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THE MISCELLANY

OF



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(Branch of the Indian Medical Association)

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NOVEMBER

1940

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THE MISCELLANY

OF THE
TRICHINOPOLY DISTRICT MEDICAL ASSOCIATION

(REGISTERED)

FOR CIRCULATION AMONGST MEMBERS ONLY

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Parkinsonism

BY

DR. R. VENKATACHALAPATHY, M.B.B.S.

This is a syndrome and not a disease. It is characterised by a group of symptoms which are:—

(1) Rigidity :—This rigidity involves particularly the muscles of the face and the proximal muscles of the body than the distal muscles of the extremities. In addition the rigidity is more marked in the flexors than the extensors.

(a) On seeing the patient the first thing that strikes us most is the mask-like, expressionless face and this has been explained as merely due to the above rigid condition of the musculature of the face and of expression. Another notable feature is the slow, hesitant, and monotonous speech of the individual. This involvement of the speech is also purely due to the rigid condition of the muscles of articulation and has nothing to do with the higher speech centres in the brain.

(b) Every act of the patient is deliberate and slow.

(c) The gait of the patient is very characteristic and forms an important factor in the immediate and easy diagnosis of the case. It is of a festinating type. There is great hesitation in taking the first step. But once this has been achieved the subsequent steps are hurried and short and the patient continues moving on either forward or backward till this progress is checked. This is also described as propulsion

or setropulsion. The patient has no control over this movement and does not stop at the word of command. When pushed backwards he usually falls due to the increased rigidity of the flexor muscles:—

(d) The attitude of the patient is very characteristic. The head is slightly bent forwards with the chin protruding. The muscles of the neck are prominent, chest is bent at the waist due to the rigidity of the abdominal muscles. The thigh is bent slightly at the hip and the knees are flexed. Elbows are flexed and the arms are held close to the side. The waist is also flexed and the fingers are bent at the metacarpophalangeal joint. The entire attitude is due to the increased rigidity of the musculature and is the exact opposite of a central lesion.

(2) Tremor:—It is a fine and rhythmic tremor involving particularly the muscles of the fingers and hence aptly called a cigarette or pin rolling movement. This kind of fine rhythmic movement is sometimes seen in the tongue on protrusion and also the eyes particularly when it is closed and gently pressed upon.

(3) Weakness of the muscles:—Though there is marked rigidity the muscles are weak and the patient feels helpless and lethargic. This combination of rigidity and weakness is a diagnostic point of this syndrome.

PATHOLOGY:—Essentially explained as due to the destruction of the cells in the striate Nucleus.

Causes:—This destruction of the striatal cells may be due to the following four conditions:

(1) Inflammatory lesions:—Most of the virus diseases, but the commonest virus that is said to produce this particular type of inflammatory lesion is the virus of Encephalitis lethargica.

(2) Degenerative lesions:—Wilson's disease or Hepato-lenticular degeneration constitutes the typical type of this variety. In this there is a primary and short degeneration of the cells especially on one side.

Wilson's disease usually occurs in children and is a familial condition where several members in the same family are said to be affected. At the beginning only the cells of the lenticular muscles (part of the corpus striatum) are affected and degenerate and hence since it is purely a lenticular degeneration we get only a simple extra-pyramidal type of lesion not affecting the reflexes etc. Later on as the disease advances cirrhosis of the liver occurs.

(3) New Growths:—Either gammas, or neoplasms themselves, produce the lesion. But all these things give rise to only unilateral parkinsonisms and not a bilateral syndrome.

(4) Vascular lesions. These may be either of the nature of (a) atheroma, (b) embolism, (c) haemorrhage and (d) thrombosis. The last three produce only an unilateral syndrome as in the former variety of neoplasms. But atheroma produces a bilateral condition and in this we also find senile arterial changes and high blood-pressure.

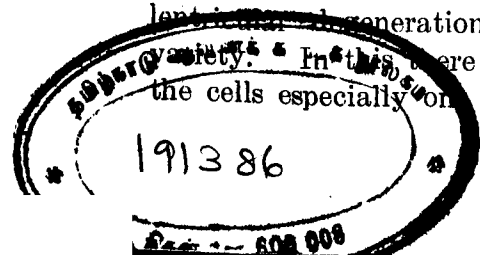
In a case where there is in addition to the parkinsonian syndrome, a pyramidal lesion also depicted by increased reflexes and an extensor plantar response, the cause must be of the nature of an inflammatory lesion and the commonest is the post encephalitic parkinsonism. The term is self-explanatory as an affection after an attack of encephalitis lethargica. Even the later involvement of a cranial nerve or the pyramidal tract is only secondary to encephalitis lethargica. Moreover, inflammatory lesions do not pick out the striate nucleus alone but spread out to other areas in the Brain.

