. Cases have been reported in which a parent who lost an eye from degenerative inflammation has subsequently had a child with a microphthalmos.

What role the maternal endocrine glands play during pregnancy is not altogether known, but experimental evidence on dogs shows that excision of the parathyroid glands will produce cataract in the offspring.

METABOLIC DISTURBANCES

Autotoxins, developed in the digestive canal by abnormal processes of decomposition, not infrequently cause asthenopia, iritis, and may even excite an attack of glaucoma.

Hyperthyroidism produces important symptoms in the eye, and some authorities hold that it can account for many cases of glaucoma. Other observers claim that hyperthyroidism may cause cyclitis.

Poisoning by certain toxins, resulting in metabolic disturbances (a good example is diphtheria toxin) which may cause paralysis of accommodation.

Gout, causing metabolic iritis, which is a result of disorders of assimilation and nutrition. Gouty iritis is often accompanied by marked hyperemia, and even echymosis of the conjunctiva, and children of gouty subjects occasionally develop a sluggish, destructive iritis with diseases of the vitreous.

Hypothyroidism.—In many cases of stubborn iritis, the administration of thyroid extract is accompanied by good results; so it is possible that a deficiency of thyroid may be responsible. Postoperative hypoparathyroidism followed by cramps with failure of vision; cataracts; a positive Chvostek's sign; a positive Trousseau's sign or a positive Erb's sign, is occasionally encountered.

Xanthomatosis.—Under this heading several syndromes are included, common among all which is bonedestruction of the membranous bones, especially the skull-bones. It is a metabolic disease characterized by diffuse liporeticular tissue-changes resulting in invasion by multinuclear giant-cells and proliferation of reticular cells, cholesterol crystal deposit and sometimes calcareous formation resulting in plaques and nodules, destroying the bone by either pressure resulting in loss of nutrition and (or) by the foreign body giant-cell invasion causing bone-defects, exophthalmos and diabetes insipidus. Depending upon the location of the nodules and the resultant bone-destruction, certain syndromes result.

Diabetes insipidus resulting from pressure on the hypophysis. Exophthalmos is due to the destruction of the apices of the bony orbit. This syndrome, known as Christian's syndrome and Ganucher's disease as well as Nieman-Picks disease, probably belongs in the category of reticulo-endothelial disturbances.

Needless to say that in iritis and other complications of the eye due to metabolic disturbances that treatment should be directed with a view to correct the underlying causes.

DIABETES MELLITUS

And the last and most important of the metabolic disturbances, diabetes mellitus, in which ocular lesions and complications occur in from twenty to thirty per cent of the cases, is nearly always accompanied by vascular changes. The eye-pathology in diabetes usually occurs late in the progress of the disease when the patient is debilitated and prone to infections, or has run the gamut all the way from nephritis, hypertension, tuberculosis, or chronic alcohol or tobacco poisoning.

The most frequent ocular lesion in diabetes is retinitis; next in order is

cataract, retrobulbar neuritis, muscular disorders, disturbances of accommodation and refraction, and iritis, thrombosis of the retinal vessels with or without hemorrhages, proliferative retinitis, and secondary glaucoma.

The real cause for the ocular lesions is of course the hyperglycemia due to abnormal carbohydrate metabolism. The altered state of the blood may act as a toxin affecting the eye-structures. It is well known that the excess blood-sugar in the eye-circulation, due to physiochemical conditions enters the surrounding tissues and ocular fluids, also the lens. Diabetic retinitis is usually bilateral. The appearance is characteristic with discs and glistening whitish plaques, usually arranged in a circle around the macula, which are probably due to fatty degeneration. There are also small discrete hemorrhages. The walls of the vessels are usually thickened. The hemorrhages are due to degeneration, rather than hypertension, in contradistinction to diabetic gangrene, which is primarily due to arteriosclerosis.

SCURVY

Scurvy—Infantile scurvy is a disease caused by a defect in the cement-substance of the endothelial cells of the blood-vessels produced by a lack of vitamin C in the food. This increase in the permeability of of the bloodvessel walls is an important factor in producing the hemorrhages which are responsible for many of the symptoms of the disease, including exophthalmos because of orbital hemorrhages. The orbital hemorrhages are the characteristic ocular lesion of the disease, although there are also sometimes hemorrhages into the lids and conjunctiva. Exophthalmos occurs in about ten to fifteen percent of the cases of scurvy, in patients under two years of age. The exophthalmos is nonpulsating, irreducible, and pressure on the eyeball in an attempt to reduce the protrusion causes great pain. There is also a marked proptosis of the globe.

The treatment consists of an antiscorbutic diet, etc.

ARTERIOSCLEROSIS AND HYPERTENSION

Coming now to the retinal changes in arteriosclerosis, essential hypertension, benign hypertension, arteriosclerotic heart-disease, and cardio-renal disease, there

seems to arise considerable confusion due to failure to realize that arteriosclerosis and essential hypertension are two distinct and different entities. The arteriosclerotic case with heart-complication occurring around the age of fifty-five or sixty which is accompanied by palpable vessels, high systolic and diastolic pressure, with myocardial changes, does not affect the arterioles. It is rather confined to the arteries, hence not much pathology of the eye is found. In essential hypertension, on the other hand, which is characterized clinically by very high blood pressure with marked variations at intervals, the changes are mostly arteriolar, and they consist of hypertrophy of the muscularis of the media, with fibrosis. These arteriolar changes are noted throughout the body, including the retinal arterioles. The fundi in these conditions are readily recognized by the average clinician. Arteriolar sclerosis of the retina is very characteristic. The arterioles are narrow, have a copper-wire appearance, and there is compression of the veins by the arteries wherever they cross them. Changes in the papilla and the retina are seen. The papilla is red and swollen, and the retina is edematous, with scattered hemorrhages, and cotton-wool spots which represent fatty and hyaline degeneration.

We have now considered the hypertensive cardiovascular conditions excluding those, of course, which are directly due to chronic glomerular nephritis, congenital stenosis of the aorta, toxemia of pregnancy, congenital polycystic kidney, arterio-venous aneurism, lead-poisoning, tumors of the suprarenal gland, etc., and are taking into consideration those hypertensive cases of unknown origin, or those termed "with a hereditary disposition." One thing we know certainly, and that is, when retinal arteriosclerosis of the hypertensive type is found, it signifies that hypertension is present or has existed at some time.

It is now amply corroborated clinically that in arteriosclerosis the kidneys react less, the specific gravity and output of urine being fixed, and the reverse is true in hypertension. The salt concentration after a meal is increased and the changes of the output during the day is higher than normal. In cases of pure hypertension the heart is enlarged vertically, and its weight increased due to hypertrophy. In arteriosclerosis the

heart is dilated, its weight is not increased, and is situated horizontally. There is no hypertrophy, but there is dilatation. By the same tokens we differentiate the eye findings. There are no retinal hemorrhages in pure arteriosclerosis, but hemorrhages are frequently present in pure hypertensive cases; also, tortuosity of the vessels and differences in calibre of the same vessel. Subconjunctival hemorrhages not due to trauma are sometimes found. Retinal hemorrhages in hypertensive cases conform somewhat with cerebral hemorrhages. It is seldom that you find cerebral apoplexy without hypertension, and the majority of cerebral hemorrhages also originate in the capillaries as they do in the retina.

FOCAL INFECTION.

It is possible in certain ocular diseases to relieve or eliminate the symptoms and arrest the pathology by eradicating foci of infection existing somewhere in the body. Let us analyse first of all those ocular conditions which are frequently traceable to some remote focal infection, such conditions as tarsal cysts, blepharitis, chronic conjunctivitis, phlyctenular conjunctivitis, episcleritis, certain corneal ulcers, dendritic ulcers, iritis and cyclitis. Now what are the conditions that we consider focal infections? Ranking first among them all as pertaining to ocular sensitization in adults in dental sepsis, such as apical abscesses, tooth decay, and septic stumps of teeth. Next to these in frequency comes tonsillar infection in children as a direct cause for blepharitis, conjunctivitis and phlyctenulosis, and tonsilectomy or proper dental hygiene often balances their account.

In adults, dental sepsis is responsible for episcleritis, corneal ulcers of certain varieties, and conjunctivitis. Oral sepsis with a constant flow of pyogenic organisms has been the cause of dacryocystitis and conjunctivitis, due to absorption of toxic material through the lymphatics of the mouth. The sooner the search is instituted and the focal points attended to, the sooner and the more permanent the cure, as the constant and long continued action of the toxins often makes eradication of the malady difficult or entirely impossible.

In ophthalmic practice it is well known that in the male the focal infective triad is teeth, tonsil, and prostate. Gonorrheal prostatitis need not be a part of the history.

Indeed, it is a fact that 35% of men after the age of thirty-five have a prostatic infection; most of which are not gonorrheal, and of which the patient is seldom aware. A short time ago Pelouze of Philadelphia called attention to the fact that digital disturbances of the prostate gland during massage, caused increased symptoms in cases of neuritis and arthritis. We find the same to be true in certain cases of iritis. Much damage can be done by too vigorous or too frequent massage of the prostate in these cases. In focal infective eye-conditions, the practitioner or urologist should use more judgment and restraint in messaging the prostate. Treatment of the gland must be in accordance with the ocular tolerance to the toxin, and should be directed from the standpoint of sensitization and desensitization of the ocular tissues to the toxins.

SYPHILIS

Regarding syphilis, of the eye, time will not permit us tonight to do any more than discuss the higher points of diagnostic values. Symptoms of hereditary lues which patients with parenchymatous keratitis exhibit, are well known; the peculiar formation of the face and cranium, the flatness of the upper jaws, and the low bridge of the nose which is sometimes sunken, and which condition is frequently accompanied by lacrymalsac disease and ozena, Hutchinson's teeth, cicatrices at the angles of the mouth, buccal and pharyngeal cavities, enlarged lymphatic glands, swelling and hypertrophy of the periosteum—the so called tophi, inflammations of the knee joint, simultaneously or preceding the keratitis. These patients are frequently hard of hearing. It is of the utmost importance to look for a group of these symptoms in order to make the diagnosis sure.

Parenchymatous keratitis usually is bilateral. The lesions in this class are degenerative, and do not have the characteristics of luetic exudation. Antisyphilitic treatment is ineffective, and the spirocheta pallida is rarely found in the cornea. It has been suggested that it may not be a direct luetic infection, and that it may be an anaphylactic phenomenon. In the last analysis, however, parenchymatous keratitis is rightly regarded as a form of hereditary syphilis and is a most important and frequent symptom of lues.

Syphilitic ulcers of the lid are either initial sclerosis, that is, hard chancre, or they be disintegrating gummata. In these lesions the cornea may become involved seriously. The ulcers can be recognized and differentiated from chalazia or cysts by their chronicity, hardness and their grayish-yellow lardaceous base.

Chancres and syphilitic ulceration of the conjunctiva are not uncommon. These are usually transmitted by kissing. They are ordinarily situated at the free border of the lid. Syphilitic periostitis of the orbit is usually met with in adults in the third or gummatous stage, rarely in children, and seldom is hereditary, and manifests itself by chronic periosteal thickening of the orbit.

Isolated luetic nodules in the sclera are sometimes encountered.

Mention has already been made that a large percentage of primary iritis is due to lues. In the very early stages of the disease before the roseola develops in the skin, a very transient roseola can be seen in the iris, which appears mottled and speckled, sometimes hyperemic. As a rule luetic iritis is associated with disease of the deeper structures of the uvea.

Syphilitic retinitis is usually associated with lesions of the choroid and often with that of the iris and other uveal tissues. It occurs in a diffuse form, and in the beginning the retina is cloudy and faintly gray; later, changes in the pigment epithelium take place, and migration of pigment occurs. Exudates are nearly always present, which become organized and form scars.

Multiple white spots lying along the course of a vessel can be seen, which represent a type of hemorrhagic retinitis. Syphilitic retinitis may occur in the hereditary type of lues, which can be seen in children, and it may even occur congenitally.

THE OPTIC NERVE IN LUES

Optic neuritis is frequently due to syphilis. The nerve may be attacked directly or indirectly. A descending optic neuritis is usually luetic. Optic atrophy develops either as a primary simple atrophy, or may follow optic neuritis. The simple primary optic atrophy is distinguished by gradual pallor of the optic disc until a real white excavated nerve-head can be seen, in the center of which are gray dots representing the lamina cribrosa. The minute blood-

vessels of the disc disappear entirely, while the retinal are altered very little.

Among the causes of simple primary optic atrophy, tabes dorsalis heads the list, and like tabes, general paresis, which is also a late manifestation of syphilis, comes second on the list and disseminated sclerosis third.

One of the most important symptoms of cerebrospinal syphilis which affects the optic nerve is the pupillary disturbance. The pupil no longer reacts to light, and this we know as the Argyll-Robertson pupil, and is, as a rule, a contracted pupil. In tabetic and parietic atrophy both pupils are involved.

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Notes on Therapeutics, Diagnosis and other Medical Subjects.

The Use of Maggots in the Treatment of Carbuncles

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Christopher, in an extensive review of the literature in regard to the therapy of carbuncles, remarks that in his opinion, the uniformly good results secured by the many and varied methods of treatment are due, in no small measure, to the ability of the body to overcome infection.

Nevertheless, cases of carbuncles are encountered in which, due either to delay on the part of the patient in applying for treatment, or to the ineffectiveness of the latter, there are formed large areas of gangrene of the skin and underlying tissue. Debridement of these so-called "indolent carbuncles" is necessary, and in this connection we have found maggot therapy beneficial. Weil, et al. used maggots in the treatment of carbuncles, but gave no details beyond reporting satisfactory results. We have treated ten cases, three of which were diabetics. Age is no contraindication, as eight of these were in individuals over fifty years of age. Recently we described a new technique of maggot therapy; this technique has now been modified in regard to the method of confining the maggots.

No cages are used, and none of the maggots escaped. To illustrate our technique a case history is appended.

CASE I—L. S., a white man, 62 years of age, was admitted to the Charity Hospital, suffering from a carbuncle of the neck, extending from mastoid process to mastoid process, of one month's duration. Treatment with hot saline compresses for a week resulted in no improvement. The skin covering the involved area was dry, reddish black in color, apparently gangrenous, with raised, painful indurated edges. Maggots were applied. After twenty-four hours the gangrenous skin had become riddled with small openings, which were crammed full of maggots with their heads down and tails up, rhythmically moving their bodies to and fro. Now and again one maggot would back out and another would take its place. After thirty-six hours the openings had greatly enlarged and copious amounts of a brownish red serosanguinous fluid, having a characteristic odor, were exuded. The indurated, painful swollen edges were now soft and no longer tender to the touch. At forty-eight hours, many of the old maggots were removed and another batch applied. At sixty hours, the skin had disappeared and the connective tissue was exposed. It was greyish brown in color, and insensitive to pain, although it was firmly attached to the underlying tissue. At ninety-six hours, all the maggots were removed. The connective tissue strands could be lifted up and cut away without causing pain or bleeding, exposing a red granulating base. A dry dressing was applied. The discharge became purulent, and the remainder of the connective tissue soon sloughed away. Healing, assisted by skin grafting, was uneventful.

METHOD OF APPLICATION OF MAGGOTS

In a previous paper, we described cages for confining maggots, and explained the way in which these cages may be adapted to any type of wound.

In the treatment of carbuncles we have been able to confine the maggots in the wound without using cages, thus simplifying the treatment, for in many cases, due to the large size of the carbuncle, the cage is difficult to apply.

However, it must be emphasized that a knowledge of the habits and the physio-

logical action of the maggots is essential. Maggots will not wander away from a wound until they are full grown. The period necessary for growth is, between thirty-six and sixty hours, this depending on the size of the maggots, the number applied, and the amount of necrotic tissue present.

The method of application we now use is as follows: A thin layer of gauze is placed over the wound. The maggots are removed from their container by picking up a piece of gauze with sterile forceps and wiping it around the sides of the bottle. They are then placed on the layer of gauze covering the wound, and an ordinary surgical dressing is applied, using large amounts of gauze. The drainage is usually very profuse, and a fresh dressing is required in about twenty-four to thirty hours. At this time many of the maggots will be found in the gauze as well as in the wound. A possible explanation of this fact is that the gauze soaks up the liquified tissue and the maggots go into the gauze to feed. In any case, there is a continuous migration from wound to gauze.

The moist gauze is removed and that portion which contains maggots is incorporated again in the dressing. The size of the maggots is noted.

At the end of thirty-six hours, and again at the end of forty-eight hours, a fresh dressing is applied; and at such times the maggots are removed with the gauze, even though some may not be full grown. Those that remain in the wound may be picked out with forceps, or left. If the latter course is followed, the wound is dressed again at the end of fifty-six hours, as by that time all the remaining maggots will have left the wound. The discomfort usually experienced by the patient is relieved by sedatives, or by removing all the maggots at the end of the thirty-six hour period.

While the number of maggots applied at one time will vary with the individual case, it is essential that a large number be used so that growth will not be too rapid. As a rule we have found that the number of maggots hatched from 1.0 cc. (5,000) eggs, is sufficient for a large carbuncle. This number may be sterilized at one time.

DISCUSSION

Infectious processes spread very rapidly in the subcutaneous tissue of the back of the neck and cause extensive destruction of tissue if treatment is not instituted early. Connective tissue septa enclosing blood vessels pass perpendicularly from the deep fascia to the skin and send out lateral prolongations parallel to the skin. The infectious process travels along the course of these septa, dividing the carbuncle into pockets filled with pus. The blood vessels are also exposed to infection and many become thrombosed. If an incision is required, it must be of such a nature that it will open up the crevices, and we have found the gridiron incision suggested by Maes to be adequate for this purpose.

SUMMARY

The indications for the use of maggots in the treatment of carbuncles are discussed.

Maggots were successfully confined in the wound without the use of cages. Successful results depend on the use of large numbers of maggots.

Maggots therapy is not indicated in the treatment of carbuncles of short duration in young individuals, but we have found it especially effective in treating carbuncles of long standing in old persons, whose bodies are not able to slough off the accumulation of necrotic tissue.

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The Endocrines in Ophthalmology

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In the last few years I have become more and more impressed with the role of endocrinopathies,—of the milder type, I mean,—in the production of ocular diseases and dysfunctions, and the aid to their treatment afforded by endocrine therapy. Not that I wish to go on record as being an enthusiast, either in endocrinology or in endocrine therapy. I am keenly sensible of our present limitations in both. And yet, my observations and experiences, meager as they have been, have convinced me that the endocrine factor is something to be reckoned with, and worth reckoning with.

Naturally, the effectiveness of endocrine therapy, when indicated at all, is greatest in children; and, even in children, only if the endocrine glands themselves are capable of stimulation and response. Hence my restriction of cases to minor endocrinopathies. But adults have endocrinopathies of their own too. The most important considerations, therefore, are, (a) Is the trouble due to an endocrine disturbance at all? and (b) Are the endocrine glands capable of reacting to treatment?

ALLERGIES

The most intriguing field to invite endocrine inquiry is that of the so-called allergic disorders e.g., eczematous phlyctenular, and vernal conjunctivitis, and certain corneal conditions. We really know no more about allergies than we do about endocrines. But we know, or we think we do, that sensitizations are in some way or other bound up with the autonomic nervous system. And one of the few things we know, or think we know, about endocrines is that they dominantly stimulate either the sympathetic or the parasympathetic system. In the first group (sympatheticotonics) are the thyroid, pituitary, and adrenals; in the latter group (vagotonics) are the parathyroids and pancreas.

As a matter of fact, this clue has panned out in general. But anyone who thinks that the endocrine problem is that simple is himself simple. For one thing, the endocrines are an intricate inter-reacting chain, and one has to make, as best he can, an estimate of all the balancing and unbalancing endocrine factors in each individual case. Endocrines may be in excess because of essential over-development of the gland in question, or because of overactivity or under-activity of antagonists or synergists. For another thing, a sympatheticotonic or a vagotonic endocrine does not always produce the same effects, depending chiefly upon the amount of the secretion and the state of the body at the time. These difficulties, plus the fact that many cases apparently turn out to be not endocrine cases at all, keep one humble.

All I can say is, that in a certain encouraging number of cases, when I have (or think I have) been able to stumble on something like a correct endocrine inventory, I have succeeded in clearing up these apparently allergic conditions by

endocrine therapy, which would not yield to other treatment alone.

MUSCLE DYSFUNCTIONS

It is really interesting to observe the almost invariable relationship between ocular muscle dysfunctions (other than toxic) and endocrine imbalances. Practically every such patient has outstanding endocrine stigmata, either of the pressor or the depressor type. But, again, the problem is not as simple as that. Again, the endocrine status has to be carefully evaluated in each individual case, (often a baffling task), and in many instances it does not appear, after all, that the trouble is an endocrine one at all.

Nevertheless, in a certain percentage of cases of ciliary and extrinsic dysfunction in which ordinary corrective measures have failed, the tide has been turned by appropriate endocrine treatment. Many such cases of the spastic type are of course parathyroid deficiencies; but the adrenals and pituitary also play a large role in the treatment of hypotonic cases.

FUNDUS DISEASES

The fundus diseases, chiefly choroidal, which are indirectly associated with endocrine imbalances are much less hopeful cases for endocrine therapy. In spite of the undoubted relation, for instance, between parathyroid or adrenal shortage and progressive myopia, it is seldom indeed that the administration of these substances has any noticeable influence on the disease. In rare instances I have thought that it served to check its progress; but it is impossible to be sure. I continue to try it in most cases.

Pituitary disease offer somewhat more hope. In fact, where one can be reasonably sure that the visual defect is due to enlarged pituitary, and that the enlarged pituitary is itself due to an overdraft on the gland by some bad endocrine exchange, the administration of pituitary extract, supplying the demand and thus sparing the gland, usually brings about a reduction in its size and an abatement of the visual and other symptoms.

Thyroid disturbances, here as elsewhere, are the most easily relieved by endocrine therapy. But thyroid disturbances which affect the eyes can hardly be classed as eye diseases. Moreover, it is not always easy to determine, in apparent cases of hyper-

thyroidism, whether the thyroid itself is at fault, or whether one or other of its antagonists, especially the parathyroid, is deficient.

CATARACTS

The role of parathyroid deficiencies (calcium nonfixation) in the genesis of congenital and juvenile cataracts has long been recognized. Unfortunately, the damage to the lens has always been done long before one gets a chance to supply the endocrine lack. But I am convinced that certain types of adult cataract are associated with parathyroid deficiencies, too; especially in people with over-active thyroids which antagonize the parathyroids. And I am equally satisfied that I have been able to check the progress of incipient cataracts in these patients by the administration, along with other measures, either of parathyroid and calcium or of pancreas, which checks thyroid activity, which in turn permits more parathyroid activity.

COMMENT

This brief paper, as will be apparent, does not pretend to be a clinical report on endocrine therapy in eye diseases. To make such a report would require a detailed discussion, first, of the endocrines themselves, and second, of each individual case in which endocrines were employed. And even this would be of no very great value to the practitioner, who would then be obliged to work out each of his own individual cases, none of which would be exactly the same as any reported. My purpose is simply to call attention to the endocrine factor in ophthalmology, and to certify, out of my rather limited experience, to its importance and value.

The Eye, Ear, Nose and Throat, Monthly,
May, 1936.

Adrenalin in Glaucoma

Gradle has shown that when four minims of ordinary 1-1000 solution of adrenalin are placed on a cotton pledget in the upper fold of the fornix for four or five minutes, enough absorption occurs to produce an effect similar to that of sub-conjunctival injection. Adrenalin must be used with caution, however, and is contraindicated in glaucoma attended with inflammation.

List of Postings of Sub-Asst. Surgeons for the months of April and May, 1936.

No.	Names of Sub-Asst. Surgeons.	From.	To
1	Dr. M. Gopalan	Tk. Hd. Qrs. L. F. Dy., Sriperambadur	Agency Duty, E. Godavari Dt.
2	„ C. R. Narayana Iyer	Raja Mirasdar's Dt. Hd. Qrs. Hl., Tanjore	L. F. Dispy., Valangiman.
3	„ B. V. Suryanarayana	Govt. Hos., Venkata-puram	Reserve Duty, Govt. Hd. Qrs. Hl., Cocanada.
4	„ V. Gnaniab	Govt. Hd. Qrs. Hl., Vellore	L. F. Dispy., Kadayam, Tinnevely Dt.
5	„ P. V. Subba Rao	L. F. H. Kuzupam	Agency Duty, Vizagapatam.
6	„ B. Appalanarayana	L. F. Dy., Chagalmarri	Government Dy., Harpanahalle
7	„ T. K. Gopal Rao	L. F. Dy., Tiruppanandal	Jail Duty, Madras.
8	„ S. Hanumantha Rao	Govt. Hd. Qrs. Hl., Masulipatam	Tk. Hd. Qrs. L. F. Dy., Voyal-pad, Chittoor Dt.
9	„ R. Ramanathan	Tk. Hd. Qrs. L. F. Dy., Voyalpad	Tk. Hd. Qrs. Dy., Chandragiri.
10	„ M. A. Krishna Iyer	Govt. Hd. Qrs. Hl., Chittoor	Coimbatore Group V Districts Leprosy Officer.
11	„ (Miss) Annapuranam	Govt. Hl., Narasapur	Govt. Hd. Qrs. Hl., Ellore.
12	„ B. K. Thathachari	Reserve Duty S. G.'s office	Govt. Tubr. Hl., Madras.
13	„ N. S. Subramaniam	Govt. Tubr. Hl., Madras	Tk. Hd. Qrs. Mucl., Hl., Uda-malput, Coimbatore Dt.
14	„ V. Gnaniab	Govt. Hd. Qrs. Hl., Vellore	L. F. Dy., Marungapuri, Trichy Dt.
15	„ V. S. Ganesau	L. F. Dy., Marungapuri	Tk. Hd. Qrs. L. F. Dy., Musiri Trichinopoly Dt.
16	„ S. Sessa Reddi	Tk. Hd. Qrs. L. F. Dy., Rapur Nellore Dt.	L. F. Dy., Uttangarai, Salem Dt.
17	„ C. Ramachandra Iyengar	Vizagapatam Agency	Agency Duty, E. Godavari Dt.
18	„ P. M. Raghavan	Hydro Electric Scheme Dy., Singara	Ml. Br. Dy., Palghat.
19	„ A. V. Kunhikannan	Ml. Br. Dy., Palghat	Mud. Dist. Palghat.
20	„ R. V. Narasimham	Govt. Hl., Parlakimedi	Camp Dy., Singara Nilgiris Dt.
21	„ M. Lakshminarasimham	Penitentiary, Madras	Govt. Hd. Qrs. Hl., Chittoor.
22	„ G. Subramaniam	Central Jail Bellary	Tk. Hd. Qrs. L. F. Hl., Choda-varam, Vizagapatam Dt.
23	„ N. K. Padmanabha Nambiar	On Leave	Govt. Hd. Qrs. Hl., Bellary.
24	„ M. Gopala Menon	Govt. Hl., Cochin	Stanley Mdl. School.
25	„ J. R. Moses	Govt. Hl., Gudur	Jail Duty, Madras.
26	„ K. P. Nayagam	L. F. Dy., Uttangarai	L. F. Dy., Mudukalattur, Ram-nad Dt.
27	„ S. Manjunath Baliga	Govt. Hl., Mangalore	L. F. Dy., Ettapur, Salem Dt.
28	„ C. R. Venkateswar	On Leave	Jail Duty, Madras.
29	„ R. P. Narayanaswami	L. F. Dy., Kottur	L. F. Dy., Kottur, Coimbatore
30	„ T. K. Nagarajan	L. F. Dy., Natham	L. F. Dy., Natham, Madura Dt.
31	„ T. Vaidianathan	Govt. Hl., Gudiyattam	L. F. Dy., Melur
32	„ Mrs. A. Gomez	Govt. Hl., Dindigul	Govt. Hd. Qrs. Hl., Vellore.
33	„ Mrs. S. Thomas	Govt. Hl., Puttur S.K.Dt.	L. F. Hl., Ambasamudram.
34	„ Mrs. S. Cyriacose	Lady Goschen Hl.,	Lady Goschen Hl., Mangalore.
35	„ Miss. K. Kunjamelu Kave	Govt. Hl., Rameswaram	Govt. Hl., Rameswaram.
36	„ V. Venkatachalam Chetty	Hd. Qrs. Hl., Cuddapah	Govt. Hl., Puttur, S. K. Dt.
37	„ P. Narasimha Rao	Govt. Hd. Qrs. Hl., Ellore	L. F. Dy., Kodayam, Tinnevely
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44	„ Aga Mohamed Saduck Sahib	L. F. Dy., Podili	Tk. Hd. Qrs. L. F. Dy., Podili, Nellore Dt.
45	„ K. Jagga Rao Garu	Govt. Hl., Kandukur,	Govt. Hl., Kandukur, Nellore Dt.
46	„ M. Lakshminarasimham	Penitentiary, Madras	Govt. Hl., Gudur, Nellore Dt.
47	„ T. D. Ramaseshan	Govt. Hd. Qrs. Hl., Erode	Tk. Hd. Qrs. L. F. Dy., Tekkali,
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THE Medical Practitioner

VOL. VII.]

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[NO. 10]

HONORARY MEDICAL OFFICERS.

THE LATEST JOKE.

The latest happenings with regard to Honorary System of Medical officers, reminds us of a Canarese proverb which literally translated means, "Do not go. I shall fill the room with smoke". The story of this proverb is that some people who were not liked by a particular individual entered his room, the latter could not out of courtesy ask them to leave the room, instead he said "Please do not go. I shall fill the room with smoke".

The news recently published in the newspapers that a number of important amendments have been made by the Government to the rules relating to the appointment of Honorary Medical officers and the news that two Honorary Asst. Surgeons working in the Ear, Nose and Throat department in the General Hospital have been served with a three months' notice for terminating their honorary appointments, should convince all concerned as to how the wind is blowing. The amendments and the subsequent action of the Government would we hope serve as a ferment to unite the medical profession into a homogeneous fraternity. The most unfortunate system of castes has been the greatest handicap in this country preventing the growth of its people as one nation. Advantage is always taken by the enemies of freedom of this inherent defect and cleavages are either fomented or brought about to set back the growing hunger of the people of converting India into a free country. Regarding the medical profession the existing caste system cannot be said to be inherent. The Government must acknowledge gracefully their responsibility for the

introduction of the most unwholesome caste system in a noble profession and all attempts on the part of the oppressed to do away the baneful castes in the profession have been as disappointing as they were unsuccessful. The medical profession is so sacred that it was not possible even for its official votaries to recognise castes, and there have been occasions when concrete demonstrations were made by the official members of the profession some of whom as the Heads of the Medical Department denounced the Caste System and even went to the extent of warning the independent profession that the salvation to rid the profession of the evils of Caste System lay in the hands of the profession itself. We could mention at least two amongst the Surgeons-General in this province. One was the late lamented Major-General Giffard and the other is Major-General Sprawson now the Director-General of Indian Medical Services. The latter in his address as the President of the All India Medical Licentiates' Conference which met in Madras a few years ago exhorted the profession that their strength lay in their unity and he was responsible to advise the Government of this province that an attempt should be made to abolish castes at least in the System of Honorary Medical Officers and the Government Committee of which he was the chairman advised the Government to do away with the nomenclature, Sub-Asst. Surgeons in the Honorary System. Yet a remnant was left to indicate the castes in that the Committee suggested that ordinarily an L.M.P. should not be appointed as a Clinical Assistant in teaching institutions. But true to the saying that 'necessity has no law' the committee had to qualify this restriction and said in their report,

"A candidate possessing the L.M.P. Diploma or an equivalent qualification may however be

appointed in exceptional cases as clinical assistant in a hospital attached to a teaching institution for licentiates or in a hospital for special subjects."

This they had to do as in the case of at least one institution the Government Ophthalmic Hospital, it was perhaps not possible to replace the medical officers possessing the L. M. P. qualifications by graduates. This exception demonstrated the unreasonableness of restricting the L.M.Ps. to non-teaching institutions. It also indicated that the existing inferiority of the L. M. Ps. is only a complex—to use the word of mental specialist—but not a justifiable reality.

While commenting on the report of the Government Committee on Honorary Medical Officers in 1932 we did anticipate that with the change of persons in the office of the Surgeon-General, there were bound to have changes in the Honorary System depending not on progressive ideas but on the whims prevailing in that office. What we predicted in our Vol. IV. No. 1 in October 1932 regarding the G.O. on this subject as published on 29th July '32 took place exactly 4 years after, almost the same day as could be seen from the date of the G. O. now published regarding the amendments, and what the Government Committees did so far, has been done away with by a stroke of the pen of one individual the Surgeon-General. As the persons at the Government Secretariat controlling Government policies are also changing with time though not so frequently and unmethodically as is the case in the Office of the Surgeon-General, and as those in the Secretariat are not expected to know the contents of the back numbers of *The Medical Practitioner*, we have quoted at length our views as expressed in October 1932 on the rules which are now amended.

"The Honorary Medical Officers scheme that has been finally approved by the Government is devoid of the spirit with which such a system is worked in other civilised countries. The fact that the Surgeon-General has been made the pivot on which the whole scheme has to rest will certainly retard its progress. It is incompatible that a paid servant of the Government, in spite of his position as the Head of the paid medical department, should have under him honoraries doing the same duties as the paid officers. The period of the life of the office of the Surgeon-General cannot be at the most more than five years, and even supposing a particular Surgeon-General is of progressive views with regard to the honorary system of medical relief, the policy adopted by such a

head of the medical department cannot be expected to be continued by his successor. It is regrettable that the Hon'ble the Chief Minister who is at the head of a democratic party did not conceive the advisability of having the recommending authority with regard to honorary appointments transferred from an autocratic Surgeon-General to a committee consisting of the Surgeon-General and two members of the independent medical profession. This Committee should be invested with the duty of ascertaining and recommending to the Government periodically the number of paid appointments that should be replaced by honorary men. We made such a suggestion last year in these columns while commenting upon the report of the Government Committee on Honorary Medical Officers. The ideal to be followed ought to have been to do away even with the post of Surgeon-General, an office unknown and unheard of in any civilised country, instead of perpetuating it by adding one more department under the Surgeon-General. ...

The fifth para and the 6th and the 7th are about the designation and qualifications of honorary medical officers. In dealing with this subject, a distinction has been made between teaching and non-teaching institutions. The post of Clinical Assistant and Assistant Physician and Assistant-Surgeon in teaching institutions is reserved for graduates only, and even such graduates are debarred to hold the position of honorary physician and surgeon in such teaching institutions. Let us forget for a moment the existence of Licentiates and take the case of graduates only. In the legal profession a graduate of any Law College in India can rise to the position of a High Court Judge, though the University confers higher degrees in Law such as the M.L. Degree, and the British Government have not so far suggested that when M. Ls. and other higher qualified degree holders in Law were available in India, B. Ls. should not hold the position of High Court Judges. We shall repeat what we said on this subject in these columns last year regarding British qualifications:

"It is not consistent with the existing notions of nationalisation, if British registrable qualifications are demanded in our country in the teaching institutions. It is not our intention to lessen the standard of medical education; the aim should be to get the best material as far as possible amongst the Indians possessing Indian qualifications. If Indians with high foreign qualifications are available so much the better, but our plea is that Indians of merit and having vast experience should not be disqualified, merely because they do not possess British registrable qualifications. As a rule it is customary to fix a minimum qualification for appointments and not the maximum as the Committee has recommended." Even with regard to British qualifications it was not fair that the Government have agreed with the Committee in demanding qualifications higher than those possessed by the majority of doctors employed by Government as full-time officers in teaching institutions. We ask the Hon'ble

the Chief Minister, nationalist as he is, whether in England and elsewhere the Government, the public or the profession would have tolerated the recognition of foreign qualifications for employment either as honorary or paid officers by placing a high premium on foreign degrees whatever superiority such degrees might claim. The public and the profession have a right to protest against the decision arrived at by the Minister in this respect."

"The invidious distinctions shown in the scheme with regard to qualifications for the appointment of Clinical Assistants, Assistant-Physicians, and Assistant-Surgeons in teaching institutions, are fundamentally wrong and practically unsuited for the healthy growth of the medical profession as a whole. The function of the medical profession as a whole. The function of Clinical Assist., Assistant-Physician or Assistant-Surgeon, is to learn and not to teach; why should the non-graduate medico be deprived of the chances of learning more in well-equipped state hospitals where the graduate students undergo training? The Licentiates in Government service have proved their fitness to be in charge of University students in special hospitals in the City and the Government in this their very order have conceded to the claim of the Licentiates being employed as Clinical Assistants in 'hospitals for special Subjects'; the more so, their fitness to serve as Clinical Assistants in a general hospital ought not to have been questioned at all. In this respect the scheme adopted by the Government is inconsistent even with the principles enunciated by them in the very scheme. Before closing a discussion on these items, we wish to quote a few sentences from the speech of Sir Henry Gidney, an eminent retired I. M. S. officer possessing the highest British qualifications."

"We are apt to place great market-value on ex-India medical degrees, and it is we who are to blame for placing a high premium on European degrees. But remember the degree does not make the doctor; the doctor makes the degree; and whether you are a Sub-Assistant Surgeon or an Assistant-Surgeon or an I. M. S. Officer, when death faces you as medical men, it matters little to the patient whether you are English or Indian qualified; it is skilled experience alone that counts."

Tenure of appointment forms the eighth item of the G. O. A minimum and maximum time limit has been fixed only with regard to Clinical Assistants, the period of service regarding Assistant-Surgeons, the period of service has been fixed from 2 to 5 years. No time-limit has been fixed for the tenure of the other two grades of honorary appointments. This cannot be said to be a sound policy in the interests of the profession. As stated a little while ago, the Clinical Assistant and Assistant-Physician and Surgeon have to learn and gain experience under their elders and the public get the benefit of such experience in the matter of treatment. If time-limit is not fixed for these two posts, there will be no room for new recruits and those who have been fortunate to get into the hospitals at the initial stage might not like to get out of their position and so only a small percentage of the medical practitioners will get the benefit of the honorary scheme. We suggested a limit of 5

years to Assistant-Surgeons and Physicians and 10 years to Honorary Physicians and Surgeons when we discussed about the report of the Committee last year.

Though special powers have been given to the Surgeon-General as the recommending authority for proposing deviations from the rules, framed by the Government, it would have been a safer course not to employ practitioners as honorary physicians and surgeons of whatever qualifications unless they have been in practice for a period exceeding 20 years and unless they have passed the age of 40. Merit and experience cannot count without age this condition should not be relaxed, even by the recommending authority."

It has been possible for the Government to swallow their own orders as there was no opposition to the retrograde steps they have been taking. Soon after a change in the designation of Honoraries possessing L.M.P. qualification was promulgated by a G.O. we criticised the policy of the Surgeon-General and also of the Government and said that the then contemplated changes in the designation labelling the L. M. P. honorary as Licentiate Honorary Officer, 3rd, 2nd and 1st grade was against the code of Medical Ethics and also against the spirit of the existing Medical Acts. The Madras Council unanimously passed a resolution last October protesting against the new nomenclature and it is really strange that the Government is adamant.

The vague notice terminating the appointment of two honorary Assistant Surgeons in the Ear, Nose and Throat Department of the Madras General Hospital which does not specify the causes that led to the termination of these two appointments has given room for various guesses. Some say that there is a pressure on the Government from the hospital authorities that a paid Assistant Surgeon should be appointed to assist the officer in charge of this Department. There was a similar proposal before the Government a few years ago but it was thrown out by the Government. Others say that there was an applicant for this honorary post, a graduate possessing the D. L. O. qualification and the authorities wished to provide for this applicant as he was a person who could command influence in the proper quarters. We cannot say anything one way or other but would only mention that about a year ago another Graduate D.L.O. applied to the Government to be appointed as an Honorary Assistant Surgeon-General Hospital but he was appoin-

ted in another city hospital. Laid down principles and not persons ought to guide the authorities in the interests of fairplay and justice. The fact that the Government did not fix the tenure of office regarding Honorary appointments even when it was pointed out to them when the rules on the subject were published by the Government for the first time in 1932 coupled with the vague notice now served on the two Honorary Asst. Surgeons is likely to reflect on these two practitioners especially so when the authorities did not find their way to terminate the services of any one of the Honorary Assistant Surgeons appointed since 1932 and even earlier. The unfortunate circumstance that the Government did not refer the question of amending the existing rules which was a work always entrusted to a Committee in the past and that the source of amendments seems to be the Office of the Surgeon-General, has naturally caused great dissatisfaction amongst the Honoraries. It will not be out of place if we mention to our readers that the applicant for the post of Hon. Assistant Surgeon, E. N. T. Department, General Hospital, having waited sufficiently long not knowing that the Government machinery moves usually much slower than all the existing machines, left India. The irony of the situation will necessarily result in the promulgation of yet another G. O. to save an awkward situation.

We would repeat our advice to the profession that the only remedy for these ills is unity of action and this remedy is more radi-

cal than individual memorials by the aggrieved honoraries. It will not be out of place if we bring to the notice of our readers that when the existing Medical Associations in this city failed to express their views on the report of the Government Committee on Honorary Medical Officers, published in 1931, our late lamented colleague Dr. M. S. Krishnamurthi Aiyar took the initiation and invited the members of the independent medical profession in the city to meet in a conference at the Ripon Buildings. A few members of the medical profession one of whom was a person holding Honorary appointment, instead of co-operating with Dr. Krishnamurthi Aiyar who was one of the oldest members of the profession, tried to break the meeting. The only objection raised by the opponents of the conference was that the South Indian Medical Union, ought to have taken the lead and not Dr. Krishnamurthi Aiyar. As we said enough about this unfortunate incident soon after it took place, we do not wish to reiterate what we said then. Now there is a splendid opportunity for the South Indian Medical Union also to the local branch of the All India Medical Licentiate's Association in this city and other District Medical Associations in the mofussil to show their indignation on the recent amendments passed by the Government on the System of Honorary Medical officers and we trust that the profession will rise to the occasion with the help of the existing associations.

NOTICE.

Readers of The Medical Practitioner are requested to quote the Registered numbers appearing on post-wrappers against their names while corresponding with the Managing Editor. He finds it very difficult to identify the authors of the letters from among 3000 names, especially when names are identical.

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| 49 | " P. Adinarayanaswami Naidu |
| 50 | " T. B. Ramachandran |
| 51 | " V. Vijayaraghavan |
| 52 | " M. Vaithinatha Iyer |
| 53 | " R. Sundararajan |
| 54 | " M. George Philip |
| 55 | " A. P. Srinivasa Rao |
| 56 | " S. Arunachalam |
| 57 | " P. Srinivasa Prabhu |
| 58 | " M. Venkatachalam Chetty |
| 59 | " Miss. G. Guruswami |

(Continued from page 214).