Prognosis. The prognosis of all these cases is bad. The only thing that we can do for them is to make their life comfortable. Belladonna and Stramonium are useful in extra-pyramidal lesion.

Treatment. The only treatment that can be given in a case of parkinsonism is to relieve the patient of rigidity which is very uncomfortable for him. The drugs useful in this are:

Tr. Belladonna, Tr. Hyocyamus, Stramonium, Hyocine hydrobromide.

These have a remarkable effect on rigidity. The most common drug in use is hyocine hydrobromide given as an injection



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1/200-1/100 grains. Stramonium is a cheaper drug. The amount of Belladonna or stramonium given should produce dryness of throat and dilatation of pupil, i.e., they should be given to the dose of tolerance.

Hygienic measures calculated to lessen the rigidity and rapidity of the degenerative process should be employed. When there is much rigidity gentle exercise passive movements, massage and mild faradism are useful. Pain and sleeplessness are best treated with asperin and barbitone compounds. Morphia is borne badly by these patients. Bedsores must be carefully attended to and avoided especially when the patient is bedridden.

DIAGNOSIS:—This with its characteristic and typical signs and symptoms is not at all difficult to diagnose even at a casual observation much less after a clinical examination of the case. The difficulty rises only when it is one-sided. In such a case it has to be differentiated from (1) Hemiplegia, (2) Senile and toxic tremours and (3) Disseminate sclerossis.

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Menorrhagia

The periodical oozing of blood from the endometrium from 2 to 8 ounces according to the parity or nulliparity of the individual is a natural phenomenon from maturity up to menopause. The duration is from 3 to 6 days ordinarily but from one to 8 days is not uncommon. The word menorrhagia is applied only either (1) when menstruation occurs at too frequent intervals or (2) when uterine hemorrhage is excessive in amount. A woman who complains that her "periods" are too frequent presents a totally different picture to the patient who "floods" at regular intervals, or to one in whom the function continues for fourteen days or longer. The term menorrhagia is best limited to that type of excessive bleeding commonly called flooding. Such flooding is serious and even though the periodicity is undisturbed and the duration short, it rapidly produces a severe degree of secondary anaemia.

To express a clinical group of haemorrhages when the patient complains of undue length of the menstrual period, the term *menostaxis* has been suggested. In this there is more of inconvenience rather than deterioration of health or anaemia. Such continuous bleeding of the menostaxis type can be associated with an adenomatous or mucous endometrial polypus. It is said to be artificially produced also by the destruction of a maturing Graafian follicle.

Too frequent menstruation is well expressed by the accepted word *epimenorrhoea*. It implied an alteration in the normal sex rhythm, and therefore a functional derangement of the hormonal sex chain. Although the interrelation and correlation of the ductless sex glands are now on an established basis, the physiological problems which underlie sex rhythm are still obscure. Most women with epimenorrhoea are sterile, at any rate during the time that the menstrual periods follow each other too rapidly. This would seem to imply a functional efficiency of the anterior lobe pituitary hormones and the presence in the ovaries of immature follicles. Epimenorrhoea may also signify separation of the two essential physiological factors of

the menstrual function which normally coincide, viz., abortion of the menstrual decidua and oestrus. The "sclero-cystic" ovary is a type of organic lesion which may be associated with epimenorrhoeal uterine haemorrhage. Many patients with painful fibrotic ovaries containing oedematous and cystic unruptured Graafian follicles are sterile; their periods are too frequent and are commonly prolonged.

If there is no protective mechanism such as stimulation of the luteal hormone to check the excessive hyperaemia of the endometrium and secretion of the uterine glands, then excessive hemorrhage occurs. Occasions when such protection is absent are (1) puberty (2) menopause and (3) the hormonal functional disease known as *metropathia haemorrhagica*.

Puberty

At puberty oestrus may occur before ovulation takes place, just as ovulation and even pregnancy may arise before the usual endometrial necrosis and haemorrhage of the normal sex function have been established. *Precocious oestrus* is due in all probability to the presence within the ovaries of maturing Graafian follicles which fail to luteinize. It would appear therefore that menorrhagia at the time of puberty is due to a tardy development of full functional activity on the part of the anterior lobe pituitary. Whilst the follicle-stimulating hormone is being produced in increasing amount, the absence of luteinization in the ovaries indicates a temporary functional deficiency of the prolactin B factor. *Pubertal menorrhagia* tends to spontaneous cure as the imbalance between destructive and constructive physiological factors is gradually corrected. Its severity depends entirely upon the assault, either quantitative or qualitative, of the oestrus-producing hormone in the absence of corresponding luteinization of the Graafian follicles. Usually the bleeding, although troublesome, is not too serious. It must be realized, however, that haemorrhage on occasions can be of alarming dimensions, and fatalities have occurred.

The Menopause

At the menopause a similar state of sexual incoordination may develop. Certainly it is common enough as evidenced by

the frequency with which advice is sought during the years of the climacteric for severe, and at times dangerous, bleeding. Whether or not it is believed that the ovaries themselves produce oestradiol or that they only act as reservoirs, there is physiological proof that the sex hormone can be demonstrated in the urine after the menopause, both natural and artificial, and when there is reason to think that it must be produced elsewhere than in the primary sex glands. Quite apart from the fact that oestrus and its local uterine manifestations often persist after ovulation and luteinization have ceased, other factors are present which favour increased menstrual bleeding. In the multipara the uterine cavity is permanently enlarged as the result of repeated pregnancy and increasing subinvolution. The actual potential endometrial bleeding surface is thus extended. In such a uterus, and indeed in any uterus when the uterine walls are not in contact, and a potential space exists, nature fills the cavity with hyperplastic endometrium. This may be diffuse, or localized in the form of one or more polypoid excrescences. In either event the tissue provides an extensive area which oozes the blood under the influence either of oestrus or menstrual necrosis. Finally, the uterine muscular wall becomes more fibrotic from the fourth decade onwards, and those uterine contractions which characterize every menstrual abortion and which influence the uterine circulation, become less and less effective. A tendency to increased local congestion develops therefore with each succeeding oestrus. All these factors favour increased bleeding at the climacteric, and explain why menorrhagia sometimes develops at the menopause for the first time, even when predisposing organic factors have previously been in existence.

Metropathia Hemorrhagica

The typical pathological lesions of true metropathia are a diffusely hyper-plastic and polypoid endometrium in association with the presence in an ovary or ovaries of oedematous Graafian follicles which show no evidence of luteinization.

The typical clinical symptoms are a long or short period of amenorrhoea followed by irregular menorrhagia or menostaxis, which may be but a temporary phase or persist for some months. The etiological factors which underlie the conditions

are at present not known. Possibly the cause lies with the functional activities of the basal ganglia supplying the anterior lobe of the pituitary gland, or with the nervous impulses and chemical reaction of the autonomic fibres in the ovaries. A few cases of metropathia occur even though some luteal tissue exists in the ovary. It appears that the endometrial condition is a result of unbalanced action between the two ovarian hormones.

Autonomic Metrostaxis

The autonomic system as a controlling influence on the metrostaxis is a very debatable point. It is common knowledge that any mental shock may precipitate uterine bleeding or suppress a menstrual period that may be imminent.

Just as an early abortion may be caused by neuro-circulatory factors involving the metrium and endometrium, so may the same stimuli initiate a sudden more or less severe haemorrhage in the non-pregnant uterus. A woman may indeed "blush" with her endometrium just as readily as with the cutaneous capillaries of her face and neck. The uterus and ovaries are supplied with as complicated a system of autonomic fibres and ganglia as is the intestinal tract, and the physiology of this complicated system has yet to be linked up with the advances in knowledge of the internal secretions.

Diagnosis

The first step in the diagnosis depends on a careful clinical history particularly noting age, parity, normal menstrual rhythm and type of abnormal bleeding. Next step is a careful bimanual examination of the uterus, noting its size, shape, and consistence. Thus, a uniformly hard, oval, enlarged uterus is associated with chronic subinvolution or metropathia hemorrhagia. A dilated cervical canal implies a fibroid or polypus or hypoplastic endometrium. Enlarged ovaries or ovaries containing Graafian cyst or granulosa-celled tumours, commonly prolapse into the pouch of Douglas, and are readily palpable as swellings in the corresponding posterior quadrants of the pelvis.

Should no organic cause for the menorrhagia be recognized, it is essential to carry out a biopsy of the endometrium. The

material required for investigation is usually obtained by curettage after dilatation of the cervical canal.

Treatment

Every woman who seeks advice on account of alleged abnormal uterine bleeding does not necessarily call for active measures. In some cases all she needs is reassurance. A single abnormal ovulation, for example, may produce a temporary *menostaxis*, which next month will probably not be repeated. In other cases, e.g. hyperpiesia, a moderate haemorrhage is actually beneficial. Should an organic lesion be present it must, of course, be treated according to the accepted tenets.

If no obvious cause for the excessive bleeding be found then the case falls under the category of "functional" uterine haemorrhage, and treatment must be based upon the result of endometrial biopsy. Thus, chronic subinvolution or haemorrhage caused by metropathia haemorrhagica in women at the menopause can be satisfactorily controlled by the intra-uterine application of 50 mgm. of radium sulphate for seventy-two hours. In girls at puberty, and women below the menopausal age, *radium therapy* is not naturally inapplicable except in extreme cases. If bleeding is not checked by such simple measures as the administration of a hot vaginal douche at a temperature of 116-118° F., and the administration of hydrastis hydrochloride, or the cotarnine salts, e.g., "stypol" and "stypticine" a trial may be made of the luteal or male testicular hormones.