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| Hd. Qrs. Hl., Cocanada | Leprosy Officer., Chittoor. |
| L. F. Dy., Ottapidaram, | L. F. Hl., Koilpatti. |
| E. Godavari Agency. | L. F. Dy., Kayalpatnam. |
| Certified School Ranipet | Govt. Hl., Nanguneri. |
| L. F. Dy., Nilakottai. | Jail Duty, Madras. |
| Dt. Jail, Coimbatore | L. F. Dy., Nilakottai. |
| L. F. Dy., Gudur, | L. F. Dy., Uttiramarur, |
| L. F. Dy., Uttiramarur | Govt. Royapuram Hl., Madras. |
| L. F. Dy., Watrap. | Spl. Pol. Force Dy., Sivakasi. |
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News and Comments

A Collector Lacks Imagination:

We refer our readers to the Administration Report of a "Village Sanitation and Development Scheme" started by a subsidised rural medical practitioner on his own initiative with the help and co-operation of the residents of the village Borigumma, Koraput Agency Tracts. The object of the scheme is to look after rural sanitation and it is creditable that a subsidised rural practitioner has taken upon himself the development of a scheme of rural reconstruction and was able to get the support of the village folk who usually are callous in their enthusiasm when such schemes are thrust on them through official agency. The Scheme was started early in 1935, and has been working quite successfully. The Taluk and District Boards did rightly recognise the scheme and did contribute towards the running of the scheme. The scheme is also supported by the Jeyapore State. The Executive Committee of the Scheme passed a resolution at one of its meeting requesting the District Board President to nominate the President of the Committee to the Taluk and District Boards of Koraput Agency Tracts. This legitimate and modest request was conveyed to the Presidents of both the Boards. It is said that the President of the Executive Committee got a communication from the President Koraput Taluk Board Nourangapur which runs thus: "The status of the Rural Medical Officer is not sufficient to be a member of the District Board." The communication is silent regarding the status of the Rural Medical Officer to be a member of the Taluk Board.

It is most regrettable that, when the Government has been recently evincing some interest on the advice of the Head of the Public Health Department to develop schemes for village reconstruction, one of the officers of the Government in charge of a local body hurls a gratuitous insult towards a member of independent medical profession by passing official proceedings that "the status of the Rural Medical Officer is not sufficient to be a member of the District Board." It is not known on what rule or Government order this officer bases the opinion arrived at by him. Apart from insulting the practitioner, this officer has shown his ignorance of the policy of the Government to start village development schemes for the

inauguration of which the Government have been spending large amounts of money on experiments. This village practitioner who is humiliated by a Government official, does not and cannot look small either in the eyes of the Government or the public. On the other hand he should be admired and encouraged by the Government for having taken upon himself the onerous responsibility of developing the village reconstruction scheme to popularise which the Government is spending public money. The practitioner has been running the scheme with the help of the villagers without committing the Government to any expenditure.

We trust the Surgeon-General and the Director of Public Health who is keen to develop Village Sanitation Schemes, would kindly advise the Government to note the lack of imagination on the part of the President Taluk Board, Koraput and remove a slur on the medical profession of which both these officers are themselves eminent members.

Control of Drug Trade : It will be remembered that some time ago at the instance of Sir Nasarvanji Choksy of Bombay a resolution was passed in the Council of State urging the Government of India to take action to prevent adulteration of drugs. It is understood that the Government of India propose to spend Rs. 30,000 for investigating about adulteration and sophistication of drugs at the Bio-chemical section of the Alipore Laboratory, Calcutta. In the meanwhile, the Government of Bombay where adulteration of drugs is run as a regular trade, have appointed a Committee with the Surgeon-General, Major-General E. W. C. Bradfield as Chairman to frame a Pharmacy Act and that the Committee in turn has appointed three sub-committees. The Committee will consider the registration and necessary training of druggists and compounders; the licensing and registration of establishments in which pharmaceutical products including poisons are sold; the formation of Pharmaceutical Society in the Bombay Presidency including the determining of its constitution and powers; and lastly the Inspection of chemists' and druggists' establishments.

The Inquiry Committee consists of the Surgeon-General, Chairman; Lt.-Col. S. S. Sokhey, Director of the Haffkine Institute,

Bombay; Lt.-Col. R. H. Candy, Civil Surgeon, Poona; the Professor of Materia Medica, Grant Medical College; the Professor of Materia Medica, G. S. Medical College; a representative of the Bombay Medical Council; a representative of the College of Physicians and Surgeons, two representatives of the Bombay Chamber of Commerce; Mr. C. E. Pilgrim and Dr. Kurt Soltmer; two representatives of the Indian Merchants' Chamber, Dr. M. Venkatrao and Mr. B. D. Amin; and a representative nominated by the Director of Public Instruction. Capt. I. N. Chopdar, Personal Assistant to the Surgeon-General, is the Secretary.

The Committee met this week and appointed three sub-committees. One sub-committee will look into the possibilities of forming a pharmaceutical society; another will draft a Pharmacy Bill; while the third will make recommendations regarding the scheme of training of compounders and pharmacists.

From what we know of Major-General Bradfield, we hope that under his guidance the well organised Committee representative of variety of interests of which he is the Chairman will be able to place before the Bombay Government a Pharmacy Bill which will be a guide to other provinces in India where the Governments have not so far conceived the idea of the necessity of a Pharmacy Act. Later, in the light of experience gained in the provinces, the new Federal Government will be able to introduce a comprehensive measure applicable to the whole country.

The Panjab Medical Licentiatees: In the Correspondence Columns of the current issue we have published briefly the proceedings of a conference convened by the Provincial Branch of the All India Medical Licentiatees' Association of the Panjab. We congratulate the Chairman, Reception Committee, Dr. Gian Chand Blagganna and the General Secretary Dr. Samuel Ramsingh both of whom with the help and co-operation of the members of the Reception Committee made the function a success. It is a strange yet otherwise pleasant that the All India Medical Licentiatees' Association which was brought forth by a Madrassee (then in the services of the Mysore Government) and cradled in the enlightened and progressive city of Bombay, should prosper

and thrive in Northern India, in the provinces of the Panjab, and the U. P. and forgotten to the same extent in the provinces from where the original founder hailed and in another province where the Association came into existence. There have been attempts of reviving the activities of the Association in Madras but those who interested themselves made their appearance like the mushroom at seasons where the activities had a purpose to serve. While in Bombay though it was made possible these three years to have the bulk of those who are to guide the destinies of this All-India Association including its General Secretary, no tangible signs could be seen of the revival and growth of a Provincial Branch of the magnanimity and usefulness as in its sister provinces of the Panjab and the U. P. The saying that 'Distance lends enchantment to the view' cannot be made applicable to the activities of the Panjab and the U. P. Branches of the Association. We do not wish to refer to the sad episodes of Madras and Bengal in years gone by when there was real danger of the Association dwindling. Dr. Gian Chand Blagganna was mainly responsible to unravel the insidiously yet powerfully growing canker which once threatened the very existence of the largest and the oldest Medical Association in India. He was eventually able to save a grave situation.

It was quite in fitness of things that Dr. Blagganna was chosen by the Reception Committee as its Chairman which office Dr. Blagganna richly deserved as one of the oldest and most enthusiastic members of the Association and who was elected by a large majority of Licentiatees to represent them in the Panjab Medical Council. Dr. Blagganna did discharge his duties as the Chairman of the Reception Committee in a splendid way as could be seen from the extracts of his address. Dr. Blagganna enumerated the grievances of his brethren in service in a modest and moderate language quite consistent with the position he occupies in Government Service. The woes of the Licentiatees outside service with regard to Medical Education and of the medical profession in general did not escape the notice of Dr. Blagganna. All the same even with regard to these subjects he was careful enough to be within his bounds as a faithful servant of the Government. We appreciate the wisdom of the Reception

Committee in pitching upon Dr. (Miss) E.M. Brown, as the President of this Conference. She is an educationist of repute, serving as the Principal of the Women's Christian Medical College Ludhiana, and a person who is not only most devoted to the noble profession but also as much devoted to God. We have published her short yet sweet address in full. We are glad that the Panjab Medical Licentiatees have been acting their part well in the medical profession through the All-India Medical Licentiatees' Association. We wish other provinces follow their brethren in the Panjab and evolve a medical fraternity in this country worthy of the noble and the sacred profession to which the Medical Licentiatees have the honour to belong. The All India Medical Licentiatees' Association looks sectarian in its outlook. It is not the fault of this most oppressed class. Yet there are splendid possibilities and opportunities for the Medical Licentiatees to serve not only the public but also the medical profession. We hope they will realise them and take advantage of them and eventually absorb themselves into one non-sectarian fraternity.

Law and Insanity: Under the caption 'Law and Insanity' the Times of India published in its columns a most sensible and reasonable Editorial on 16-7-1936 which we have published in the Correspondence Columns of the current issue. We draw the attention of our readers to this Editorial which is a master-piece of cogent reasoning likely to guide the members of the medical profession, especially the mental specialists who at times figure rather awkwardly in law courts. A few years ago, an European holding a subordinate position in the army was tried by Hon'ble Justice King in the Madras High Court for murdering a brother subordinate by shooting. Evidence was let in by the defence through an European mental specialist that the mental condition of the accused was of a nature similar to the one described in the Editorial under reference. The Judge did not agree with the mental expert in spite of the eminent position occupied by the expert in the Government Department as well as in the medical profession and the accused was punished. Psychiatric is making rapid strides in foreign countries especially in America and

the profession can not afford to lose sight of reservations advocated in the Editorial under comments.

Women Medical Service: Of late we have been hearing and receiving complaints from the members of the medical profession in service, belonging to the fair sex. We remember one instance when a senior well-known private practitioner in the City approached us and narrated to us the 'Woes' of a Woman Sub-Assistant Surgeon who he said was not treated well by a brother Sub-Assistant Surgeon, her colleague in a Government Medical Institution. Similar stories we heard from a few women Sub-Assistant Surgeons themselves in the Mofussil and after the Madras City Corporation introduced a scheme for equipping the woman medical staff in some of the Dispensaries, we had occasion to listen to similar complaints. The latest complaint we have received is rather of a very serious nature. It is not against a brother Sub-Assistant-Surgeon or an elder brother Assistant-Surgeon but against the head of the medical department in a District. We refrain from treading on powerful toes just at present for obvious reasons and have curbed our feelings of chivalry. Unfortunately in the medical profession, though it is the most sacred and the noblest, there are chances for a devil to go undetected and as bad chances for a saint not to be appreciated. It should be the ideal for the members of the profession to have more saints and less devils in their fraternity. A sister in the medical profession especially one who remains unmarried all her life to serve humanity unreservedly without the ties of family and who at the same time has conquered her human weaknesses, is fit to be not only admired but worshipped. The fair sex is timid by nature and the approaches of wickedness usually come from elsewhere. It is possible to a greater extent for the man to be more charitable to the woman. We appeal to our brethren in the profession especially those in service that it will pay them in the long run to be blind to the faults (if they perceive any faults at all) of their colleagues belonging to the fair sex and kind to the ideals of womanhood in the exercise of their profession. Persons in high official position are expected to guide and lead their subordinates to the right path of duty. The situation is really

grave if those in authority are complained against.

Correspondence Reports Etc. XIVth Provincial Conference of the All-India Medical Licentiates' Association, the Panjab Branch, held at Amritsar.

22 & 24TH APRIL 1936.

The Provincial Branch of the Panjab All India Medical Licentiates' Association met in conference at the Medical School, Amritsar under the presidency of Dr. Edith M. Brown M. A., L. R. C. P. & S., M.D. (Brux), O.B.E., Principal, Women's Christian Medical School, Ludhiana. The Conference was largely attended. 215 Medical Licentiates from all parts of the Panjab participated in the proceedings and eminent members of the medical profession and the lay public encouraged the Medical Licentiates by attending the opening session in large numbers. High officials of the Government of the Panjab including two ministers sent messages of good will and regretted their absence.

The Chairman Reception Committee Dr. Gian Chand Blagganna welcomed the guests and in the course of his address, referred to nine most important items concerning the Medical Licentiates in general and touched upon the grievances of the Licentiates in Government service. He deprecated the present method of imparting medical education in schools throughout India and quoted from the report on Medical Schools in India by Major-General Sprawson, Director-General of Medical Services in India that there did not exist a single school in India which came up to the standard expected of them by the Major-General in the matter of equipment. He complained that the representation of the Medical Licentiates in the Panjab Medical Council was very meagre unlike in other provinces, there being only one in the Panjab Council who could be elected by the Licentiates. He mentioned that at a recent meeting of the Panjab Medical Council a resolution was passed recommending to the Government that there should be at least three Medical Licentiates in the Panjab Medical Council. He criticised the policy of the Government of the Panjab in not giving representation to the Medical Licentiates in the State Medical Faculty.

Regarding the service grievances he said that the maximum number of six Sub-Assistant Surgeons to be promoted as Assistant Surgeons was too meagre. He said that the U. P. Government were more liberal in this direction, 11 out of 345 Sub-Assistant Surgeons being promoted as Assistant-Surgeons, whereas in the Panjab only 6 out of 600 Sub-Assistant Surgeons were promoted as such. He advocated that 20 posts of Assistant-Surgeons should be reserved for the Sub-Assistant Surgeons. Out of this number six should be reserved for Licentiates of State Medical Faculty who have rendered distinguished service, six for the Sub-Assistant Surgeons qualified for Membership of the State Medical Faculty and eight to such of the Sub-Assistant Surgeons possessing high Indian or foreign medical qualifications. He suggested that the lecturers of the Medical Schools should be recruited from amongst the Medical Licentiates who had the required medical qualifications. He pressed on the Government the necessity of the granting study leave to Medical Licentiates in service who wished to possess higher qualifications as was done in higher service.

The system now in vogue in the Panjab of the Sub-Assistant-Surgeons being required to pass grade examinations for promotion was in the opinion of Dr. Gian Chand Blagganna, as retrograde as it was objectionable. The better course adopted by Dr. Blagganna was to make the Sub-Assistant-Surgeon undergo refresher courses in all important subjects in medical science, so as to enable them to be in touch with all recent advances in Medicine, Surgery and Midwifery.

Rural medical relief did not escape the notice of Dr. Blagganna. He said that the rural medical officers should be supplied adequate drugs, provided with suitable quarters, and allowed medico-legal work. He wished that these practitioners should be given subsidies for a limited number of years till they were able to depend entirely on private practice.

For relieving unemployment amongst the Medical Licentiates Dr. Blagganna suggested that they should be employed by the local bodies as Medical Vaccinators and Registrars of Deaths and Births which work should not be entrusted to lay persons as was now done in the Panjab.

Dr. Blagganna was not unmindful of problems affecting the medical profession at large apart from special grievances of the Medical Licentiates in service. He mentioned that he had given notice of moving resolutions in the Panjab Medical Council to the effect that only qualified medical practitioners should be allowed to use the title 'Doctor' and non Allopathic practitioners should be prohibited from prescribing British Pharmacopoeial preparations. Dr. Blagganna made a very wise suggestion to bring practitioners of indigenous systems of medicine under control by introducing a separate register for them. Introduction of the scheme for National Health and Sickness Insurance was also dealt with by Dr. Blagganna in his address.

Dr. (Miss) E. M. Brown, Principal, Women's Christian Medical School, Ludhiana delivered the following address.

Ladies and Gentlemen.

I feel honoured to be asked to preside at this meeting of your All India Medical Licentiates' Association Conference, and I am glad to consent, as for over 40 years I have been deeply interested in the work and welfare of Sub-Assistant Surgeons, and I sympathize with your difficulties and with your aspirations. The vast changes which have already taken place in your training and in your curriculum give ground for expecting that progress may continue, and that your hopes for a place on the Indian Medical Register may be realized in the not far distant future.

Schemes have been worked out in Madras and Bengal and suggestions are being considered now, for representation to the State Medical-Faculty of Medicine and the University of the Panjab, in order that it may be possible for Licentiates in medicine of the Panjab to obtain a registerable qualification, which shall be recognized by the British and the Indian Medical Council. I will do what I can to help in the matter.

One forward step would be if the requirements for entrance to the Licentiates' course of study were raised to the Senior Cambridge or F.Sc., which are accepted by the British Medical Council.

Your desire to have your representatives on the Governing body of the Panjab State Faculty of Medicine seems to me to be reasonable, and I hope it may be fulfilled. It is for

you to prove by the standard and quality of your work that you are desirous and capable of advancement and that you are worthy to stand side by side with those who have the university M. B. diploma.

Refresher classes would be of great advantage, but much may be done by careful reading of your own cases, and the taking in of a good standard Medical Magazine. I know they are expensive, but if a small group of six join to subscribe for a few classic magazines such as the "Practitioner", British Medical Journal, "Lancet", Clinical Journal, and exchanged these among yourselves making note of new information acquired, you would find it of inestimable value. I feel that one of the greatest causes for failure in progress is the stopping of regular study, and the getting into ruts and grooves.

Meanwhile I would remind that in the exercise of your profession you have unique opportunities for service for your fellow men and for your country. The conditions of the village call loudly for help, both by curative and preventative measures, and although there would be no possibility of amassing the riches of the world you might be repaid by the lasting gratitude and love of your countrymen, and you might have the satisfaction of seeing a vast-improvement in the Hygienic conditions under which they live. As a Christian I would say we have the example of the Lord Jesus Christ and we know no greater joy than that of following in His steps, who said "I am among you as him that serveth". May your lives of service for others bring joy to them and to you, and may the way soon be opened up for advancement for you both as to qualifications and station, so that you may be fully prepared to take your full part in this time of marvellous opportunity for development and progress.

The Conference arranged lectures on scientific subjects and four eminent members of the profession spoke on four different subjects and there was lively and interesting discussion about them.

SUBJECTS AND LECTURERS

(a) Paper on head injuries and their treatment by Lt. Col. P. A. Dargan, M.R.C.S., L. R. C. P., Civil Surgeon, Amritsar.

(b) Paper on Urinary Calculi by Major Nur Ahmad Qureishi, M.B.B.S., D.M.R.E.,

Lecturer, Anatomy, Medical School, Amritsar.

(c) Paper on snake venom and its modern therapy by Capt. S. M. K. Mallick, M. R. C. P., I. M. S., Principal, Medical School, Amritsar.

(d) Paper on some aspects of Lobar Pneumonia in adults by Dr. Baldev Singh, M. R. C. P.

Law and Insanity

The very important question of what amounts to insanity in law came up before the Privy Council in a recent appeal from Australia. A man was condemned to death for a series of atrocious murders of little girls in a singularly cruel manner, but without any apparent motive. There was medical evidence to show that the accused's mind was so diseased that, although he was aware of what he was doing and that it was wrong, he was incapable of resisting the impulse to commit such crimes when an opportunity occurred. The plea put forward on behalf of the appellant before the Judicial Committee was that a person with a mind so diseased that he cannot resist a particular crime is legally insane. Now this doctrine of irresistible impulse under familiar labels, like kleptomania and impulsive homicidal mania, has been well known to both lawyers and doctors, but has not been permitted to prevail so far in British courts of law. There has been a sharp conflict of opinion between the man of medicine and the man of law on the question of insanity. While medical science is prepared to recognise new and subtle forms of mental disease, English law holds fast by the test laid down in a famous case nearly a hundred years ago. Under what is known as the rule in *McNaghten's case*, a man is criminally responsible for his act, unless he is by reason of unsoundness of mind incapable of knowing the nature of his act or that it is wrong. This is also the law in British India. The test of legal insanity appears to be defect of reason, such as renders a man incapable of understanding the real nature and effect of his actions, rather than an impairment of the will which makes him powerless to resist criminal impulses. The Privy Council have now,

although with some hesitation, refused to recognise paralysis of the will, as distinct from defect of reason, as an element of legal insanity. They considered it very desirable that the standard of legal insanity should be the same throughout the Empire.

There is no question that medical science has taken immense strides since *McNaghten's case* in 1843; and the law may appear to be unprogressive. But there is an amount of practical good sense behind the apparent obstinacy of the law which cannot be ignored. The plea of irresistible impulse and other obscure forms of insanity are invariably put forward in cases of monstrous crimes without an apparent or adequate motive. If the plea were lightly admitted it would put a premium on criminal atrocities and afford undeserved protection to motiveless malignity. It is also most essential to observe the distinction between an impulse that is irresistible and one that is simply not resisted. In a sense all crimes are the result of unresisted impulses. The doctrine is dangerous both by reason of the case with which it can be put forward to excuse diabolical atrocities, and the absence of any practical means by which its genuineness can be tested. The purpose of laws is to protect society rather than conform to scientific or psychological deductions. If the law gave in to undemonstrable theories it may approximate to scientific perfection, but it would be practically powerless to prevent social evil or promote social well-being. The theory of mental disease as an explanation of criminal tendencies, even though resting on a scientific foundation, is too unsafe a guide to be of any real value in the practical administration of criminal justice.

The Times of India 16 7-'36.

Administration report of the Borigumma Village Sanitation and Development Committee for the period covering from 18-2-35 to 31-3-36.

At the general body meeting of the Villagers of Borigumma held on 28-12-34, a scheme for the Rural Sanitation and Development with provision for Civic amenities was inaugurated.

As a 1st step a scheme for Sanitation was started from 18-2-35 by raising subscription every month from among the villagers to

meet the expenditure of the scheme under the guidance of the Rural Medical Practitioner, Borigumma.