A useful prescription for treating functional uterine menorrhagia, before resorting to hormone therapy, is the following:—

Stypol	...	...	1 grain
Potass. bromidi	...	...	10 grains
Tinct. cannabis ind	...	...	5 minims
Tinct. belladonnae	...	...	5 minims
Syrupi auranti	...	...	30 minims
Aquam chloroformi ad	...	...	1 ounce

Sig. 1 ounce t.d.

Another preparation of proved efficiency in similar cases is Liquor sedans (P. D. & Co.), in doses of one teaspoonful (4 c.cm.)

three times daily. It contains hydrastine, viburnum prunifolium and piscidia piscipula (Jamaica dogwood).

Hormone Therapy.....When careful consideration of the clinical feature suggests that menorrhagia is the result of unrestrained activity of too much or too concentrated oestradiol it would seem that the obvious therapeutic measure is the administration of the physiological antidote, viz. either the luteal hormone *progesterone* or the testicular hormone *androgen*. Although success does not attend the hormonal treatment of menorrhagia in all instances, there is no doubt that in selected cases remarkable results are obtainable. The reason for failure probably lies not with the therapeutic agent, but with a wrong diagnosis. It cannot be emphasized too strongly that autonomic metrostaxis is not amenable to treatment by hormones. Bleeding due to this cause is controllable by belladonna, acetylcholine, bromides, ergotamine and the cotarnine salts. On the other hand, menorrhagia of puberty, menorrhagia associated with the presence of follicular cysts in the ovaries, metropathia haemorrhagia, and bleeding in conjunction with clinical evidence of oestriosis, e.g. cervical erosion and leucorrhoea, can all be treated by progesterone with every prospect of success.

There are available to-day many pure crystallized synthetic preparations of progesterone suitable for this purpose. British Drug Houses Ltd. provide such an agent under the name in ampoules containing either 1, 2 or 5 international units per cubic centimetre. A daily injection of 2 units for four days before menstruation usually suffices to control uterine bleeding within normal limits. It is useful during the subsequent sex cycles to reinforce progesterone therapy by the addition of a gonodotrophic hormone, such as gonan (B. D. H.) or antuitrin "S" (P. D. & Co.). These internal secretions of the anterior lobe pituitary prepared from the urine of pregnant woman exert a luteinizing effect upon the ovaries and aid in re-establishing the normal function of these organs. An injection of 1 c.cm. containing 500 units of gonan should be given on three occasions during the ten days preceding the onset of the menstrual function.

Gonadotrophic hormones must be administered intramuscularly. Until recently the same applied to the luteal hormone

progesterone. Under the names of lutogyl (oral) (Rouseel) and progesteral (Organon Laboratories Ltd) there are now available synthetic preparations of anhydro-oxy-progesterone which may be given safely by mouth and which, in sufficient dosage, will produce a physiological and therapeutic effect. The dose is five or six times as much by mouth as is required to effect the same result by the intramuscular route. Thus, to control the menorrhagia of puberty, or that associated with metropathia haemorrhagica, it is necessary to prescribe three lutogy 5 mgm. tablets daily for ten days. In severe cases this dose is doubled during the few days preceding the expected function.

In conclusion, one word of warning may be noted. Do not give either ergot or progesterone for the treatment of menorrhagia after an air-raid and expect the bleeding to be controlled! A sedative mixture containing belladonna, cannabis indica, and a bromide salt, a barbiturate, or even opium, is much more likely to be efficacious. The treatment of hormonal menorrhagia is one thing; the treatment of autonomic metrostaxis is entirely another.

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Inguinal Hernia and Hernioplasty

BY

DR. N. MANGESH RAO, M.B., C.M., F.R.C.S., (Eng.).

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

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 conjoined 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 public region.

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

4. **SLIDING HERNIA:**—*Indirect inguinal frequency:* In males 95% of all herniæ 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 herniæ 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.

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. It is generally accepted now that 90% of oblique herniæ 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 patency 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 development testis exerts a pull on the patent funicular 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. 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 coming down against the fixed inguinal ligament 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 MacBurney 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 fascial 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. 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:—Hesselback's triangle is bounded laterally by deep epigastric vessels, medially by the lateral edge of rectus abdominus 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 cms. the lower fibres of internal oblique and transversalis being inserted into the rectus sheath 7 cms. 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.

1. CAUSES:—A congenial 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 herniae 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 slips 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 ascends upwards showing little tendency to descent 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 sometimes the colon on the outer side in herniae 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 herniae rarely grow to large size and rarely get strangulated. Only about 2.5% of strangulated herniae 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 herniae. On coughing the impulse is felt by the pulp in direct type and by the tip of the finger in the indirect type. Since an indirect hernia enters through the internal ring and emerges out at the external, obliteration of the internal ring by pressure of a finger does not cause the hernia to bulge.

Interstitial Herniae

These occur with retained testis or undescended testis. There is an absence of cremaster and the abdominal rings may be super-imposed. 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 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 Herniae

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 herniae. 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 herniae 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 per cent of herniae 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 10 years hernia cannot be cured by trusses and requires operative treatment for cure. Herniae 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 herniae are best left alone. These have much 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 available on the 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 public attachments 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 autoplasic, 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 fibrous union can take place,

if muscles and fasciae are completely denuded of all areolar tissue. But in this recurrences though small 4-5 per cent do occur. Gallie reports excellent results without recurrence by the use of fascia lata suture. These living fasciae 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, then 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 pleating, 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 herniae 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.

Indication for Prevention of Recurrence

1. Early and adequate operation before the conjoined tendon gets atrophied.
2. Use of fascial transplants as sutures for large herniae 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 in a couch. Return to work only after three months. Lifting weights and straining to be avoided for six months.

Ref: The Antiseptic, Vol. XXXII, No. 2.

Thyrotoxicosis

Reilly presents a follow up of sixty-two patients who have had marked thyrotoxicosis during the last twenty-five years. Most of the patients were observed for some years after full arrest had occurred. The disease most commonly occurs at 12 to 14 years and is arrested by the eighteenth year, with an occasional recurrence as late as the thirtieth year. From three to four cycles of the disease, each less severe and of shorter duration, usually recur from two to four years before full arrest sets in. Fifty-five per cent of the patients required surgical intervention because toxicity was severe and persistent. In half of the cases thyroid hyperplasia is relatively high, self limited, short lived and not a great menace to health in childhood or in later life. However, toxicity is often serious and definite complications ensue. Familiar occurrence, overactivity of the para-sympathetic nervous system, infection and adolescence with its accompanying "hyper pituitarism" and emotional upsets, singularly or more often in combination, brought on the disease. While infection was a strong factor in many, sex and adolescence and the probable overactivity of the anterior lobe of the pituitary were striking factors. There were eight boys and fifty-four girls. The clinical picture in children, with several exceptions, is the same as that in adults. The exceptions are skeletal growth and sexual maturation. The patients were Californians. The mountainous areas of California are endemic for the disease. Its occurrence may be linked with a low intake of iodine in the water. Information on skeletal growth was available for forty-four patients; thirty-six were tall and eight were of average height. Parallel with this "gigantism," the epiphysial age was accelerated markedly. Girls of 13 and 14 years of age often had bone ages of 16 to 18 years. Tall girls were often eunuchoid in proportion, but occasionally they were heavy framed and "acromegaloid." The teeth were often prematurely developed and erupted. This depended on the severity and duration of the disease. Studies indicated demineralization of the body and skeleton. Information on sexual

maturity was available for thirty-one girls. Secondary sexual characteristics often fail to appear during toxicity or they develop slowly. Menstruation failed to develop in four and was scanty in four, amenorrhea followed toxicity in nine and the menses were normal in fifteen during toxicity. In the only boy studied, sexual maturation was retarded. The more active the toxicity the longer its duration, and the nearer it occurred to expected puberty the more suppressed was sexual maturation. As the disease occurs more often during the normal periods of growth spurts, hyperpituitarism and thyrotropic hormone may play an activating part. A one stage resection of the thyroid arrested the disease in more than 90 per cent of the thirty-three patients operated on. One recurrence, nine years post-operatively, was successfully arrested by irradiation. Preoperative irradiation was not successful in reducing the activity of the thyroid. Before surgical arrest, twenty-eight of the thirty-three patients operated on were treated by other means; these often only temporize. There were twelve definite and three questionable recurrences; six of the definite recurrences occurred between the ages of 18 and 30 years with three to twelve years since the previous activity. Surgical recurrence occurred in 6 per cent of the patients. Complications occurred in twelve of the fifty-one patients in whom they were recorded. Mild hypothyroidism occurred one after six years of very active toxicity. Myocarditis was encountered in seven patients, and all recovered. Fibrillation occurred once. Osteoporosis was observed in three patients. Alpecia was seen in one patient and ennuroidism in two patients. Nervousness was frequent. Thyroid crisis occurred in two patients. Among the thirty-three patients operated on, hypothyroidism was permanent in two, in one at 12 years (four years postoperatively) a mild hyperthyroidism began and was still present at 30 years and in four hyperthyroidism after operation was only temporary. In two patients hypoparathyroidism was permanent but mild and controllable, in two it was temporary but mild and in one it lasted nine years, and hyperventilation was present.

Ref: American Journal of Diseases of Children
Chicago, 60; 1-248 (July) 1940,

The Prevention of Pulmonary Tuberculosis

BY

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Although pulmonary tuberculosis is a disease which as yet we have failed to prevent, I feel that it will be useful to see what practical conclusions with regard to its control can be drawn from the data that emerge from the host of observations of its manifestations made during the present century, and from present conceptions of its pathogenesis. It is important at the outset to get a clear idea of the exact relation of a pulmonary tuberculosis to the national life of to-day.