On the recommendation of Dr. J. M. Stirling, Agency Surgeon, Koraput, the President Taluq Board Koraput, W.W. Georgeson Esq., I. C. S., kindly sanctioned Rs. 4-0-0 per month towards the pay of 1 sweeper from 12-10-35. On the representation made by the Rural Medical Practitioner, Borigumma the pay of the scavenger was increased to Rs. 7-8-0 a month.

The Rural Medical Practitioner, Borigumma next started a scheme for public street lighting and collected Rs. 100-8-0 by way of public donations. Rs. 60 still to be collected towards the capital expenditure. The President, Taluq Board Koraput has been approached with a request to donate Rs. 150 towards the lighting scheme. The sanction of the Board is awaited. Of the donations a sum of Rs. 30 was given by Mr. O. Pulla Reddi I. C. S., the then Dewan of Jeypore Samasthanam on behalf of the Jeypore Samasthanam.

The Executive Engineer L.M.F. Barrett Esq., A.M.I.C.E., I.S.E., was kind enough to present a combined lamp post and sign post built in reinforced concrete at the junction of the 4 roads right in the centre where a petromax light will be hanged.

So far the work for the lighting scheme is progressing though slowly and 6 lamp posts for ordinary street lights are being prepared in reinforced concrete.

As regards the running expenditure of the lighting scheme it will be met from the subscriptions now being realised for the Sanitary scheme.

At the general body meeting of the Villagers of Borigumma held on 22-3-36 the committee known as "BORIGUMMA VILLAGE SANITATION & DEVELOPMENT COMMITTEE" was formed and the following Office Bearers were elected:—

- Mr. K. J. Somayajulu Rural Medical Practitioner—President.
- " C. D. Patnaik, Amin Borigumma Tana.....Member.
- " P. Krishnamurthy Post Master and Contractor...Member.
- " C. H. L. Narasimham Supervisor, P.W.D. (Ex-officio)...Member.
- " Borjo Naiko, Landholder, Member.
- " J. N. Ratho, Merchant... Member.

A resolution requesting the President Taluq Board to recognise the committee was passed and a copy of that resolution submitted to the President Taluq Board and the committee is awaiting the orders of recognition.

A resolution requesting the President District Board to kindly nominate Mr. K. J. Somayajulu, Rural Medical Practitioner Borigumma as one of the members of the Taluq Board and District Board as well, to represent the grievances on behalf of the villagers to the respective Boards was also passed and copies of that resolution submitted to the Presidents of the Taluq and District Boards.

Statement of income and expenditure of the sanitary scheme from 18-2-35 to 31-3-36.

INCOME.

	Rs.	A.	P.
Public Subscriptions	147	8	9
Taluq Board Contributions	32	1	0
Donations by Wellwishers	36	1	0
Total	215	10	9

EXPENDITURE.

	Rs.	A.	P.
Pay of Scavengers	120	7	3
Cost of Dust bins	4	4	0
Miscellaneous	4	15	6
Total	129	10	9

Balance on hand Rs. 86 0 0

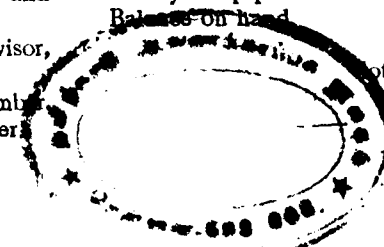
Balance Statement of lighting scheme.

INCOME.

	Rs.	A.	P.
Public Donations	100	8	0
Total	100	8	0

EXPENDITURE.

	Rs.	A.	P.
Conveyance charges of the iron rails for the 6 ordinary lamp posts	2	8	0
Balance on hand	98	0	0
Total	100	8	0



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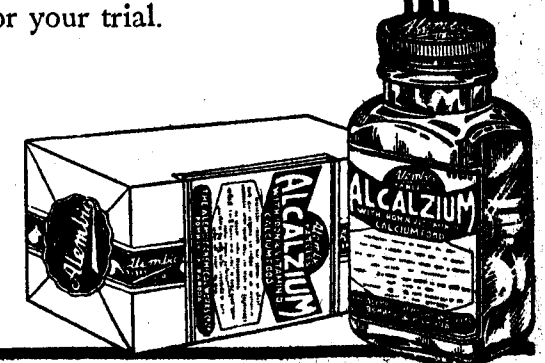
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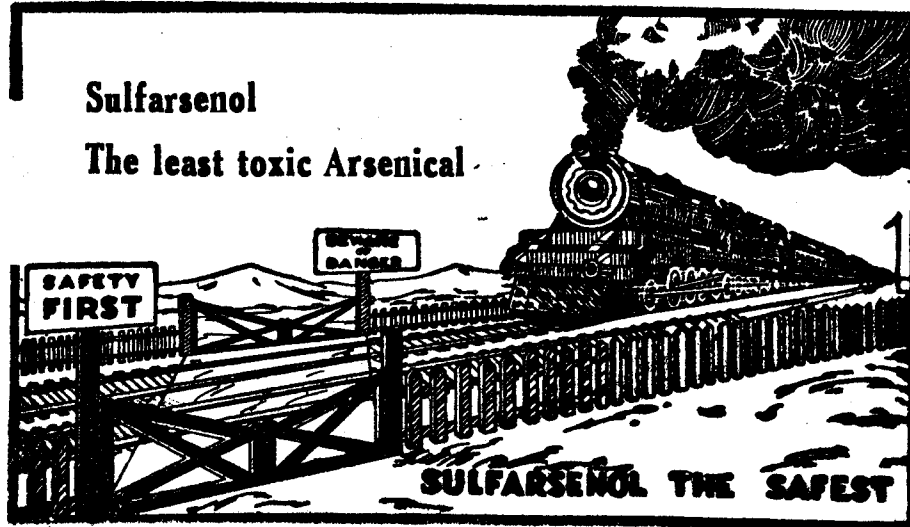


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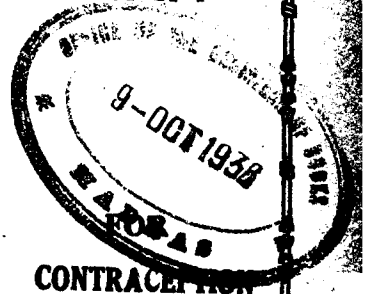
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AUGUST 1936.

[NO. 11

*Original Articles

SOME ASPECTS OF LOBAR PNEUMONIA IN ADULTS.

By

DR. BALDEV SINGH, M.R.C.P.

The subject which I choose is as old and hoary as perhaps the humanity itself. It has however been recently rejuvenated as it were by the efforts of the clinician, the bacteriologist and the radiologist. Captain of the men of death as Osler names it, this disease exacts a heavy toll of life, and this is perhaps why an intensive and an extensive study of the subject has recently been undertaken by several scientists simultaneously.

The story of Lobar Pneumonia as it is narrated to-day is really the tale of several anecdotes as some of them enacted by the bedside, some in the laboratory and others in the radiology department of some of the best medical institutions of the world. Doches and Gillespie, Cole and Lister by their extensive study of methods of agglutination and Neufeld by his rapid modification of the same have done the pioneer work to establish the types No. I, II, and III and group IV of Pneumococci pathogenic for human beings. As we have been for the last year or so interested in the typing work I take a little of your time to go into a greater detail of the methods and the difficulties which we encounter to derive benefit from it in the treatment of the malady.

The rapid method of Neufeld for Pneumococcal agglutination being easy we attempted first but had ultimately to give it

up because of very unsatisfactory results. The method consists in placing two specks of recently coughed up sputum received in a sterile petridish on a glass-slide about 1½" apart. To each speck about four times as much typing serum prepared from rabbit for Pneumococci type I and II added separately. These are then covered by two cover-slips. In the meanwhile another smear is made, fixed and stained by Gram's method. This smear is examined to find out if Pneumococci are present at all. If none found no use looking for them in the specks treated with typing sera, if present after about 20 minutes the cover slips are removed and the specks fixed and stained with dilute carbol fuchsin and carbol thionine blue. If the sputum contains Type I or Type II Pneumococci, then the speck to which corresponding serum has been added will show the organisms a good deal larger than those seen in the other speck. This is named "Quellung" and is due to antibody in serum getting attached to the capsules of the organisms.

The difficulty in the test is that the organisms being surrounded by thick mucus in the sputum do not come in intimate contact with the serum and hence they don't swell or enlarge in size.

The second method is more elaborate. It consists in getting sputum in a clean petridish after thorough toilette with sterile water of the patient's oral cavity. The sputum about the size of a kidney bean is subsequently washed three times with sterile normal saline and then emulsified in 1 C.C. saline in a sterile hard glass test tube with a sterilized glass rod. ½ to 1 C.C. of this

*Lectures delivered at the XIVth Punjab Provincial Conference of the A. I. M. L's. Association, held at Amritsar on 23rd and 24th April 1936.

emulsion is injected into a mouse intraperitoneally. After about 6 hours when the mouse gets sick the abdominal wall is punctured and a little peritoneal exudate taken with a sterile pipette, stained and examined for Pneumococci. If not present in large numbers wait for another four or five hours. If present the mouse is dissected, peritoneal and chest cavities opened. The peritoneal washing is immediately put up for typing with sera of Types I, II and III Pneumococci and portion of it is cultured in glucose broth taking care to correct its. Ph. Another culture is made from heart's blood. If peritoneal fluid fails to give satisfactory result then Pneumococci are taken from culture fluid and typed again. 10% Sodium Taurocholate solution is used for identification of Pneumococci from other organisms i.e. streptococci which do not dissolve in this salt solution.

This method is much too elaborate and takes much time, hence it is that we combine the rapid method with it and when the peritoneal cavity of the mouse is opened we proceed to follow the Neufeld technique substituting the exudate from the peritoneum for specks of sputum. This eliminates the mucus which interferes with the test and also makes test more simple.

There is one difficulty which is common to all these tests and that is that when typing is needed to guide the clinician for treatment, sputum is not available and when after two or three days of the illness sputum is coughed up, the time for treatment with serum is already past. Hence our study of typing has been mostly from academic point of view and we have never derived any benefit from it in so far as treatment is concerned.

Besides typing in this way there is only one more investigation which serves useful purpose. It is the total and differential count; for we know that leucocyte count more than 20,000 white cells per cmm blood with a differential count showing more than 90% polys indicate Pneumococcus Type I infection whilst figures between 10 to 15,000 total with 80% polys goes in favour of Type II infection.

This is practically all that the laboratory undertakes to do for the clinician and I confess it is not much.

More help seems to be promised by the Radiologist with his high voltage portable

apparatus he takes the photo by an exposure only for a fraction of a minute. This eliminates the difficulty of holding breath for long which is so much impossible for the dyspnoic patient. He gives information in Lobar Pneumonia on three points:—

1. That in many cases, the earliest stage in Lobar Pneumonia is not congestion but Lobar collapse and that Lobar Pneumonia to start with may not be just Lobar but may be involving several lobes on one or both sides and it is really the initial collapse which determines as to how much of the lung is ultimately going to be the seat of the disease. This confirms the clinicians observations that at an early stage the physical signs in the chest are diffuse and changing. The presence of collapse is determined by the fact that the diaphragm on that side rises high in the chest also the vertical dimension of the intercostal spaces is diminished and lastly the heart is displaced towards the affected side.

2. That there are 2 Types of lesions distinctly distinguishable. One in which the consolidation begins near the hilum and then spreads fan wise towards the periphery. This is the type which confirms the experimental findings of Blake and Cecil who found that the infection occurs through the bronchi near the hilum and the subsequent spread is rapid through the lymphatics in the interstitium towards the periphery. Septicaemia comes on six to ten hours later when practically the whole lobe has been involved. This happens in Type I and Type II infections. In another set of cases the consolidation begins at the periphery and then creeps towards the hilum. In these cases septicaemia comes on earlier and the disease seems to come through the blood stream. This occurs in the Type III and IV infection. In either case however, the infection reaches the alveoli from out side and not through lumen as is the case in influenza Pneumonia.

3. That Hilar glands swell up when the disease gets into the stage of resolution and if the glands are already calcified the possibility of delayed resolution should be expected. In the last case the products of disintegration and autolysis from fibrin, organisms and leucocytes dead and dying fail to be drained away.

All of these three facts especially No. 2 which gives some indication of the type of

organism can be of great help for treatment. Also as collapse determines the extent of disease, if it may be prevented wholly or partially by early inhalation of 5% Co. 2 which increases the depth of inspiration, the disease will be much more limited.

Both the clinical pathologist and the radiologist are only collaborators and whilst sometimes their help is a great boon as often they fail to offer any assistance and then the clinician has to bear his responsibilities unshared. Due to such uncertainties it has now been made possible after a very extensive study of statistics to find out the type of infecting organism merely by clinical findings and this is of importance for those in the profession who work in the Rural areas and cannot avail of elaborate methods of examination and for those patients also who cannot afford the expenses so incurred.

It has been confirmed that whilst Type 1 and 2 mainly affects people in the 2nd to 4th decade, Type III usually takes up older individuals especially those who already suffered from chronic Bronchitis with emphysema. Childhood is the favourite age for group IV infection, and hence usually the mortality is low.

Again Type I gives asthenic reaction i.e. high temperature 103 or more, full bounding comparatively slow pulse, rapid respiration, moist skin, florid appearance of the face and great restlessness with high leucocyte count, Type II gives asthenic reaction i.e. temperature up to 102 or so, small rapid pulse, rapid respiration dry skin listlessness, patient lies absolutely quiet there may be delirium, leucocyte count is low.

These two reactions are of fundamental importance. Their recognition is enough for the serum treatment to be exhibited.

So much for the diagnoses, next we pass on to the treatment:—

For treatment I need hardly emphasise the importance of rest fresh air and feeding for, in such a self limiting disease as Lobar Pneumonia nothing more may be required and in spite of all the investigations many patients do get well merely on diaphoretic mixture and good nursing.

In addition to this, cough, pain and restlessness needs to be relieved when troublesome by sedatives, like codeine, chloral and bromide etc.

Besides this, the treatment of Pneumonia involves

1. Treatment of anoxemia
2. " " Circulatory failure.
3. " " Toxaemia.

An anoxemia is certainly the most important feature of Lobar Pneumonia. Whether it is due to disturbed, Herring Brower reflex of respiration caused by irritability of the vagus which is more probable or due to impermeation of 92 from the air and Co. 2 from blood due to the swollen alveolar wall. There is less probable because lack of circulation in the consolidated area is due to too rapid breathing disallowing proper ventilation, the result is that reduced haemoglobin forms and this when it gets to be more than 5 grams per 100 C. C. blood causes cyanosis. Hence clinically anoxemia is detectable by the cyanotic tinge of the skin, mucous membranes and nails and the more marked it is the more in quantity is the reduced Haemoglobin, in blood. Therefore we should be on the look out for cyanoses and exhibit oxygen by catheter or bifurcated tube method immediately.

This is true and is useful for cases who possess full quota of haemoglobin i.e. 15 grams per 100 C. C. blood. In them if 5 grams haemoglobin circulates as reduced Hb, they yet can live well on 10 grams oxygenated Hb especially when Oxygen is also given to remove even this amount of reduced Hb by oxygenating it.

To wait for cyanosis to administer oxygen i.e. till at least 5 grams reduced Hb forms is bound to be fatal for those cases in whom the total amounts of Hb circulating in blood is 10 grams or less, the rest being destroyed by the infection.

In them if 5 grams becomes reduced Hb, only 5 gm or less remains to supply oxygen need of the body and the result is that if oxygen is given when cyanosis has developed the patient may fail to show improvement because of permanent tissue damage due to prolonged anoxemia. Last of all, in patients who are anæmic due to some other disease or become markedly anæmic during the Pneumonic infection i.e. in patients who have total Hb 5 gm in blood they can never develop cyanosis for they die due to lack of oxy. Hb long before 5 gm of reduced Hb forms to give the blue tinge.

These are the fallacies in waiting for cyanosis in cases of Lobar Pneumonia with anoxemia. The rational procedure will be to find out total quantity of Hb per 100 C.C. blood by such an instrument as Glucohæmoglobinometer and also the quantity of reduced Hb by Barcroft's blood gas apparatus both these instruments though complicated at the first appearance are quite easy to work with when used a few times. In this way oxygen should be exhibited when either the total Hb reduces in amount or reduced Hb increases above the safe limit i. e. about the ratio of 1:4.

In this way we will find that oxygen treatment will be required early in many cases and if this rule is adhered to we will no more hear as I once heard from a final year student that when oxygen is advised in Lobar Pneumonia, the patient almost never survives.

Another fact in the treatment of Lobar Pneumonia is the treatment of circulatory failure. Such a failure in Lobar Pneumonia is due to three causes (1) due to toxic damage of medullary centres. This is a failure with normal rhythm and is associated with failure of Respiratory centre giving rise to abnormal types of breathing such as Cheyne Stokes breathing etc. The treatment is to reduce toxæmia by serum treatment soon to be described or giving strychnine which seems to facilitate reflexes and hence can perpetuate function of cardiac and respiratory centres of breathing even though under toxic influence.

The second failure is due to toxic myocarditis. The best treatment for this is complete rest removal of Toxæmia with serum and good nourishment specially glucose. Occasionally when damage is not much Caffein may help. Blood letting is often of great service for temporary relief. Digitalis is useful only if abnormal rhythm especially fibrillation sets in, otherwise its action to improve the tone of the heart is not of much avail. Prophylactic use of digitalis i. e. digitalizing heart within 24 to 48 hours in the beginning of the disease was very much applauded for some time with the understanding that as prophylactic use of anti-tetanic serum does not permit effect of tetanic toxin the former having been taken up by the cells so digitalis too when it gets into the heart muscle does not permit toxic damage with Pneumococcal toxin. Much of

it is alluring because of it being a novelty. Although experimentally in rabbits it has worked to some extent, in man much beneficial effect has not been detected.

The 3rd and perhaps the most frequent type of circulatory failure is when the capillary damage occurs and the capillaries allow the blood to collect and stagnate in them. Like the myocardial failure the blood pressure falls. Cyanosis appears and possibly oedema of dependant parts may be present although liver enlargement is not found. It can be distinguished from myocardial failure only by one test. We have employed it successfully in more than 10 cases by now and hence can confidently recommend it for the use of the clinician by the bed side. The only thing which stands in the way is when the pigment of the skin is very dark. The test is as follows:-

Through a drop of Adrenalin 1:1000 placed on the flexor aspect of the forearm cleaned with spirit, the skin is scarified as we scarify in vaccination. Within about two or three minutes a pale hallow of about $\frac{1}{2}$ " diameter appears at the spot due to contraction of capillaries. Then apply the cuff of the sphygmometer to the arm. The pressure gradually raised to 100 mm or so. We have found in normal healthy students that at this pressure within about two or three minutes the pallor caused by adrenaline disappears. It means that the capillaries have done enough to resist only so much venous engorgement.

In Pneumonic patients in whom the capillaries are damaged either due to toxæmia or due to high surface temperature the capillaries open up at 80, 60 or 40 mm Hg pressure depending on the amount of damage. Any value below 40 mm Hg is practically hopeless and the capillary failure at this stage do not react to any treatment. Pituitrin and cold and hot sponging is the best treatment at this stage. Transfusion of blood is of transitory help. Regarding camphor and cardiazol, although much applauded by clinicians claiming that they are very good for capillary damage their action as yet remains doubtful. Personally I am not a supporter of their beneficial effect. Regarding drugs such as Icoral and Lobeine in cases of respiratory centre and cardiovascular centre failure, I have a very meagre experience. In a single case in which it was used for respiratory

failure of this type, the patient did not show any improvement. Alcohol is best indicated for alcoholics, but it may be given to any Pneumonic patient with advantage specially if given in adequate doses depending upon the age of the individual

Regarding treatment with Saline infusions rectal subcutaneous and intravenous, much cannot be expected from them, for, they in a short time get excreted per urine and do not afford any real and lasting help except when given at frequent intervals.

The last item in this discourse is treatment of Toxæmia with sera and vaccines. Every case in adults which by clinical features above emphasised can be typed should be given the advantage of homologous serum 10,000 units straight away and repeated till improvement sets in. If typing can be done or radiology helps all the more better.

There is one point of interest regarding the stoppage of treatment with serum. From the polysaccharide of the capsules of Pneumococci upon which the specificity of organism depends, as this polysaccharide is passed in urine or obtained from culture, a soluble sensitizing substance is prepared. If given intra dermally this substance produces local reaction in patients who possess good resistance to disease. Hence it is that so long as this reaction remains negative serum must be pushed on. We have no experience of this test and hence cannot give any details of it.

Regarding vaccines too I have little to say. It is claimed that vaccine prepared from organisms with capsule on, is most effective. My experience is limited to immunogens which I make use of with antistreptococcal serum. Pot-Iodide in prolonged cases of delayed resolution gave us satisfactory results.

Lord of the University of Harvard claims that the crisis in Pneumonia is determined by the rapid immunity produced in this disease, also possibly, by the formation of ferments which kill pneumococci but much more because of the acid reaction produced locally by the destruction of tissues and organism. That pneumococci are very sensitive to Ph of the medium is doubtlessly true and if we could by some means change the local reaction the crisis will come very early.

This can be achieved either by drugs which are excreted in the lungs and produce acid reaction there like those substances which when given by mouth change the Ph of urine because of their excretion by the kidneys, or follow nature's way by radiation therapy hastening autolysis of tissues thereby bringing about the desired result. This may prove to be the line of treatment for this disease in the near future.