In 1937 some 24,000 persons died of pulmonary tuberculosis in the British Isles. That the death rate from pulmonary tuberculosis is steadily falling year by year is well known and this alone must be a cause for satisfaction and congratulation. At the same time, this apparently uninterrupted success must not induce a sense of future security, but rather it should act as a stimulus to more intense effort to combat a disease which is still a grave menace to national health and contentment. That the steady fall in the death rate from pulmonary tuberculosis is an achievement need not be denied; and although it cannot be ascribed to any particular public health enactment, it can be ascribed without injustice, in part at any rate, to the steady improvement in personal and public hygiene: an achievement of the medical profession working through the Public Health Service.

Before proceeding, it must be made quite clear that this discussion deals with the prevention of pulmonary tuberculosis, not tuberculous infection. They are two distinct clinical, pathological, and epidemiological conditions. The one, infection, although the prime cause of the other, is to the average individual just as unimportant and inevitable an event as the onset of pulmonary tuberculosis is one which is grave but by no means inevitable. It has long been known that in the urban population of civilized countries tuberculous infection is almost

universal: the proportion of persons infected by the age of twenty-one being round about 90 per cent. In rural districts the figure is much lower and varies widely between different areas. As however, the main problems of pulmonary tuberculosis come from urban and industrial areas, this discussion will be confined to them.

The tuberculous infection can be detected by the Montoux skin reaction, and the determination by this method of the prevalence of infection in the population up to the age of twenty-one in urban areas brings out a fact which may be of importance to the problem of prevention.

Predisposing Factors

Much has been taught and written about the "soil" and the "seed" in the etiology of pulmonary tuberculosis. The inevitability of infection has been accepted more or less, and a careful study of pre-clinical histories of patients, and the fact that so many escape pulmonary tuberculosis in spite of the prevalence of infection, led to the idea that the "soil" was the more important factor. Bad environmental living conditions—poverty, lack of air and sunlight, overcrowding, overwork, under-nourishment, mental and physical strain—were supposed to lead to a general lowering of resistance to infection so that either the original infection spread to the lungs or elsewhere, or reinfection, otherwise harmless, was permitted to take root and flourish. It is impossible to escape the plausibility of this; pulmonary tuberculosis certainly has always been more prominent as a descent is made in the social scale, and the evil conditions of life described above appear frequently in the histories of patients with pulmonary tuberculosis. But, like many satisfying hypotheses, it has perhaps been accepted too easily and obvious exceptions have been ignored. Thousands of the poorest classes living and working in the worst environment is of the best succumb. I want to suggest that the facts—undisputed though they are—may have been partially misread, and that the "seed" is as, or more, important than the "soil."

The Menace of the "Sputum-Positive" Person

All the listed bad environmental conditions, whatever they may do to a suppositious "general resistance to disease," at

the same time are all of them associated with conditions which favour repeated and massive infection *provided that a sputum-positive person accompanies them*. The hypothesis that repeated massive infection is mainly responsible for the adult-type pulmonary tuberculosis, without denying the possible importance of lowered resistance, would explain the escape of those who do live in a continuously evil environment, and also, since repeated and massive infection is still quite possible, though not so inevitable, in the palace as in the the slum tenement *provided a sputum-positive person is there*, would also explain why those whose environment is of the best may still succumb to pulmonary tuberculosis.

Two recent research reports are in favour of this hypothesis. The first is the survey of tuberculosis in Cyprus by the late Noel Bardswell. He found that the morbidity and mortality rates in the island were much the same as those in the British Isles, but that pulmonary tuberculosis was rampant in certain families. Although a pastoral people, the living conditions of the Cypriot peasant are apparently bad. Whole families live in unventilated, unlighted, undrained hovels, which they share with their animals in conditions of squalor and desperate overcrowding. In any village, if a case of pulmonary tuberculosis occurred in a household, the disease would run riot in that household, whereas other households of the same village, living under exactly the same terrible conditions, were as hardy and healthy as the animals they tended. The second is a statistical study entitled "Tuberculosis and Social Conditions in England" by D'Arcy Hart and Payling Wright (both of these monographs being publications of the National Association for the Prevention of Tuberculosis) in which the relations of living conditions such as wages and housing, to the incidence of pulmonary tuberculosis are considered. This shows that housing, and especially overcrowding, is the one environmental factor which has the closest direct relation to the incidence of pulmonary tuberculosis. Both these observations suggest that close personal contact with open infection is an important etiological factor.