This is briefly the story of Lobar Pneumonia as I can visualize it. The story is certainly interesting from the investigators point of view, but the patient who plays the hero in this disease undertake a risky adventure and in spite of medical help he may have to fight hard with all the resources at his command to ensure safety. Danger of destruction is as much as 20 to 30% depending on the type of infection without serum treatment.

URINARY CALCULI.

By

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Urinary calculi occur very commonly in our province, the Punjab. They are commoner in the Southern, Western and the South-Western districts, though by no means uncommon in the remaining districts. Many cases are imported from the neighbouring lands of Baluchistan. Bahawalpur state, Sindh, Bikaner state and the N. W. F. Province. It is well known that these parts are dry, hot, sunny and lacking in a plentiful supply of vegetables and fruits and even water. The staple food of the people are wheat, barley, bajra and millet. They are poorer in these districts than in the remaining greener lands. They have to sweat hard to make a living. This is in full accord with the observations made in other countries, and we can deduce the following points as regards the causation of stone.

(1) The diet is deficient in Vitamin A.

(2) The patient has been having a copious elimination of water by the skin, so that urine is generally scanty and high coloured, therefore less capable of holding large quantities of crystalline salts in solution or suspension.

(3) Generally there has been a mild or moderately severe catarrhal inflammation of the urinary tubules and passages, with shedding of flakes of epithelium, which forms the starting point of the stone. This inflammation is favoured by the deficiency of vitamin A in the diet. The microorganisms blamed chiefly for this are staphylococci, streptococci (special strains) and *Bacillus Proteus Ammonii*. These microorganisms start the mischief by shedding off flakes of epithelium but continue the "good work" by splitting up urea to produce triple phosphates.

(4) Not only this, but the process is favoured by the upsetting of the balance between crystalloids and colloids in the concentrated urine. The smaller and poorer the amount of colloids in urine, the fewer crystalloids can it hold in suspension or solution. So, that, these latter get deposited on to a nucleus formed either by a flake of epithelium or a clump of micro-organisms, and the stone begins to grow. It is noteworthy that the crystals are changed into amorphous granules as they are incorporated into the stone. This change is the hand-work of infecting micro-organisms. The process has been verified by experiments on dogs. I will pass over these experiments for want of space. The amorphous granules are held together by colloid materials which must be different in quality to those that help to keep the urinary ingredients in solution so that the vitiation of the urinary colloids is a very important factor in the formation of the stone. It is probable that the deficiency of vitamin A, excess of cereals in the food, hypothyroidism and hyperparathyroidism and the action of the so called stone-forming micro-organisms named above have a lot to do with this vitiation of colloids. The consistency of the stone depends upon the proportion of these small granules to these colloids and the state of their being packed together.

(5) In hyperparathyroidism the blood calcium increases and there is a tendency for it to be deposited in the form of calculi. It was noticed by some observers that cases of fractures got urinary calculi. Later it was found that stone formation was really due to immobilisation and occurred not only in immobilisation for fractures but even in immobilisation for surgical tuberculosis say caries of spine. It is noticed in Skiagrams that bones of immobilised parts lose their

calcium, which goes in solution in blood and is diverted to the formation of calculi. This happens in rickets and osteomalacia also.

(6) It has recently been suggested that hypervitaminosis D also helps in the formation of calculi.

Besides the climate there is recognised a family diathesis for urinary stones. It may be something in the constitution itself, but more probable is that habits, food, work and living conditions determine this diathesis.

KINDS OF STONES

Renal stones are generally made up of uric acid, urates or oxalates. These stones generally occur in acid urine. Pure Uric Acid and Xanthin stones are rare. Just as there is rhythmic deposition of geological strata, a rhythm is found in the deposition of the particles of renal calculi, hence the lamination of most stones. But that striking lamination which is visible to the naked eye is the result of changing phases of the state of urine. When urine becomes alkaline due to decomposition, a stratum of phosphatic deposit is added. When it changes to acid again on relief of inflammation there is a layer of urates or oxalates deposited. Urate stones are smooth, oxalate stones are rough due to the spiky nature of oxalate crystals. A renal stone may be formed in the parenchyma when it begins and grows in one of the urinary tubules. Or it may be passed from the tubule into one of the calyces and grow there. It may be single or multiple. When it grows in a calyx or the pelvis it may gradually from a cast of the pelvis with branches occupying the calyces, a so called branched calculus. Ureteric calculi are mostly those that have formed in the kidney and descended into the ureter. They range in size from a minute irregular concretion to a date-stone-shaped calculus with a rough or smooth surface having its larger diameter upto 2 cms. A ureteric calculus may be formed *de novo* in the ureter by deposition on a kink, behind a stricture on a suture left there in a previous operation. Multiple stones may be found in a ureter. In this case they become faceted and the ureter dilates to unbelievable magnitudes. The biggest ureteric calculus that I have come across was equal to a walnut in size, impacted in the intramural part of the ureter and bulging into the

bladder, but covered by its mucous membrane, so that it appeared a vesical calculus in a skiagram, but was not visible on cystoscopy.

A vesical calculus may be single or multiple, smooth or rough. In the latter case it is generally discoloured by blood deposited on it. It may be round, oval or discoid. It may be hourglass shaped when part of it is in the bladder and the other part in prostatic urethra. It may be irregular in shape if part of it is lodged in a diverticulum and the rest projects into the cavity of the bladder. As regards composition. Calcium oxalate, urate, phosphate, carbonate or mixed stones are met with, very often laminated or mixed. A foreign body, flake of mucus or a clump of micro organisms may be the nucleus of the stone.

Prostatic calculi are divided into 3 classes. (1) Corpora amylacea encrusted with urinary deposits. (2) Calculus in prostatic urethra (3). Calculus in a diverticulum of the prostatic urethra. Corpora amylacea are not urinary in nature and are scattered about in the substance of the gland and generally associated with enlarged prostate or cancer of the gland. Calculus in diverticulum is generally primary. Calculus in prostatic urethra is generally one descended from the kidney via the ureter and bladder.

Urethral calculus is one generally descended from above. It may have been heralded by renal colic or may have come down silently. It may be lodged in any part of the urethra. In shape it is like the ureteric calculus. Sometimes it may be formed on foreign bodies.

SYMPTOMS AND SIGNS.

A renal calculus may lie in the kidney for considerable periods of time without giving rise to any symptoms. Such stones are generally large and on account of their very weight begin to cause a heaviness in the loins and on jolting may cause a bearing running down pain. The sensitive part of the kidney is the renal pelvis or capsule. So the pain is caused either by spasmodic contractions of the pelvis or by a stretching of the capsule. Irritation give rise to granulations in the renal pelvis and the stone tends to get embedded in them when these granulations are turned into fibrous tissue and envelope the stone it gets encapsulated and becomes quiescent. The

kidney is supplied by 15 small nerves derived from the 9th, 10th, 11th, 12th spinal segments and from the coeliac ganglia and aortic plexus. These nerves form a net work in Kidney substance and ganglia also are developed in them. Communications are established with the nerves of the testicles. From this we can see that the pain is felt mostly round the waist, in the lower part of abdomen, and radiates down to the genitals. On pressure pain is felt on the back in the angle between the last rib and vertebral column. Accompanying the pain there is strangury, may be haematuria and there is generally vomiting. The acute forms of the attack are caused by spasmodic contractions of the pelvis and the ureter, termed renal colic or more correctly ureteric colic. The urine is scanty and when passed may be visibly tinged with blood, or may show red blood cells microscopically. During ureteric colic, pain is felt along the back, in the hypogastric region and round the external inguinal ring. It is generally referred to the end of the penis and to testicles. There is peristalsis and antiperistalsis. With this the pain also shifts in position. A stone may descend painlessly into the bladder. It may be lodged in the ureter either at its beginning due to the lower pole of the kidney pressing upon the upper part of the ureter or at the point where the ureter crosses the common or external iliac artery, which presses the ureter from behind, or at the end of the ureter just at its entrance into the bladder. These are common sites due to their anatomical peculiarities. Otherwise the calculus may be lodged at any point along the course of the ureter. Once lodged it sets up oedema of the mucous lining and embedding of the stone is deepened. The ureter on its proximal side dilates due to pressure of urine. If there is complete block, anuria of the kidney concerned results. If there is partial block, renal function suffers proportionately and different degrees of hydronephrosis may result. Dilation of the ureter may go on to such an extent that it may attain a calibre equal to small intestines. In some cases ulceration, leading to perforation of the ureter may occur, leading to extravasation of urine in the retroperitoneal tissues, evidenced by a brawny tender swelling in the loins to one side of the vertebral column. A diverticulum may develop, which may lodge one or more ureteric calculi and a constant

dragging bearing down pain accompanies such a condition. The effect on the kidney is hydronephrosis and later on pyonephrosis. In the case mentioned above with an intramural stone in the lower end of the ureter the prominent symptom is tenesmus on defaecation and repeated desire to defæcate.

VESICAL CALCULUS: In majority of cases Calculus descends from the kidney; it may be primarily formed in the bladder. There is pain in running and jolting. There is frequent and painful micturition. Sometimes the stream stops in the middle of the act and restarts on changing posture. There may be repeated and painful micturition. Sometimes the stream stops in the middle of the act and restarts on changing posture. There may be repeated and painful micturition. There may or may not be hæmaturia, deposit of pus or crystals in the urine.

PROSTATIC AND URETHRAL CALCULI: They might have descended from the kidney or may be primary. In the former case the pain is acute and calls for immediate surgical removal of the stone. In the other case the pain is not the prominent feature, but obstruction to flow of urine goes on gradually increasing. When in the penile portion the stone is actually felt by fingers.

DIAGNOSIS: In most cases the symptoms and signs are typical and a diagnosis can fairly easily be made from them. But there are many possible sources of error. Renal colic may be confused with the following.

(1) Intestinal colic, because in most cases there is vomiting and stasis and distension of intestines, which generally precipitates the attack. There is rigidity of abdominal muscles which confuses the issues.

(2) Biliary colic is suggested in some right sided cases.

(3) Acute appendicitis is often stimulated. Stones impacted in the pelvic part of the ureter can sometimes be felt per rectum or per vaginum. A vesical calculus may also some times be felt. Microscopical examination of urine may give valuable information, but in some cases doubts are not set at rest. Presence of crystals, presence of blood or pus may or may not be due to a calculus. So the main stay of diagnosis in renal or uretric calculus is Radiography.

Since 1916 when the first stone was radiographed, tremendous strides have been made in radiography of the urinary tract. Today in a technically perfect skiagram the outline of the kidney is visible and 98% stones throw a shadow on the film. The existence of the remaining 2% is also beginning to be doubted by some authorities. In order to get a trustworthy skiagram it is necessary properly to prepare the patient. For two nights, previous to skiagraphy, a mild laxative (not saline) is given and if necessary an enema in the morning. For the same period the patient is given Taka diastase or liq. diastos three times a day. In case of extreme foulness of bowels charkolin may be given together with Taka diastase. All this preparation is ment to ensure freedom of intestines from gas and fermenting faecal matter or scybala. The stomach should be empty at the time of making an exposure. The skiagram shows the kidneys on each side of the vertebral column. Due to peculiarity of position the width of the kidney is shown less than the actual. The upper pole of the right kidney reaches the lower border of the 11th rib and the lower pole reaches the level of the transverse process of 3rd L.V. The left reaches the upper border of 11th rib above and of 3rd L.V. below. A renal calculus lies within these limits. But there is a possibility of a biliary calculus appearing to lie in the area of the right kidney due to overlapping. This can be differentiated by a side view of the trunk. In such a skiagram the biliary calculus will be seen to lie in an anterior plane, while a renal calculus will be overlapped by the vertebral column.

The ureter lies across the tips of the transverse processes of lumbar vertebrae and a ureteric calculus should be looked for along this line. Commonest sites are the levels of transverse process of 3rd L. V., the crest of ilium and the ischial spine. In doubtful cases cathetar, uretrography and excretion urography are brought into use. The former was much in use a few years ago, but has to a great extent been replaced by excretion urography. A sterilized ureteric cathetar is passed into the ureter of the patient through a cystoscope introduced into the bladder. An exposure is then made. The cathetar is clearly shown in the picture and any doubtful shadows can be verified as to whether they lie in the line of the ureter

or not. A 12 to 20% sterilized solution of Pot Iod or Bromide may also be injected into the pelvis of the kidney through the cathetar and an exposure made after slightly withdrawing the cathetar. This is called pyelography. The small percentage of trans-radiant stones shows as negative shadows in a pyelogram.

Excretion urography owes its origin to the discovery of certain opaque materials, which after injection intravenously are excreted into the urine. Being opaque to Xrays they outline the pelvis of the kidney, ureters bladder and to a certain extent the parenchyma of the kidney. They are sodium Tetra-Iodo or Bromo-Phenol phthalein. Their trade names are uroselectan, uroselectan B, abrodil and perabrodil. The excretion urography is useful not only for the diagnosis of doubtful and trans-radiant stones, malformations of ureters and kidneys, cysts, tumours; or granulomas of the kidneys, but also for the estimation of the renal function. Normally it takes 15 minutes for the opaque material to appear in the kidney, but when renal function is impaired it may take $\frac{1}{2}$ hour to several hours to do so. This length of time gives a clear idea of the functional capacity of the kidney. So it is now becoming a routine procedure to make an excretion pyelogram before operation on any part of the urinary tract.

Vesical calculi are shown in simple skiagrams and by studying skiagrams taken in different positions and on different occasions it can be ascertained whether a stone is free or excysted. Examination with the cystoscope is resorted to when there are doubts as to the Xray diagnosis of the stone. The colour, size, position, contour, whether excysted or not, the state of the mucous membrane of the bladder, whether fasciculated or diaverticulated, all these points can be ascertained.

Skiagraphy of urethra is done after injections of lipiodol or a 12% solution of Pot Iod in it. It gives information about stones, diverticula, foreign bodies strictures etc. observations on the fluorescent screens in a dark room is enough to give all information in some cases. Ureteric calculi have been seen moving up and down in some cases and thus elusive stones have been detected.

TREATMENT. Medical treatment should be given a fair trial in cases of renal and

ureteric calculi of small size, less than 2 cms. in diameter. Saline diuretics accompanied by antispasmodics are the mainstay. Large doses of alkalies and citrates given. Belladonna, hyoseyamus and ammi visnaga and such antispasmodics are combined with them. The latter is superior to all. 30 ccs. of 1 in 40 decoction or 5 ccs. of 1 in 10 tincture of the herb are given 3 or 4 times in the day. Next in efficiency is belladonna; upto one grain of the extract may be given 3 times in the day. Morphia is the worst drug indicated. It doubtlessly allays the colic, but at the same time immobilizes the stone and delays its expulsion, and what is worst, leads to habit formation. Hot hip and abdominal bath and diathermy greatly aid in the expulsion of calculi. They act by relaxing the ureters and lessening the peristalsis. Another measure is the introduction of a ureteric cathetar and leaving it in for 48 hours. This dilates and relaxes the ureter and when it is withdrawn the stone is gradually passed out. When all these measures fail surgery is resorted to.

Lavage of the bladder with weak acid solution may be mentioned. It has been used by some workers. Obviously it will take a long time to dissolve away the calculus and much patience is required on the part of both the patient and the doctor. At first week solution say 1 in 2000 of hydrochloric acid and later in 250 is used.

I have no time to go into the details of the surgical operations required to deal with urinary calculi in different positions. Suffice it to say that early diagnosis and a fair trial of the non-operative measures, is essential. When no improvement or dislodgment of stone is noticed it is necessary to remove it. For early cases nephrectomy, or better still pyelotomy should be done; for late cases nephrectomy is best if recurrence is to be avoided. The latest stunt is to skiagraph the kidney as it lies on the loins to make sure that all the stones have been removed. The trans-pertoneal route is seldom used for nephrolithotomy as it is fraught with dangers to the patient.

For calculus anuria, nephroctomy is the only resort; uretrotomy has to be done for ureteric calculi.

For vesical calculi litholopexy and suprapubic cystotomy are the two operations and have their proper places in the scheme of things.

In case of primary prostatic calculi, the best thing is prostatectomy. But stones that have descended from above must be pushed back into the bladder and there dealt with by litholopexy. Stones in diverticula have to be dissected out together with the diverticulum.

In the end I may say that some such panacea is badly awaited by the lay public, which would disintegrate the stone when taken by the mouth. The chemical should be such as would destroy the cohesion of the colloids that hold the salts together to form the stone. Colloid Chemistry of the future may solve this problem for us some day.

Unscrupulous persons trade upon credulous patients. Once I was actually shown a handful of pieces of stone by a dupe who thought the medicine given to him by a sanyasi had crushed his stone and expelled it. These were stories picked from the street. Subsequent skiagram dissillusioned him.

Abstracts

A GENERAL CONSIDERATION OF THE DEFICIENCY DISEASES.*

M. A. BLANKENHORN, M. D., CINCINNATI, OHIO.

For my introduction to the Academy of Medicine in Cincinnati and to introduce a subject so extensive as *deficiency diseases* I prefer to generalize and to speak mainly of some of the elementary principles involved. After one surveys the field in detail, there are *not* many general principles and, indeed, *very few rules*. There is a considerable volume of fact and a wealth of experimental detail all more or less connected but certainly no system. This is quite in contrast to our knowledge of nutrition in its positive phases where physiologists have established the scientific facts which become in time the fundamental principles of medicine. Considering the vitamins, this is particularly true that no one has been able to put them into any kind of order or system. The first attempt at this is shown in the name vitamin, a term proposed by Casimer Funk because he believed that his newly discovered accessory food factors were amino acids. By common consent a few years ago

the spelling was changed by dropping the terminal "e" in order to get away from the apparent misnomer for none of them are amines. Now with newer knowledge, especially the chemical isolation of two of the vitamins, possibly a third and a fourth, the exact physiology of these substances, as well as the pathology of the diseases which are associated with them develops. And with this development we hope to see some system. It is necessary to systematize our knowledge in order to say that it is really scientific. This hope to see in the near future a definite practical science may not be well founded. This hope may be only wishful thinking rather than intelligent prophesy. I think we have all been more or less disappointed in endocrinology which a few years ago gave so much hope of becoming a well ordered science. For this consideration I am not restricting myself to vitamin deficiencies alone but do include some of the newer developments in mineral deficiencies as well, for they are intimately bound up with the vitamins.

Let us therefore consider some of the definite principles of the deficiency diseases as we now see them. Certainly the first to be mentioned is that well known fact that the greater variety of the diet, the less danger of a deficiency disease. This is axiomatic but our acceptance of the fact has not been as generally applied as it might be; that is to say, many of the doubtful deficiency diseases are not studied with this point in prominent view. It is also axiomatic that in luxuriant civilization there is usually found the greatest variety in the diet but this axiom does not take into account the individual who because of fads, foibles of foolishness does not indulge in the diets which his luxuriant surroundings permit. This statement is another way of emphasizing the necessity of examining the food habits of our patients, especially going into detail with those which present obscure illness or even commoner illness which have the semblance of classic vitamin deficiencies.

Another rule which is almost as axiomatic as those I have just mentioned is that poverty and custom are the most potent strictures on the selection of the diet. This fact seems hard to recognize because society is unwilling to acknowledge its poverty, particularly when poverty cannot be helped

without revolutionary changes in a distribution of population or in the distribution of wealth. Public health experts and food administrators recognize this fact quite well, as they try to correct the deficiency diseases in this country and especially in more crowded countries. It is remarkable how unlikely we are to see in our own immediate surroundings the effects of poverty and custom in producing the deficiency diseases. Only recently has it been shown that chronic anemia of women in Scottish industrial towns as Aberdeen, Leeds and Glasgow is due mostly to the low iron content of the diet which is imposed on them by poverty and custom. Davidson has proved conclusively that the diet of tea, bread and margarin, which is the diet of the factory worker, is low in iron and that the addition of meat and vegetables or proper iron medication corrects anemia. Custom is as enslaving as poverty, especially if illiteracy accompanies poverty, which it usually does. This is particularly seen in Asia, where beri beri is a public health problem due to the invariable custom of demanding highly polished rice. Here, regardless of sumptuary laws against polished rice and high tax on polished rice as well as a campaign of education and a scheme of distributing rice polishings as an antidote, in spite of all this beri beri continues to be a common disabling disease. In well controlled populations, such as in military and labor camps, beri beri is negligible because the authority of the law overcomes the fixed customs in so far as food is concerned, and under such compulsion the Asiatic eats unpolished rice whether he likes it or not. But he keeps his health.

Another principle is that appetite is not a satisfactory regulator of the accessory food factors. Experimentally, it is shown that animals under extreme starvation will eat anything and will, in diet experiments, select the things to provide a well rounded diabetes and in our own population obesity, diet, but in wasting conditions where appetite is distorted, serious deficiencies may result. There seems to be no direct relation between the need for accessory food factors and appetite.

Another principle is that lopsided diets require more accessory factors than do well balanced diets. In rice eating countries, when other carbohydrates such as refined flour equally poor in vitamin B are substi-

tuted for rice, beri beri is not so prevalent. It would appear that a diet of highly polished rice requires a greater amount of vitamin to neutralize some toxic principle than may be necessary when other carbohydrates are given. This explains in part why diets of refined flour, which contain no more vitamin than does polished rice, are rarely associated with beri beri. This effect of lopsided diets is probably a factor in pellagra, which disease is usually associated with corn. It would appear that the corn diet must in some way be detoxicated by the vitamin which is unfortunately scanty when corn is the main diet. This same detoxicating effect is apparent in polyneuritis of fowls produced experimentally. In this experiment it is quite obvious that starvation does not cause the neuritis because fowls completely starved will live without developing neuritis for the same length of time which is required to develop neuritis on a rice diet. In other words, eating polished rice causes neuritis, whereas starvation for a similar time does not. This matter of lopsided diet may not be a rule, but some factor is present that makes the specific antidoting with known amounts of vitamin a very difficult task.

Another principle and a very important one is that deficiencies occurring spontaneously in adults are rarely single, i. e., poor diets are generally poor in many ways. Not knowing this fact, has led to a great deal of discord in the clinic. We see nutritional experts who, for the purpose of establishing a deficiency disease in animals comparable to similar conditions in man, impose on their animals a highly artificial situation. This is necessary for proper control and for scientific precision so that it can be said that only one single thing is wanting from the diet. In no other way could the existence of a vitamin be proved. But such diets never occur in nature. In the laboratory the greatest difficulty comes from the fact that complex substances are in the diet, and in the clinic difficulty comes from the fact that complex substances are absent from the diet. The multiple nature of deficiency diseases is not fully recognized in the text book descriptions of disease occurring spontaneously in man. In most books it is admitted that in beri beri the low protein content of the diet is in part, perhaps largely, responsible for the edema which is so common to the disease. Also

* Read at a meeting of The Academy of Medicine of Cincinnati, October 8, 1935.

in adult scurvy as seen among war prisoners and war refugees low protein and low iron and low vitamin A are present in addition to the low vitamin C which causes the scurvy. A few years ago when liver extract was first used in the treatment of pernicious anemia, it was pointed out that pernicious anemia was probably related to sprue, as well as at times similar to pellagra with multiple neuritis. This idea that the sore tongue might be one type of deficiency, diarrhoea still another and the degeneration of the nervous system still a third, is a concept of the disease, distinctly helpful in understanding the disease. On the other hand the tendency to be scientifically accurate in the description of the disease hampers our progress in several ways. We are habitually unwilling to see that a patient with pernicious anemia had a touch of sprue, pellagra and beri beri as well. I think pediatricians have got over this scientific bias in their dealing with some of their nutritional problems; for instance, coeliac disease is now regarded as a mixture of rickets, and lack of vitamin A which disturbs the linings of the intestine, the lack of vitamin B₁, which affects the nervous system, together with a dash of scurvy. I think I am just as unwilling as any to indulge in the loose use of words or any fanciful mixing of disease. I know very well how it sounds to speak of mixed infectious disease; e. g. scarlet fever complicated with small-pox and then a touch of measles. But the facts are that just such mixtures develop in persistent and profound nutrition diseases. As examples I can mention the chronic diarrhoeas, as in ulcerative colitis, and the wasting which accompanies cancer and tuberculosis as well as pellagra. It is proper for accurate classification and vital statistics to keep our disease entities clear but it is distinctly useful for treatment to recognize the multiple nature of deficiencies. The fact that deficiencies are usually multiple is very important in the recognition and treatment of obscure diseases associated with weight loss.

Another rule is that there are variable and individual dietary requirements. Pregnancy is the best example of this. Pregnancy puts an unusual demand on the calcium stores, and lactation following pregnancy exaggerates this demand. Consequently we see disorders of bone, of teeth, as well as tetany, in pregnant individuals. Pregnancy with vomiting is regarded not as a disease

but as a misfortune, but with this double drain on the vitamin store, deficiencies do indeed occur. A recent contribution to our knowledge is a disease, not yet named, in which a serious want of vitamin B is described in vomiting of pregnancy, which results in disabling peripheral neuritis and even psychoses. This is often associated with rapid heart and edema quite like beri beri (but since it occurs here and not in Asia we do not call it beri beri). This view of neuritis of pregnancy is in contrast to the view that pregnancy causes intoxication of the nerves. However, treatment of the condition with liver extract and yeast is highly successful without interrupting the pregnancy. There is also contrast of opinion in some of the other phases of the toxemia of pregnancy. It has been proposed that the water retention, the elevated blood pressure and the convulsion are due to protein deficiency and not to a toxemia. With more study this conflict of opinion will settle the point as to whether toxemia of pregnancy is an intoxication or starvation. Certainly no poison has ever been discovered and the element of starvation is most likely. Because of the peculiar or capricious appetite, the unwillingness to gain weight, the vomiting and sometimes the actual withholding of protein from the diet, starvation is most likely.

Such retrospect as one can indulge in by reading old descriptions of disease shows that the struggle to understand scurvy and beri beri was complicated by doubts as to whether such a disease was a poisoning or whether it was starvation.

Another general principle is that deficiencies may become malignant, that is, that the injury resulting from partial starvation may go so far as to be incurable. This principle is seen in complete fasting where life is shown by mental behaviour and by circulation or respiration to be quite vigorous but, nevertheless, even though the fast be broken, permanent damage is done, so that the individual dies. Severe rickets may be incurable even though a remedy is given; scurvy as well when it is complicated with infection. It is well known that in pernicious anemia liver extract is not effective and that in diabetes insulin is ineffectual in the presence of a severe infection. This same principle must be recognized in the treatment of deficiency diseases.

Another rule, quite the opposite of the

one just stated, is that deficiencies have natural remissions regardless of the diet. This rule is perhaps not valid but it can be made a perfectly good rule by saying that deficiencies have natural remissions regardless of any apparent change in the diet. Certainly it is true in the case of rickets or else there would be more deaths and deformities as a result. It is, of course, true that in rickets the turn of the season may increase the sunlight and therefore increase the ability of the child to synthesize his own anti-rachitic substance and thus cause a remission. There is also another factor, namely, the retarded growth of the child decreases the demand for the anti-rachitic substance. In any event many children pass through a cycle of symptomatic rickets going on to recovery without obvious change in the diet. In Pellagra the seasonal recurrence and remission of the disease are well known as well as the chronic nature of the disease. These cycles have never been clearly correlated with the diet, which has led to a great deal of confusion. My colleague and I have seen pellagra patients pass through cycles which go on to a definite healing of the skin lesions on a diet which, if continued long enough, would produce the disease. Apparently the pellagrin, after he reaches a certain stage of his disease, calls forth resources to combat the disease which are independent of the intake of the pellagra preventing substance. It is, of course, well known that in certain species of animal and certain vitamins the individual is not solely dependent on intake. This leads us to another rule.

Various organs are concerned with the synthesis and the storage of the vitamins. As a class, the vitamin substances appear in nature as provitamins found in the vegetable kingdom. These, when eaten by animals are available as accessory diet factors. In the rat, apparently vitamin C is not necessary for health. The animal cannot be made to develop scurvy, yet his organs when fed to other animals that do develop scurvy will prevent the disease, that is to say, the rat is able without vitamin C intake to build up his own vitamin C substance. It has been shown that the cat does not convert carotene into vitamin A, whereas many animals do. In other animals and by inference in man various organs are concerned in this synthesis. The liver is especially important. Nutritional experts go back in their literature to

Egyptian papyri to prove the point. Now it is known that night blindness is due to lack of vitamin A found in the livers of the cod, halibut and other animals. In the Egyptian papyri the liver of various animals is prescribed as a cure for night blindness. This, of course, has led to the use of liver extract for the treatment of complex vitamin deficiencies, because liver can be given intravenously or intramuscularly.

Ventriculin is known to contain a pellagra preventing substance. Liver disease in man, such as chronic phases of Laennec's cirrhosis, are associated with dermatitis, anemia and hemorrhages that resemble scurvy. This is also true in some of the phases of subacute atrophy of the liver which are improved by injections of the liver extract. The skeletal muscle and kidney contain vitamin C as well as the extrinsic factor necessary for the maturation of the red cells, which latter may or may not be a vitamin. Systemic disease which implicates the liver and the skeletal muscles may, by interfering with the synthesis of vitamin, greatly increase the demand for the provitamin.

These generalizations or rules find application in all of the classic types of deficiency disease common to adults especially in scurvy, beri beri and pellagra.

I will not enlarge on the text book description on these classic forms except to name some of the recent advances which are not yet incorporated in these descriptions. Perhaps the most important are the chemical isolation of carotin which is the precursor of vitamin A and the isolation of ascorbic acid, which is the vitamin of scurvy and the probable isolation of vitamin B₁, which is the antineuritic factor found in yeast and, of course, the well known isolation of irradiated ergosterol. The new impetus given to our knowledge and our interests in deficiency disease arises from these discoveries. In due time our bedside skill will be reinforced by chemical and perhaps physiological tests which will assay our patient for his supply and his demand of these substances. As yet, no generalization, in addition to the things I have discussed, has appeared but it is in this direction that development will come. It is my purpose to renew your interest in this direction of medical advance because I believe that to date most of us have been appalled by the rapid discovery of a multiplicity of vitamins

which straightway offer us a treatment for our patients. In retrospect it is interesting to see how the growth promoting vitamin has entirely disappeared by better knowledge of vitamin A and the relation of carotin to the same. On the other hand, it is dismaying as well as discouraging to be pressed by vitamin fats from the pharmaceutical houses, that is, to give our patients a vitamin pill which contains everything. Very recently an editorial in the *J. A. M. A.* gave a discussion of that variety of polypharmacy. However, I do not feel that the writer of that editorial has a proper regard for the multiple nature of vitamin deficiencies. If I would advocate any practical application of this newer knowledge it would be to wait for more lucid information on just what these chemical substances do to our patients and just what are the indications before we prescribe. There may be many incompatibles in this vitamin polypharmacy,—to say nothing about the objections that come from costs. The cost of extracting and concentrating these substances is very great, when they are to be purified. The cost of raw materials as pro-vitamin in food is not great. It is not expensive to prescribe diet, but it is important to know the vitamin value of diets.

In summary the following pertinent facts should now be restated. These facts are important enough to be called rules:

1. The greater the variety of the diet, the less the danger of deficiencies.
2. Poverty and custom are the commonest causes of restriction of diet.
3. Appetite is not a safe guide.
4. "Lopsided" diets require more vitamin than do well balanced diets.
5. Deficiencies occurring in adults are generally multiple.
6. There are individual peculiarities in diet requirements.
7. Deficiency diseases may become malignant.
8. Deficiency diseases have natural remissions regardless of any apparent change in diet.
9. Various organs are concerned in the synthesis of provitamin into vitamin and in the storage of the same. Liver and muscle are most important.

These additional points should be added although not in the order of rules.

Vitamin polypharmacy is necessary because of the multiple nature of deficiency

diseases. Because of costs and possible incompatibles, concentrated substances should not be indiscriminately mixed. Provitamin of a diet intelligently selected is the method of choice.

(*The Journal of Medicine*, May, 1936.)

Notes on Therapeutics, Diagnosis and other Medical Subjects.

The Treatment of Circulatory Failure.

For many years it has been taught that in infectious fevers, when the pulse becomes rapid and tends to be thready and the heart sounds become muffled, the heart is failing. But as long ago as 1899 Romberg and Pæssler showed in animal experiments that the heart does not fail even in fatal infections with the diphtheria bacillus pneumococcus and streptococcus. When bacteria invade the body and set up disease, certain histamine-like substances are formed, which circulate in the blood. These produce arteriolar precapillary contraction with capillary dilatation a condition known as secondary shock. If the capillary dilatation is great enough, the animal bleeds to death into its own vessels.

The first result of any infection with bacteria is increase in the temperature, which increases the body metabolism. The pulse rate increases slightly or greatly; the blood flow is increased in order to take care of the increase in metabolism. The minute output is greater. The blood pressure may or may not be influenced but it is apt to be slightly reduced as a result of mild vasodilatation. The veins are full, return flow to the auricle is not disturbed and the circulation becomes adjusted to the abnormal conditions. This is the circulatory response to all mild or moderately severe infections, and in these cases one does not interfere by giving various drugs. The great majority of infections belong to this group.

A step further and the infection becomes severe, the pulse becomes more rapid and smaller, the blood pressure drops, the first sound at the apex of the heart becomes faint. Though these have been described by textbooks as signs of failing heart, still it is more probable that the explanation is to be looked for elsewhere than at the heart itself. The strength of a muscle contraction is dependent on the length of its fibres and the

contraction of ventricle depends on its diastolic filling namely an adequate venous return flow from the periphery. Blood in the body is not all circulating all the time; there are huge depots where great quantities of blood can stagnate and be wholly useless as a carrier of oxygen. The liver, the splanchnic area, the subcapillary capillary skin plexus, normally are the great storage areas. Under pathologic conditions the lungs can hold out a large amount of circulating blood.

When the histamine-like substances formed in severe infections produce marked dilatation of capillaries, much blood will be held out of circulation. The toxic products of bacterial action on tissue cells, cause increased capillary permeability, so that fluid exudes into the tissues and because of stasis is not reabsorbed.

This results in loss of water in the tissues and a consequent concentration of blood. It follows that venous return flow must be decreased, and the heart receives less blood to pump. In order to maintain the circulation, the heart beats rapidly to keep up the minute volume, but a less than normal amount is thrown into the aorta at every systole. The heart beats faster and faster and pulse becomes smaller and smaller. Severe parenchymatous degeneration which is largely water imbibition in the cells takes place, thus further reducing blood volume. This causes embarrassment to the heart. The heart is trying to keep up minute volume of the circulation against a dilated periphery and with less forceful beats because the ventricle is not stretched at each diastole. In fact the heart instead of dilating becomes smaller. The coronaries receive less and less blood and the recovery time for muscle nutrition becomes shortened. The amount of oxygen becomes less and less and this condition produces dilatation of the heart. As long as there is during life sufficient venous return flow, sufficient oxygen for the heart, the heart does not dilate.

The treatment of this condition theoretically may be divided into (1) postural or mechanical (2) employment of fluids intravenously and (3) employment of drugs that act on the peripheral vessels, either to constrict them or to decrease capillary permeability or both.

The author has shown that in typhoid when the pulse became rapid and of low volume, elevation of the foot of the patients'

bed was often sufficient to reduce the pulse rate and increase the volume. When the pulse became faster and smaller the author used to bandage the legs from ankles to mid-thigh. One can increase the blood volume by 1000 cc. by this procedure of bandaging the legs.

Normally a resting body loses from 2500 to 3000 cc. of fluid in 24 hours. Sweating, diarrhoea, vomiting and increased respiratory rate cause greater loss so that from 1000 to 2000 cc daily is frequently not enough to make up water loss. Therefore in such cases 10% solution of dextrose is useful. Further when the peripheral collapse is so severe that capillary permeability is increased, salt solution tends to pass out of the circulation and further to increase the tissue oedema. Dextrose does not pass out so rapidly. In cases of severe collapse 50 cc. of 50 per cent dextrose is more logical treatment than 250 cc. of 10 per cent dextrose; the latter may pass out of more permeable capillaries and increase edema of the lungs. Acacia solution has been recommended by some but recent work has shown that acacia is often harmful. Some prefer Ringer's solution to physiologic solution of sodium chloride. If there is much vomiting and diarrhoea it would be a preferable solution to use.

Of the methods to increase blood volume and to prevent transudation of fluid into the tissues, the most efficacious fluid to use is blood.

In the author's opinion, blood transfusion has no value in introducing any curative substances to combat the infection. Its sole effect is to increase the effective circulating blood volume and thus give support to the heart. The proteins of the blood keep up the osmotic pressure within the capillaries so the fluid is not so easily lost to the tissues. It dilutes the blood in circulation and reduces hemoconcentration. It prolongs the time for the body to make its own antitoxins or other immune substances.

The drug in the treatment of circulatory failure is one that will tend to increase blood volume, stimulate oxidative processes, increase phagocytosis and decrease capillary permeability. There is not such ideal drug. The author has found strychnine most valuable having used it for many years in relatively large doses from one twentieth to one fifteenth grain hypodermically every two to three hours. He recommends it very highly.

Two other drugs that are useful in constricting capillaries are epinephrine and pitressin. The former acts through the sympathetic nerves on the muscle walls of the arterioles, and its action is transient. It is most useful in sudden collapse. The latter acts on the muscle walls directly and has a more prolonged action. The effect of a hypodermic injection lasts from two and a half to three hours. It can be given in doses of 0.5 to 1cc. hypodermically every three hours and is a better peripheral stimulant.

Whenever there is cyanosis, be it in pneumonia or any other serious bacterial infection, oxygen should be given in sufficient quantity to reduce cyanosis. The nasal catheter method is to be preferred to the tent. Oxygen properly administered not only reduces cyanosis and reduces anoxemia but slows the heart, lowers the temperature and probably by reducing anoxemia in the tissues, decreases capillary permeability thus reducing transudation into the tissues.

(J. A. M. A. March 14, 1936, p. 892)

Is radium effective in the treatment of nasal polypi?

A. Radium has been advocated in the treatment of nasal polypi and no doubt it is of decided value in selected cases. It appears, however, that when used postoperatively more can be expected from this form of therapy. Ford (Wisconsin M. J. 32:824 [Dec.] 1933) emphasizes that the surgical removal of all visible polypoid material is the first important procedure, and on the thoroughness with which the polypi are removed, depends, to a large extent, the results which will be achieved. This writer points out that radium has no influence on the polypus itself, and it is this fact that has led some to the conclusion that radium is of no value in these cases. Not only must the polypi be as thoroughly removed as possible according to Ford, but the diseased bone must also be removed if at all practical. He now limits the use of radium to only those cases involving the ethmoid cells. These

are the cases which are of the recurrent proliferative type, most difficult to deal with surgically.

What is the action of epinephrine on the normal eye?

A. Epinephrine has been used in ophthalmology for various conditions, some of which have yielded to this preparation. It is of interest to those who have applied the remedy to know what the action is on the normal eye. Howell (Arch. Ophthal. 12:833 [Dec.] 1934) reported the results of his experiments to determine the action of epinephrine on the normal eye. He found that (1) in susceptible individuals systemic absorption of epinephrine from the ocular conjunctiva may give rise to a general reaction. (2) Instillation of a 2 per cent solution of epinephrine into the conjunctival sac of the normal eye usually lowers the intraocular tension within one hour. (3) Dilatation of the pupil occurs within one hour and may last 24 hours without increasing the intraocular tension. Epinephrine is a harmless mydriatic which may be used to facilitate the study of media and fundi of eyes in which atropin or its derivatives might be harmful.

(Eye, Ear, Nose and Throat Monthly, June 1936.)

Vitamin A in Ophthalmology.

Yudkin (Arch. Ophthal., Vol. 14) finds vitamin A as found in cod liver oil to be of benefit in the following ocular conditions: i.e., nutritional night blindness, blepharospasm secondary to chosoiditis and retinitis, toxic amblyopia from tobacco and alcohol, and Kerato conjunctivitis.

Retinitis pigmentosa does not show improvement, although the patients claim to see better at night. The beneficial effects of vitamin A in the above type of case is enhanced by the concurrent administration of vitamin B complex.

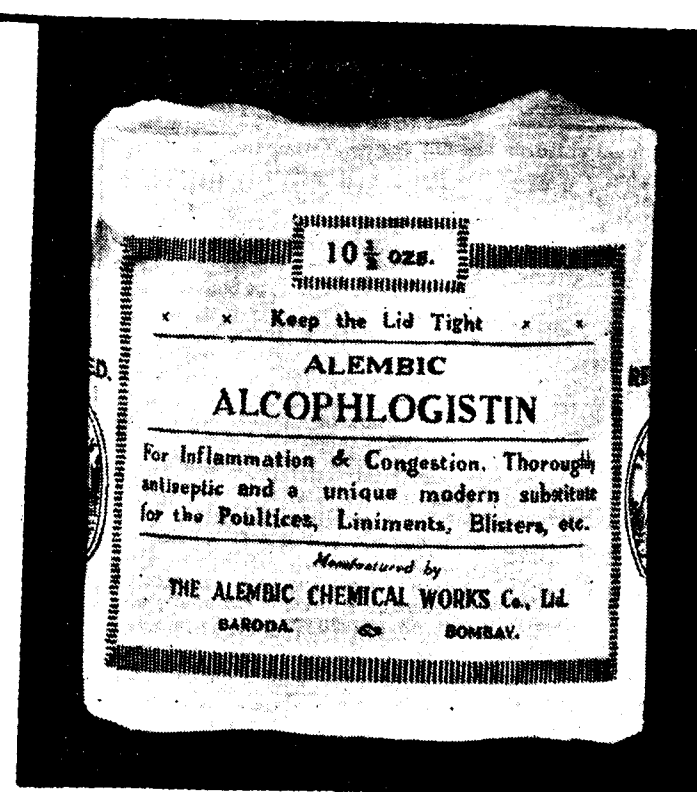
(Eye, Ear, Nose and Throat Monthly, June 1936.)

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[NO. 11

GIVE THE DOG A BAD NAME AND HANG IT.

As expressed by us in the Editorial Columns last month, our apprehensions about the notice served on the two Honorary Asst. Surgeons in the E. N. T. Department of the Government General Hospital have been proved as could be seen from the two letters appearing in the 'Madras Mail' and published in the Correspondence Columns of this issue. The Mail did good service to these two honoraries and to the Honorary System of Medical Service by publishing the two letters of the 'Medico' in its columns and by referring this subject to the Surgeon-General who in unequivocal language gave information that "the services of the two men (Hon. Asst. Surgeons) were dispensed with as they were very irregular in their attendance and as they did not pay proper attention to their duties. They were dismissed with a view to give others who were more deserving an opportunity to gain necessary experience by being appointed Honorary Asst. Surgeons." We learn that the two Hon. Asst. Surgeons have memorialised to the Government. It is also said that the two unfortunate Hon. Asst. Surgeons do not intend to pursue the matter as they hope that the Surgeon-General may reconsider his decision and reinstate them.