A consideration of these facts, and my, general impression, lead me to formulate the hypothesis that it is repeated exposure to infection that is one of the most important elements in the

etiology of pulmonary tuberculosis. If this hypothesis is admitted, the problem of prevention becomes clearer, even though it may be no less difficult. There seem to be two ways to approach it:

(i) By removing the sources of infection, the sputum-positive cases.

(ii) By such enactments as will make repeated exposure less frequent, even though the sources of infection remain in our midst.

Preventive Measures

Removal of the sources of infection would appear impossible. In the first place there would be considerable difficulty in finding all the sources of infection, and as definite pulmonary tuberculosis with a positive sputum is quite compatible with a fair degree of general health and an ability to do a full day's work without the necessity of seeking medical advice, a full medical examination would have to be forced on the whole adolescent and adult population at fairly frequent intervals, a difficult and costly undertaking. If all, or the majority of, the sputum-positive members of the population could be detected, what then? The implications are far-reaching. Their elimination would entail the forcible detention of all such people in some form of colony or concentration camp, from which for the majority there would be no release; and even if, as the result of treatment, a percentage of these lost their sputum, or lost the tubercle bacilli from their sputum, what guarantee is there that this result would be permanent or, if permanent, that they were no longer infectious through the other excreta? It would also entail the closing of our ports to all foreign visitors, at any rate until they had undergone a very strict quarantine examination which, among other things would have to include gastric lavage.

There is, however, an indirect method of removal of the sources of infection of which I believe we are seeing the beginnings and which, when it develops may achieve much. It is now generally accepted that pulmonary tuberculosis can be, and should be, detected in its pre-clinical symptomless stages by the use of *mass radiography*. By universal mass radiography

we should have the chance of detecting the potential sources of future infection and so treating them that they might never become actual sources of infection. Such a scheme, successfully handled should mean the steady dwindling of the number of sputum-positive cases, not to zero, but to such a low figure as to make them communally harmless.

Here, too, there are great difficulties. To make mass radiography extensive enough to be of practical value means public enactments and an apparent infringement of personal liberty, but with the help of such bodies as public and private educational authorities, public service employment authorities, insurance companies, and large employers of labour, public opinion might be educated to appreciate the necessity and advantages of such a procedure. In this connexion must be noted that the "contact" work of dispensary service, which should lead the way in this direction, leaves very much to be desired, especially as our hypothesis suggests that repeated familial exposure must be one of the gravest danger spots.

This idea by no means Utopian, but it is looking a long way ahead, and even if it were put into practice we should not in the meantime wait passively for its results. We must face the fact that there are, and will be for a long time, innumerable sputum-positive cases in our midst, and our duty is to render them as harmless as possible. Mass radiography and better contact examination should enable us to detect their victims earlier and, in addition to helping us to prevent these victims from becoming future sources of infection, give us the chance of saving or prolonging their lives and so lowering the present death rate; and even if we cannot lower the death rate, we may at least be able to push its peak to a later age and thus benefit the community.

Hygienic Measures

Until we can, by some such means as I have suggested, materially decrease the numbers of sputum-positive cases, we must turn our attention to rendering them harmless by the improvement of public and private hygiene. More and more stringent regulations should be made to govern the conditions

under which people work. Modern factory conditions have made enormous strides, but these improvements are not general enough. Regulations should be made to cover *all* forms of collected labour; the clerk and the shop-assistant run as big a risk as the factory worker, perhaps even bigger. The working conditions in some of the most modern and up-to-date stores as regards the danger of pulmonary tuberculosis are appalling. Improvements in public hygiene can be achieved by law; improvement in home hygiene is much more difficult. Some people will "pig it" whatever is done for them. Slum clearance and education in family hygiene will all work in the right direction, and legal enactments against familiar overcrowding, unpopular though they would be, are a modern necessity.

Our aim must be, and it will be eventually achieved, to discover without fail the victims of potential pulmonary tuberculosis at a stage of their disease at which we can, by treatment, save their lives and prevent them from swelling the great army of dangerous carriers.

Part of the General Practitioner

The general practitioner may well feel that it is difficult for him to take much part in any such schemes for the prevention of pulmonary tuberculosis, especially as the treatment of the disease is largely taken out of his hands by the State; but, as ever, he is a most important factor. His pronouncements carry weight his attitude towards his consumptive patients and their contacts, and indeed all his patients, will have a greater effect than anyone else's in the matter of public education. If he will keep himself *au fait* with what is being done in his district to discover and deal with the early pre-clinical cases, and encourage his patients to co-operate, his strong influence as the family doctor will make him an important factor towards success. Without his support any such scheme will make slow headway.