As The Medical Practitioner serves causes and not persons and as the system of Honorary Medical Service is likely to be ridiculed on account of individual idiosyncracies either amongst the Honoraries or amongst those who guide the destinies of the Honorary System, we have taken up this subject once again. That the Honorary System of Medical Relief, if properly conducted, is conducive to the growth of the independent medical profession as well

as to the interests of the public, cannot be questioned. That the system is a sound financial proposition to the Government cannot also be doubted. But the half-hearted way it is worked by the Government, has not so far enabled the profession nor the public to realise the benefits of this System. The procedure adopted by the Government in this case on the advice of the Surgeon-General, clearly indicates how the wind is blowing, and it looks as if the Honorary System will soon founder on a rock in the wild ocean of vested interests. As a matter of courtesy at least, the Government ought to have treated the Honoraries more leniently, even if they were found erring, than they would do in the case of salaried officers. For the sake of argument we shall concede that the information supplied to the Editor, Madras Mail by the Surgeon-General as to the causes that led him to dismiss the 'two men' is correct. May we ask the Government whether they could get at any written information from the Government General Hospital which ought to be the first and the original source of information to the Surgeon-General to take action as alleged? It is said that the Superintendent General Hospital did not complain against these honoraries either for irregular attendance or incapacity. We have yet to know if there exists any other agency to send reports to the Surgeon-General about matters concerning the General Hospital apart from the Superintendent of the hospital. The order of the Surgeon-General given publicity for the first time in the Madras Mail, is the only information to the public as well as to the aggrieved Honoraries that they have been dismissed for negligence of duty and incapacity. The proceedings of the Surgeon-General against

these honoraries seem to be as rigorous as they are unprecedented. The Honoraries have been serving in the E.N.T. Department from November 1929 and till the date of order in 1936 both the Honoraries were not found fault with by any officer or officers above them. There is no evidence to this effect excepting a sly reference in the Surgeon-General's information that "*they were dismissed with a view to give others who were more deserving an opportunity to gain the necessary experience by being appointed Honorary Assistant-Surgeons*". The humblest paid servants of the Government are entitled to demand an enquiry even for trivial mistakes before they are punished. The word 'dismissal' is certainly too harsh to be used in the case of honorary medical officers and its use without even a show of enquiry and explanation savours not only breach of usual rules of society but is likely to lower these medical practitioners in the eyes of the public. Is this a reward from the Government for the honorary service rendered by these two practitioners for a period of nine years? It is common knowledge that salaried officers of the Government are not punished at all for faults similar to those alleged to have been recently found out in these honoraries and even if found out, they are not exposed to public ridicule in the way these two honoraries have been. It is most unfortunate that there does not exist in this country an united medical profession as in other civilised countries to voice the grievances of the profession. The whole show of the medical profession is run by one man, the Surgeon-General. It will not be possible at least for some years to come for the profession to show an united front on account of the existence of castes in the medical profession. Attempts made by the independent profession to put down these castes are frustrated by vested interests in Government machinery. This is why it has been possible for the Government to throw mud into the eyes of the medical profession as well as of the public by instituting Honorary System of Medical Relief which is another Department added on to many such under the Surgeon-General. Government have been taking undue advantage of the weakness of opposition against their policy of drift and indifference towards a system, which, if properly worked, will enable them

to solve the problem of adequate medical relief to the masses without any additional financial commitments. We expected that the existing medical associations in the City would give a lead in pointing out to the Government the injustice done to the Honorary System, depending upon reports not bearing on actual facts. There are no such signs so far. We hope they will remember the dictum that God helps those that help themselves and wake up from their lethargy and indifference. In the meanwhile, the Government will do well to appoint a committee consisting of official and non-official members of the medical profession who are not interested one way or other regarding the position of the Honoraries in the State Hospitals, to go through the system of Honorary Medical Officers in the light of recent happenings, including the changes in the designation of the honoraries. As pointed out by us more than once, it is desirable that a Standing Committee consisting of the Surgeon-General and two non-official members of the medical profession, who are not themselves honoraries should be brought into existence as advisers to the Government regarding the system of Honorary Medical Officers.

News and Comments

Director-General Designate: The Medical Profession in the Madras Presidency received with joy the news that H. E. the Viceroy has selected Major-General Bradfield, Surgeon-General with the Government of Bombay to be Director-General Indian Medical Service, in succession to Major-General Sir Cuthbert Sprawson when the latter retires from service. Major-General Bradfield joined the I. M. S. in 1903 and after serving in the army till 1908 was recruited to the Civil Medical Department. He was appointed Professor of Surgery, Madras Medical College in 1924 and in addition held the office of the Superintendent General Hospital, Madras from 1926. He was reverted to military employ in 1931 and served as an Assistant-Director Indian Medical service. He was appointed as the Surgeon General with the Government of Bombay in 1935. Major-General Bradfield is the fourth officer of the I. M. S. who served the major portion of his service in Madras and who has been selected to the

highest position in the Indian Medical Service to be the adviser of H. E. the Viceroy. The Medical Profession in the Madras Presidency is proud that four officers belonging to the I. M. S. have been successively chosen from this province to occupy the most coveted responsible position in the Medical Service in India. Major-General Bradfield has unquestionable reputation as an Administrator of high order. His ripe experience as an Educationist will be of immense service to the Government of India as he will be the President of the Indian Medical Council by virtue of his position as the Director-General of Indian Medical Service. Knowing as we do the ardent desire of this officer to raise the standard of Medical Education when he was in our midst, we are justified in hoping, quite fondly too, that Major-General Bradfield will bring about such changes in the Medical Education of this country that will put down the existing artificial grades in the Medical Education, and bring about unity in the Medical Profession, the want of which has been keenly felt ever since the British took charge of the Government of this country. The Government and the people in India are having most anxious times just at present when the era of reforms has to commence soon. We earnestly hope that Major-General Bradfield will help the Government of India to inaugurate a scheme of medical administration in all its aspects, as obtaining in the country of his birth and make the entire medical profession realise that their influence can be felt both by the Government and the public as is the case in other civilised countries and especially in Great Britain. The All-India Medical Council is at present a body without a soul and the Medical Profession whom the council is supposed to control, is yet another body without life. It is possible for a person of the capacity of Major-General Bradfield to put life and soul in their proper habitations so that, when the Major-General lays down the reins of his office as the Director-General of Indian Medical Service, we can rightly and proudly recollect our fond hopes and tell the Medical Profession in India that our hopes were well founded. We send our felicitations to Major-General Bradfield both on our behalf and on behalf of the Medical Profession in this province and wish Major-

General Bradfield a long life of meritorious service.

What about our Surgeon-General? This is the question asked and discussed in medical circles soon after the name of Major-General Bradfield was announced in newspapers as the person to succeed Major-General Sir Cuthbert Sprawson. The fact that quite recently Major-General Sir Frank Connor acted as Director-General Indian Medical Service and acquitted himself as a liberal progressive as the President of the Indian Medical Council, a body looked upon with different angles of vision by different groups and individuals in the Medical Profession, throughout India, has given room to so many conjectures. At the time Major-General Sir Frank Connor was appointed to act as Director-General Indian Medical Service we learnt that Sir Frank Connor was not quite keen to disturb himself especially so as the difference in the period of service between him and Sir Cuthbert Sprawson was a few months. Sir Frank Connor must have also reckoned that utility in continuous service should be the aim in public interest and must have brushed aside the glamour of high office for a short period before he retires. Sir Frank Connor would rise higher in the estimation of the public and the Medical Profession in this country for having preferred to serve the Madras Presidency for the remaining short period of his service. The rumour that Sir Frank Connor is not likely to return to India and has applied for leave prior to retirement seems to be without foundation, unless it be due to the indifferent health of Lady Connor.

An Atmosphere of Progress and Reform: We welcome the prevailing atmosphere in more than one province in India that there should be only one standard of Medical Education and that the Medical Licentiate Course should either be mended or more advantageously ended in the interests of the public as well as the Medical Profession. We have been agitating in this direction ever since The Medical Practitioner came into existence. As a result, our readers are aware that the Madras Medical Council recently appointed a Committee to go through the L. M. P. Course in all its aspects in this province and suggest reforms. The Dyson Committee of the Madras Medical Council have, we are authoritati-

vely informed, submitted an unanimous report to the Council which is expected to be a standard likely to be appreciated by those interested in the Medical Education and the Medical Profession in this country. Just at this juncture we are glad to note that the Punjab Licentiatees and those belonging to United Provinces did express their views at the conferences recently held in both the Provinces about the desirability of a 5 years' Course regarding which the Medical Licentiatees have been incessantly agitating for many years but without effect. If there be space we shall in this issue publish the thought-provoking Presidential Address delivered by Lt. Col. R. S. Townsend, M. C. O. G. M. C., M. D., I. M. S., the seniormost I. M. S. officer in the U. P. Medical Service next to I. G. of Civil Hospitals and a person likely to succeed the present Inspector-General of Civil Hospitals U. P. at the XIVth Conference, U. P. Branch, of the All India Medical Licentiatees, last May, which would give an idea of the opinion of this experienced officer regarding the Medical Licentiatees. It is enough for our purpose just at present if we quote a most pithy para from his address: "*Whether you like it or not I being to the school that believes the true solution is, that Agra Medical School is dying and its death should be encompassed at once*". In Bombay Presidency there is a move that there should be a Medical College for the Maharashtra as a memorial to His Late Majesty King George. If this scheme takes a tangible shape which is very likely, the Poona Medical School has to disappear. Though there is a hue and cry that India has not at present a sufficiency of qualified Medical Practitioners to satisfy the needs of the vast population, the fact that the existing qualified practitioners have not been able to get employment even as independant private practitioners and that the Graduates in Medicine have been taking the place of the Medical Licentiatees in service as Medical Subordinates should convince all if the nicknamed Medical Licentiatees should continue to exist only to mark the existence of "Depressed Classes" in the Medical Profession. The argument that the villages require the services of a cheaper class of Medical Practitioners should be condemned. It is the villages which do not attract the present-day specialists for consultation as is the case in urban

areas that require highly qualified and resourceful practitioners as they are compelled to treat their patients with scant materials at their command. So we are glad that the atmosphere of Progress and Reform regarding medical education has a tendency to spread.

District Health Boards: The Administrative sagacity of Major-General Bradfield to bring into existence District Health Boards in Bombay Presidency with the object of promoting and co-ordinating all public health and medical activities within the district areas, is quite consistent with the policy inaugurated by H. E. the Viceroy who desires to establish a central Board of Public Health for the benefit of the whole country. The health boards are expected to co-ordinate with the existing departments of curative and preventive medicine. It is said that these health boards will administer and allot Government grants for rural medical relief and public health schemes. It is suggested that the Chairman of each district health board should be the Collector of the District, that the board should have the District Medical Officer as its Secretary and should include the District Health Officer and representatives of District Board and Municipalities. The scheme is a laudable one and we congratulate Major-General Bradfield, Surgeon-General with the Government of Bombay, on his resourcefulness in initiating a scheme just at the juncture when he is to be the chief advisor of the Government of India and hope that soon after he assumes charge of this high office he would advise the Heads of the Medical and Public Health Departments throughout India and make the future all India Central Health Board a reality and thus earn the gratitude of the people in this country. In this connection we trust it will not be out of place to suggest the need for making all public health activities as democratic as possible making it compulsory at the very inception of these schemes that the presiding officers of the boards to be established, are not the Heads of any department of Government including the Revenue. All the same, it should be made possible that these Heads serve the Boards and give the benefit of their advice to their non-official colleagues. The Presidents of these Boards should be selected and not nominated by

the Government. The Government should not lose sight of the fact that it has not been possible for the people of this country in spite of their inherent charitable disposition to establish voluntary hospitals managed and administered by the people for the good of the people without Government interference. This aspect of the question apart, the Government should not hesitate to entrust the entire responsibility of at least the curative side of the Medical Department to non-official agencies at a time when they are prepared to hand over the entire Government machinery to the people's representatives at least in the Provinces.

A successor to the late Dr. Ramasubbu: The Kistna District Rural Medical Practitioners who met at Masulipatam Head Quarters Hospital on the 22nd August 1936 passed a resolution unanimously requesting Dr. V. Rama Kamath, Editor, "The Medical Practitioner" to suggest the name of a suitable successor to the late lamented Dr. Ramasubbu, who was the founder, organiser and the very soul of the Madras Provincial Subsidised Rural Medical Practitioners' Association as its Secretary. There is a Subsidised Rural Practitioner at Pallavaram, Dr. Vittal Pai, M.B.B.S., to whom we wrote to ascertain if he was willing to take up the place of Dr. Ramasubbu. Dr. Vittal Pai has consented to take up the work in case he is formally elected by the Madras Subsidised Rural Medical Practitioners' Association. Dr. Pai desires that a meeting of the general body should be summoned at Madras for this purpose in the near future. We suggest to the members of the Association to organise a conference in Madras as early as possible. Apart from the choice of a Secretary, there are many other subjects affecting the Subsidised Rural Medical Relief Scheme such as the new form of the agreement etc., and we hope that the Rural Practitioners will cherish the memory of their lamented comrade by following his foot steps towards reform and progress of a scheme which if worked out satisfactorily will bring credit to the Government as well as to the practitioners in a variety of ways chief among them being village reconstruction.

Private Dispensing in State Hospital: We draw the attention of our readers to a letter published in the correspondence columns from a mufussil private practitioner

who rightly complains against the existing practice in State Hospitals where medicines are dispensed free to the private patients of the Medical Officers in charge of these institutions. We did thrash this subject in all seriousness on several occasions in these columns and elsewhere. Want of a central well organised medical association has been a curse to this country. It will be to the interests of economy and will be conducive to the growth of harmonious and contented Medical Profession if the private practitioners and State paid practitioners mind the larger interests of the country as well as of the profession instead of the seemingly selfish interests of individuals and if they find out ways and methods which while giving ideal scientific medical relief to the public, will tend to build up as ideal and as scientific a medical fraternity. This is possible if both sections love their profession more than they love money. The practitioners in service get decent salaries while their brethren in private practice have to depend entirely upon private practice for their maintenance. So the lead towards harmony should emanate from those who are above want. The Medical Officers in service have much better scope to gain experience and if these officers love the profession dearer than money, they will rise higher in the estimation of the public and of their less fortunate brethren in private practice who have to requisition the services of Medical Officers as consultants in time of need. As consultants, the service men can and should demand proportionately a higher fee which will make up for the loss they may initially suffer if they give up treating patients in their (patient's) own houses. We trust atleast a few amongst service men who have spent large sums of money for educating their sons in medical schools and colleges must have realised the lot of their children having to depend on private practice. We suggest these parents to realise the lot of private practitioners who are not their children and make a gesture in the right direction and bring about reform and contentment in the Medical Profession as a whole which can only be done by healthy feelings and mutual adjustment. The Government cannot close their eyes against the unauthorised practice of permitting their Medical Officers making use of the hospitals, dispensaries and the materials from these institutions for private gain. Such a practice is against

law and order as well as economy. There is a Government Order published in the Civil Medical Code prohibiting medical officers from admitting under their care into hospitals patients who consulted the medical officers outside the hospitals. It looks as if both the Government and their officers have either lost sight of this Government Order or ignore it deliberately.

Our Gratitude: We have been receiving large number of letters from our well wishers and sympathisers expressing their concern with our present troubles. The fact that Dr. Kamath has not been keeping good health these few years seems to have augmented their feelings. The meagre reports appearing in the news papers about the Libel case against us followed last by a prominent headline in "The Hindu" to the effect, "**Charge Framed against Dr. V. Rama Kamath**" seem to have upset our sympathisers. At this stage of the case against us in the Chief Presidency Magistrate's Court we should refrain from making any comments of what is happening and has happened either in the court or the Stanley Medical and the institutions attached to the school. All the same, while expressing our heartfelt gratitude to our readers for the letters of sympathy they have been writing, we assure them that apart from the dislocation of work in our office which has prevented us from publishing the journal within the scheduled time we are not at all perturbed. On the other hand our well wishers will be glad to know that Dr. Kamath has been keeping much better health and has actually increased by three pounds within a course of these two months. He is keeping his mind as tranquil and as peaceful and taking things quite coolly. The fact that Dr. Kamath has been approached and pressed to contest one of the seats in the City Corporation Council, will convince our readers that far from being upset by all sorts of troubles Dr. Kamath has been able to stand the strain without risking his health in the least, as he believes that disinterested public work serve as hobbies and tend to improve and tone down health. He has made up his mind to enter the Corporation Council once again and serve the public. We beg to be excused for our inability to write anything about the "Libel Case" the proceedings of which will be published in detail when we could do so legally.

Correspondence Reports Etc.

Honorary Medical Officers.

TO THE EDITOR OF THE MADRAS MAIL.

SIR.—The ways of the medical department are perplexing as ever. The least is the unceremonious dismissal of two honorary Assistant Surgeons of the Ear, Nose and Throat Department in the General Hospital, Madras. Notices appear to have been served suddenly upon them and they do not seem to bear any reason for this extraordinary step. It has always been understood that the tenure of Honorary Medical Officers is until they reach their sixtieth year, unless for adequate reasons they have to be sent away earlier. The manner in which these two officers have been dismissed suggests the possibility of similar irresponsible treatment being meted to other officers owing to the personal idiosyncracies of the powers that be. It is necessary that for the success of the institution of Honorary Medical Officers which the Government still appear to imagine is only in an experimental stage that the officers should have confidence in the fairness of the department which is exactly the thing undermined by the kind of dismissals which have now been made.

The present case illustrates the necessity for definite principles and rules for regulating the tenure and work of honorary officers. It is clear that in the future the paid medical department will have to be entirely replaced by honorary medical officers, an ideal which commands wide assent from the leading practitioners and the public in the country. Any attempt to reduce the status of honorary medical officers should be refused as opposed to this salutary ideal. The general public has a direct interest in this matter, and it is hoped that adequate assurances will be forthcoming from authority to allay public apprehensions in regard to arbitrary departmental action like this.

MEDICO.

"We are informed that Government have inquired into these matters. According to the latest information received from the Surgeon-General the services of these two men were dispensed with as they were very irregular in their attendance and as they did not pay proper attention to their duties. They were dismissed with a view to give others who were more deserving an opportunity to gain the

necessary experience by being appointed Honorary Assistant Surgeons".—Ed, M. M.
(The Madras Mail dated 9-8-'36.)

Honorary Medical Officers.

TO THE EDITOR OF THE MADRAS MAIL.

SIR,—With reference to your note published at the end of my letter which appeared in *The Madras Mail* of the 9th instant, regarding the dismissal of two Honorary Assistant Surgeons from the General Hospital. I request you to allow me to offer the following observations on the defence which the Government has made of its action.

Government has made charges of irregular attendance and neglect of duty against these officers in reply to your inquiry. But where these charges ever communicated to the officers themselves at any time, and were they called upon to explain them? Was any inquiry held? It is well-known that bad confidential reports against officers of Government are as a rule communicated to persons adversely affected by them. In this respect the position of Honorary officers is not different from that of the salaried. I am reliably informed that no charges were ever communicated to them, and all that the officers had was a bare notice of termination of service. It would be intolerable for any officer to carry on his duties properly if any one of his superiors may by sending a report against him behind his back enable Government to dismiss him. *Audi alteram partem* is no less a principle of administrative justice as of judicial.

In the second place Government has informed you that the action is intended to give opportunities for other deserving men to acquire experience. Is this principle followed as a rule? How many Honorary officers have been sent out on this ground before now? What is the period which Government thinks is necessary to equip an officer sufficiently to make him retire in favour of a fresh candidate? Government had an excellent opportunity of laying down rules in this behalf when they published a set of fresh rules governing honorary staffs in government hospitals about ten days ago, but curiously enough as regards men holding the rank of these two dismissed officers, no term or tenure is prescribed at all. It has always been understood that an

officer is to hold his appointment until his sixtieth year. In Madras except Dr. M. Subrahmanya Ayyar who retired under the age rules, no one who was once appointed has been disturbed until these two unfortunate gentlemen. On the other hand there are men who have held the appointment for eight years and over in different hospitals in the city and it does not appear that Government has any intention of disturbing them. The plea put forward by Government will convince no one.

The object of Government to give opportunities to deserving men is laudable; but the result should not be achieved by injustice to individual officers and apart from general policy. To call a man undeserving without any sort of inquiry is no better than giving the dog a bad name and hanging it.

As regards the charge of irregular attendance, it would interest your readers to know whether such a register of attendance as is usually maintained in regular offices is kept in the General Hospital and whether the Government has seen it before condemning these officers. On the other hand would the Government be very much surprised to know that salaried officers are oftener found in their private clinics during hospital's hours, a thing which would not be easy if regular attendance is insisted on? If the purpose of Government is to make object lessons of these two officers, it would have been better in the interests of the ratepayer that they started with the salaried men, among whom discipline is, if at all, more necessary and less present now. Government might first amend its own ways by enforcing its own rules as regards transfer of the paid officers instead of keeping them in violation of such rules in Madras just because several interests may be served by it.

MEDICO.

(The Madras Mail, dated 15-8-'36.)

The Kistna District Rural Medical Practitioners' Association.

An ordinary meeting of the above Association was held on 22-8-'36 at Masulipatam in the D. M. O's office at 5 P. M. with Lt. Col. K. V. Ramana Rau I. M. S., District Medical officer in the chair. Mr. N. Rama Rau, the Secretary read the minutes of the previous meeting

held on 19-7-'36 which were approved. Then he referred to the sad death of Dr. S. Rama Subbu L.M.S. of Viraganur, and gave a life-sketch of the deceased practitioner and dealt upon the substantial work turned out by him as Secretary of the Provincial Subsidised Rural Practitioners' Association. He said that every Rural Medical practitioner owed a life-long and deep debt of gratitude to the late Dr. Rama Subbu. Then the members and the president standing, passed a Condolence resolution to be conveyed to the bereaved family.

The members also passed another resolution requesting Dr. V. Rama Kamath, Editor, The Medical Practitioner, Madras to select one capable rural medical practitioner to take up the place of late Dr. S. Rama Subbu and also to see that the next Provincial Conference is summoned during the coming Christmas holidays.

Finally there was a long discussion upon the subject of Refresher Courses for the rural medical practitioners proposed by the Surgeon-General. It was the unanimous wish of those present that suitable allowances should be paid to the practitioners to enable them to attend not only Head Quarters Hospital but other big hospitals in Madras and Bangalore.

Medical Practitioners' Association, Nuzvid.

ANNIVERSARY CELEBRATION.

The 4th Anniversary of above Association was celebrated on 30-8-'36 in the Govt. Hospital, Nuzvid, at 4 P. M. when Lt. Col. K. V. Ramana Rau, D. M. O., Kistna, presided. A large number of practitioners attended the function. A group photo was taken and refreshments were served after which the meeting commenced at 5 P. M. with prayer by Mr. A. V. Subba Rau, L.I.M. Dr. N. Rama Rau, L. M. P. Secretary read the annual report which was adopted. A paper on 'Abortion' was read by Dr. P. Anjaiah and Dr. (Mrs.) Seshagiri Rau read her clinical notes about a case of Adherent placenta operated by her under Evipon Sodium anesthesia. Dr. N. Rama Rau read a paper on 'Gonorrhæa, its complications and treatment.' The President mentioned about two interesting cases he happened to treat. One was a

case of a female who thought herself to be pregnant but diagnosed to be 'ovarian tumour.' Laprotomy revealed it to be a intra uterine degenerated fibroid. The other case mentioned by the President was one of extra uterine gestation which he could not detect till the last, but which was treated as a normal gestation at the time of labour at full term. Several manoeuvres to terminate the labour were of no avail until the escape of a purulent discharge through an opening near umbilicus. Laparotomy revealed extra uterine gestation.

Dr. N. Rama Rau demonstrated a case of neuralgia of the leg stimulating sciatica but actually not. The President and the members examined the patient and declared the case not to be sciatica.

The President in his closing speech thanked the Secretary and the members for the honour done to him and wished the association long life and prosperity.

The Tinnevely District Medical Association, Palamcottah.

The President's Function of the Tinnevely District Medical Association was held at its monthly meeting, on Saturday the 22th August 1936 at the St. Xavier's College Hall Palamcottah. Members numbering 79, including 5 lady doctors gathered from all parts of the District. Lieut. Col. T. S. Shastry, I.M.S., the President, was "AT HOME" to the members.

After Tea Party and sweet Nagaswaram Music the meeting began under the Presidentship of Lieut. Col. T. S. Shastry, I.M.S. The minutes of the monthly meeting held at Courtallam, on Saturday the 27th July 1936, were read and passed.

The following resolutions were passed non con:—

(1) "The Tinnevely District Medical Association has much pleasure in offering their heartiest congratulations to Major-General E. W. C. Bradfield, C.I.E., O.B.E., M.B., M.S., F.R.C.S. (Edn), I.M.S., on his appointment as Director-General of Indian Medical Service. They are proud to remember that as the District Medical Officer of Tinnevely District, Captain Bradfield, I.M.S., was their President and was

one of those District Medical Officers who contributed to its successful working".

(2) "This Association has much pleasure in offering their hearty congratulations to Rao Bahadur Dr. A. Lakshmanaswami Mudaliar, B. A., M. D. (Mad), F. C. O. G. (Eng), V. H. A. S., on his Election to the Vice-Chancellorship of the Madras University and to note that he is its first Medical Vice-chancellor."

The following clinical cases were demonstrated:—

Name of Lecturers.

Dr. P. S. Srinivasan, L.M.P.,
Sub-Assistant Surgeon,
Government Head Quarters Hospital.

Subjects.

- (1) Aneurysm, left common carotid.
- (2) Osteosarcoma right pubic bone.
- (3) Fœcal Fistula, right inguinal region.
- (4) Duodenal Ulcer.

Cases notes of the above cases were read and fully discussed by the members.

Dr. P. S. Srinivasan L. M. P., read case notes on the following cases:—

- (1) A case of Acute Abdomen.
- (2) A case of Rupture of Liver.

Lieut. Col. T. S. Shastry, I.M.S., gave an interesting lecture on "Acromegaly" giving detailed clinical notes of two interesting cases.

The Secretary Dr. K. Rama Ayyar, M.B.B.S., thanked the President for his kindness in organising the most enjoyable function and entertainment. He also thanked the college authorities for placing the College Hall at the disposal of the association for holding the meeting.

Thereafter an excellent Dinner brought the happy gathering to a close late at night.

Private Practice in State Hospitals.

I request you to allow me to bring to your notice some of the existing practices with regard to the treatment of out-patients in Mofussil Hospitals.

Many of the well to do classes usually engage the Medical Officer in charge of State Hospitals to give them consultation at their houses. These officers charge fees for all their visits usually at the rate of Rs. 5 for the first visit and Rs. 3 for subsequent visits and in some cases they get a consolidated amount for the whole case. Nobody can grudge this. But the custom of the rich and the well to do getting medicines free at the hospital entail loss to the Government and gives rise to unhealthy and unwholesome competition between the independent practitioners and State paid practitioners.

There is always a tendency for the public especially the enlightened amongst them who resort to Allopathy system of medicine to seek medical aid from the Government Institutions for obvious reasons. The necessitous poor are usually neglected in State Hospitals in preference to those who are able to pay the fees to the attending doctors employed in State Hospitals. This practice has been the cause of distrust in the minds of the poor that they are neglected in Government Medical Institutions. It is therefore desirable both in the interests of the poor and in the interests of economy that in places where qualified practitioners are available the State paid doctors should be debarred from private practice but allowed only consultation practice. Such a course is adopted in Federated Malay States quite satisfactorily. Why not the same procedure be adopted in this country?

A Private Medical Practitioner.

The PERFECT POULTICE
AND DRESSING FOR
INFLAMMATION
AND
CONGESTION.

Antiphlogistine

THE DENVER CHEMICAL MFG. Co., NEW-YORK.

Review

**"The Individual Criminal"—
Studies in the Psychogenesis of
Crime.**

By Ben Karpman M.D.

Publishers: Nervous and Mental Disease
Publishing Co. 3617—Tenth St., N. W.,
Washington, D. C.

Before attempting to review the Monograph, we should express our apology to the author and publisher who we are sure can realise psychogenetically our present disposition, ourselves being accused for an alleged crime in the shape of defamation which prevented us to study this most useful and admirable publication. It should be studied in detail by the prosecutor and the judge, who deal with crime and criminals especially in India where for want of well organised institutions for the treatment of mental diseases those dealing with crime and the criminals cannot conceive that crime is a disease. The result of this grave misconception by those who would law is that criminal courts have been multiplying and are presided over by a large number of lay persons who have not even studied law on crime much less the Psychogenetics. Even the most fundamental principle laid down in law that a criminal should be considered innocent till the crime is proved against him and should be given the facilities to prove his innocence is usually forgotten even by those who are supposed to have mastered law and at whose mercy the unfortunate criminal is during the course of trial. We wish the Government in this country and the Universities would do well to introduce the study of books on crime such as those under review which deal with the subject of crime so admirably in quite simple a language to be understood even by school going children.

On account of the existence of erudite scholars of the type of the author of this book and the institutions which treat crimes as diseases in the West and in America that the criminals both in jails and after discharge from jails are afforded facilities for reformation so as to enable them to lead a good life. Reformatory schools and discharge prisoners' homes have slowly come to existence even in India. But it is our opinion that until there is a radical change in the angle of vision towards crimes and criminals very little could be achieved by such institutions unless those in authority and power understand the causeating factors of crime as a disease.

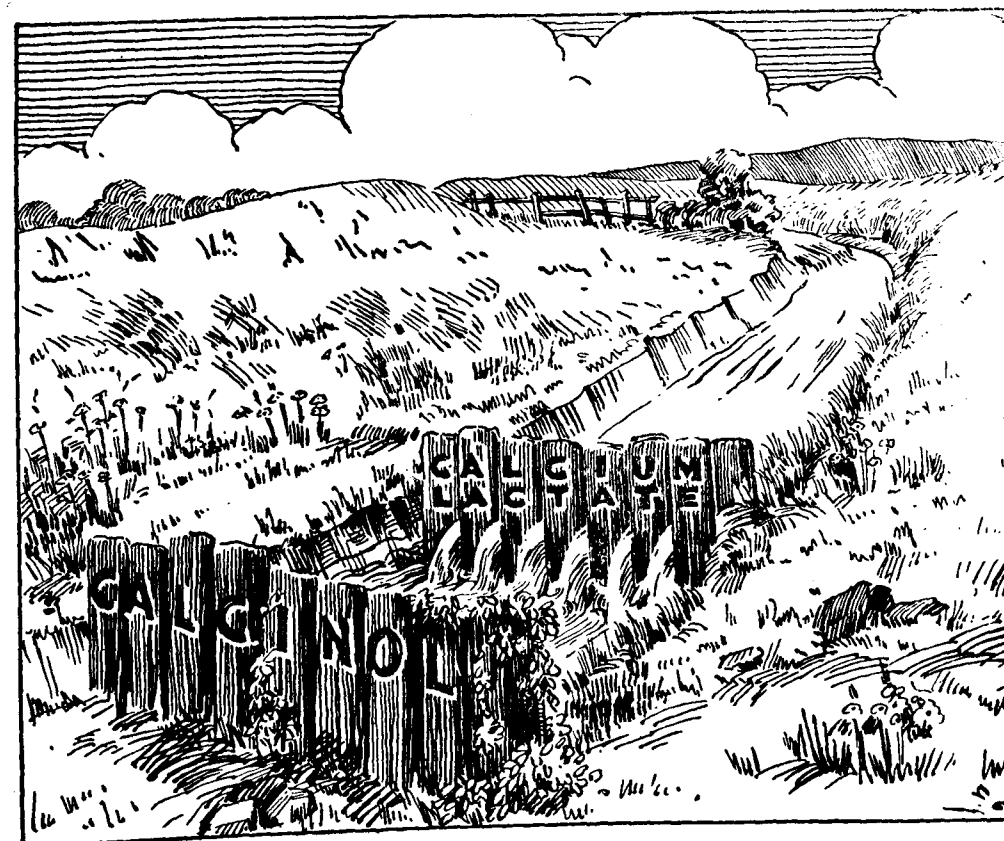
Dr. Ben Karpman, M.D., is a German Scholar, who has settled in America. He is a Psychotherapist of great repute and is in the staff of a big Mental Hospital, St. Elizabeth Hospital, Washington. He is also the profes-

sor of Psychiatry, School of Medicine, Howard University. His masterly book under review should be in the library not only of medical men but all persons dealing with crimes and criminals from the highest presiding judges of all courts to the lowest subordinates who in some capacity or other are put in charge of criminals. The author has written the book so methodically and yet in such simple style that the reader of whatever occupation will find it most interesting and understandable. Only a few cases treated in the book; but these few have been treated so comprehensively and so intelligently, that the reader will easily understand that crime is a disease to be treated and not to be punished for either in a home or in a court.

The case study is made by the author in two parts—Interpretational and Diagnostic. The former gives an elaborate account of the hereditary and environmental factors which go a good way in determining the physical and mental make-up of the individual. The latter forms a critical study of the diagnostic aspects of the cases and the subject is most useful both to the Psychiatrist and those interested in the welfare of the criminals. The discourse on crime Mechanics as discussed by the author under the headings—"The Legislative causes of Crime", "Some Social Factors", "Environmental conditions of crime", "Imprisonment and its relation to crime" and "Discharge and the difficulties of prisoners after"—though pertaining to the conditions in America is an interesting and thought provoking reading for all concerned in crime and criminals. The following two paras quoted from the concluding portion of the foreword would give an idea to our readers the purpose and the utility of the book.

"These considerations should help us to get rid of the psychiatric doctrine of 'original sin'. While we are born criminal, we do not remain so; hence, in every instance of anti-social behaviour, we must look for the specific reasons for the failure of the conditioning factors.

It is therefore preferable to speak of criminality not in the narrow specific sense of the word as being practically identical with conviction and imprisonment, but in a large generic sense as being expressive of the anti-social feelings that each one of us carries within him. And it is out of this criminal basis our normal citizenry carries that our criminal population is evolved. Thus envisaged, criminality appears as one of the greatest social problems; to understand its history is to gain insight into the history of human culture; to understand its present is to be able to devise means to safeguard ourselves against its ravages and depredations; to be able to forecast its future is to build a happier and better state of society".



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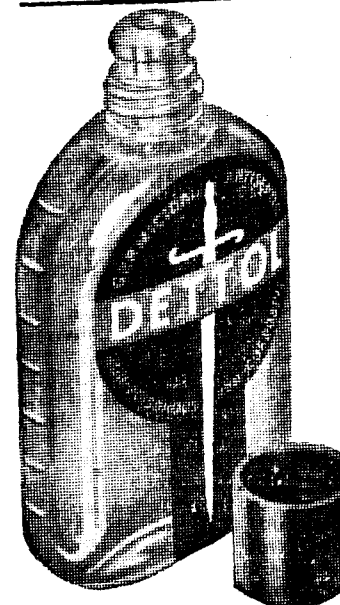
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List of Postings of Sub-Asst. Surgeons for the month of June, 1936.

No.	Names of Sub-Asst. Surgeons.	From.	To
1	Dr. P. Suryanarayana	Leave	King George Hl., Vizagapatam.
2	" S. Ponnuswami Iyer	Tk. Hd. Qrs. L. F. Dy., Kulithalai	Tk. Hd. Qrs. L. F. Dy., Jayakondasolapuram.
3	" G. T. Barnes	Tk. Hd. Qrs. L. F. Dy., Jayakondasolapuram	Govt. Hl., Ariyalur, Trichy Dt.
4	" A. R. Shanmuganathan	Govt. Hl., Ariyalur	Tk. Hd. Qrs. L. F. Dy., Kulithalai.
5	" Miss. K. Parvathi Bai	Leave	Govt. Hl., Namakkal, Salem Dt.
6	" Miss. G. Kanagasabapathy	Govt. Hl., Namakkal	Govt. Hl., Nagapatam.
7	" Ramanayya Chetty	Leave	L. F. Hl., Sodam, Chittoor.
8	" V. Sankararama Ayyar	Govt. Hl., Negapatam	Group V Districts at Madura.
9	" B. S. Sahasranamam	Group V Dist., Madura	Govt. Hl., Negapatam.
10	" K. Natarajan	Leave	At the disposal of President, Dt. Board, Tinnevely.
11	" K. A. Subramaniam	Leave	Govt. Oph. Hl. Madras.
12	" M. Anandan	Govt. Hd. Qrs. Hl., Calicut	Govt. Hl., Ponnani, Malabar Dt.
13	" K. V. Rajagopal	L. F. Dy., Bungalowpudur	Govt. Hl., Kollegal, Coimbatore
14	" Krishnamurthy	Leave	Govt. Hl., Nuzvid, Kistna Dt.
15	" D. V. Moses	Govt. Hl., Nuzvid	Govt. Mental Hl., Madras.
16	" K. Gopalan	L. F. Dy., Ettapur	Govt. Hd. Qrs. Hl., Madura.
17	" Miss. K. Visalakshi	Raja Mirasdar Dt. Hd. Qrs. Hl., Tanjore	Govt. Hl., Kumbakonam.
18	" P. Narasimha Rao	Govt. Hd. Qrs. Hl., Ellore	King George Hl., Vizagapatam.
19	" D. Suryanarayana	Tk. Hd. Qrs. L. F. Hl., Yellamanchili	King George Hl., Vizagapatam.
20	" K. S. Rangaswamy	L. F. Dy., Dhanushkodi	Govt. Hl., Virudunagar.
21	" K. V. Krishnan Nair	Tk. Hd. Qrs. L. F. Dy., Omalur, Salem	Govt. Hl., Thiruchengodu.
22	" S. Krishnamurthy	Govt. Hl., Tiruchengodu	Tk. Hd. Qrs. L. F. Dy., Omalur.
23	" M. V. Srinivasan	L. F. Dy., Merkanam	Govt. Hl., Chidambaram.
24	" S. V. Krishna Rao	Leave	Govt. Dy., Dhone, Kurnool.
25	" G. Srinivasa Rao Garu	Govt. Hd. Qrs. Hl., Cuddapah	Govt. Hd. Qrs. Hl., Cuddapah.
26	" M. Gopalachari	Govt. Hd. Qrs. Hl., Cuddapah	Stanley Mdl. School, Madras.
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30	" A. P. Joseph	Leave	Govt. Hd. Qrs. Hl., Trichy Dt.
31	" Josyabhatla Suryaprakasa Rao	Wellesley Sanatorium Jail, Bellary	Govt. Hd. Qrs. Hl., Masulipatam.
32	" P. J. Asirvatham Pillai	Tk. Hd. Qrs., L. F. Dy., Musiri	Tk. Hd. Qrs. L. F. Dy., Musiri.
33	" V. S. Ganesan	Tk. Hd. Qrs., L. F. Dy., Musiri	At the disposal of President, Dt. Board, Trichinopoly.
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35	" K. Krishnamurthi	Tk. Hd. Qrs., L. F. Dy., Pattikonda	Govt. Hd. Qrs. Hl., Kurnool.
36	" V. N. Narayana Ayyar	Govt. Hl., Kodaikanal	Govt. Hd. Qrs. Hl., Mangalore.
37	" K. Gopalan Nambiar	Barnard Instt. of Radiology	Govt. Hd. Qrs. Hl., Cocanada.
38	" D. Narasimharaju	Govt. Hd. Qrs. Hl., Cocanada	At the disposal of Inspector-General of Prisons, Madras.
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2	„ Miss. N. S. Peters	Govt. Oph. Hl., Madras	Govt. Hl., Gudalur, Nilgris Dt.
3	„ G. Srinivasa Rao Garu	Leave	Govt. Hd. Qrs. Hl., Anantapur.
4	„ L. Viraswami	Govt. Hd. Qrs. Hl., Anantapur	Govt. Hd. Qrs. Hl., Cuddapah.
5	„ K. Natesa Iyer	Tk. Hd. Qrs., L. F. Dy., Lalgudi	At the disposal of the D. M. O., Vizagapatam.
6	„ Mrs. K. Chellamma Nilakantan	Leave	Tk. Hd. Qrs. L. F. Hl., Pithapuram, E. Godavari Dt.
7	„ C. Chintan Nair	Police Hospital, Vellore	Govt. Hd. Qrs. Hl., Calicut.
8	„ P. Raman Nair	Govt. Dy., Krishnadevipeta	Govt. Hl., Erode, Coimbatore Dt.
9	„ Miss. N. S. Peters	Govt. Oph. Hl., Madras	Govt. Hl. for Women & Chil. Tuni, E. Godavari Dt.
10	„ P. Suryanarayana	King Gorge Hl., Vizagapatam	At the disposal of President, Dt. Board, Hobbili.
11	„ K. Ramachandran	L. F. Dy., Kanekal	Govt. Hd. Qrs. Hl., Nellore.
12	„ V. Krishna Rao	Leave	Govt. Dy., Harpanahalli.
13	„ Gujjari Suryanarayana	Leave	Govt. Hd. Qrs. Hl., Guntur.
14	„ P. Balasundaram	Leave	Barnard Instt. of Radiology, Madras.
15	„ K. Krishnamurthi	Tk. Hd. Qrs., L. F. Dy., Pattikonda	Tk. Hd. Qrs. L. F. Dy., Nandikottur, Kurnool Dt.
16	„ A. Ramanuja Achary	Tk. Hd. Qrs., L. F. Dy., Nandikottur	Govt. Hd. Qrs. Hl., Kurnool.
17	„ Mrs. G. Herbert	Leave	Tk. Hd. Qrs. L. F. Hl., Pithapuram.
18	„ Mrs. Chellamma Nilakantan	Leave	Cancelled.
19	„ Miss. N. Annapurnam	Govt. Hl., Narasapur	Tk. Hd. Qrs. Hl., Bapatla.
20	„ Miss. A. Mathew	Tk. Hd. Qrs., L. F. Dy., Bapatla	Govt. Hl., Narasapur.
21	„ K. Natarajan	Leave	Barnard Instt. of Radiology, Madras.
22	„ Miss. Dhanammal Loomis	Leave	Govt. Hl., Periyakulam, Madura
23	„ Gujjari Suryanarayana	Leave	Govt. General Hl., Madras.
24	„ Joshybhatla Suryaprakasa Rao	Wellesley Sanatorium Jail, Bellary	Tk. Hd. Qrs. L. F. Dy., Punganur, Chittoor Dt.
25	„ P. Kunhiraman Nambiar	Govt. General Hl., Madras	At the disposal of the Inspector -Genl. of Prisons, Madras.
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