In the cases of those of his patients with open disease and positive sputum he cannot, of course, as their private practitioner interfere with their public activities, save by advice. In their

homes, however, he can do much to make them less dangerous to their families, and it should be his duty, in co-operation with the local Tuberculosis Dispensary, to see that all the contacts are examined and that, for the adolescent contacts, the examination is repeated at intervals up to the age of twenty-one. Whatever public enactments are made there will always be loopholes for evasion, and success can only come with public co-operation, and thus the general practitioner who is really in closest touch with pulmonary tuberculosis among the people will be, as ever, the most important link in the armour of prevention.

(From the Practitioner, Aug. 1940).

Proceedings of the Monthly Meeting of the Trichinopoly
District Medical Association held on 5th October 1940

A monthly meeting of the above association was held at 5 P.M. on Saturday the 5th October 1940 when, about 30 members were present. Dr. N. N. Sujeer, District Medical Officer, Trichinopoly, presided and Dr. P. Krishna Rao, L.M. & S., Presidency College Medical Officer, delivered a lecture on 'Nutrition Policy for India.' Dr. K. P. Chidambaram of the Govt. Hd. Qrs. Hospital, Trichy, was at home!

The Secretary first welcomed Dr. N. N. Sujeer to the Association and hoped that with his enthusiasm and thriving force the association would be much more active than which has been till now. He also welcomed the other new members Drs. B. Shanker Rau, Asst. District Medical Officer, Trichy, M. K. Menon, Ariyalur, and N. G. Subramania Iyer, Sendurai.

The Secretary then explained about the formation of the Provincial Committee of the Indian Medical Association at Madras on 30th of September and after explaining the duties of the Provincial Committee requested that three members representing this Association on the Provincial Committee to be elected and also informed the members that the suggestion of Indian Medical Association was that the two members representing this Association in the Central Council and another might be elected to the Provincial Committee. Dr. R. Sambasivan suggested that the matter might be postponed to the next meeting. But in view of the average attendance that day and since the notice had already been given about this election, it was decided by the majority of the members that the elections, to be held and that the two members representing this association to the Central Council i.e., Dr. T. S. S. Rajan, Dr. P. A. S. Raghavan and another Dr. T. V. Srinivasan to be elected to the Provincial Committee.

Dr. Raghavan then demonstrated an interesting case of an old man of about 64 with a stricture of the oesophagus

at the upper part with consequent formation of diverticulum about it as also stricture of the cardiac end of the oesophagus with consolidation and abscess of the lung of the left lower lobe and also demonstrated a number of skiagrams taken in the case. There was an interesting discussion on the case and many members took part.

Dr. B. Shanker Rau demonstrated a case of Reynaud's Gangrene for whom amputation of the remaining leg have been performed, the first leg having been amputated about five years back. The patient was a young man of thirty years and there was no radial pulse on either hand and the discussion was whether something could be done to prevent gangrene of the hands. His periarterial sympathectomy had been a failure. Dr. Sambasivan suggested injections of Vitamin B and Acetylicoline.

Dr. Iravatham, the honorary Pathologist and Dr. T. V. Srinivasan the honorary Asst. Medl. Officer jointly demonstrated cases which simulated Khilazar and the blood picture was negative.

Then Dr. P. Krishna Rao, during the course of his lecture said:

The low average life of Indian, the high rates of infantile and maternal mortality, the low level of health and poor physical fitness—all these indicate that we have no definite health policy, much less a nutrition or food programme. A nutrition policy should be enunciated so that all sections of the population have a reasonable opportunity of getting a *satisfactory* diet.

The ill or well balanced, adequate, standard, or optimum diet serves only academic interest. The practical diet that builds health is the *satisfactory* one. This *satisfactory* diet is governed by (1) physiological needs of the human system; (2) psychological motives that create and satisfy the appetite; (3) social customs, castes, and creeds to which the individual or the community belongs; (4) environmental factors, such as city or village life; and (5) economic conditions of the individual and the community.

In planning a satisfactory diet, the dictum "take care of calories and the other contents will take care of themselves" is a sound one to be taken note of. We should not make fetish of vitamins and their products. Different Communities have differing types of foods and the composition of the diet varies from time to time.

The food-habits of the people have changed to the detriment of their health and physique. The causes are—(i) students' hostels and public hotels which have created uneconomical false appetites and standards of dietary **without** any thought on the health of the boarders; (ii) the extensive use of machinery in place of manual labour, leading to the supply of milled rice, as against hand-pounded rice; (iii) the low standard of living; (iv) the large export of fresh food produce, like sugar, rice, wheat, fruits, and vegetables, and (v) lack of interest in his own health and food problems.

Nutrition problem involves the questions of poverty, employment, prices of foodstuffs, agricultural production and distribution. Therefore, it is largely a question of economic distress.

The food policy is to be adjusted, so that the great wealth of food which we have, will be brought within the purchasing power of the poorest. The general public must be made to buy wisely or efficiently the foods needed. Educational efforts are absolutely necessary and especially when the public are deluged with motivated advertised foodstuffs, in newspapers. The immediate aim is the correct management and utilisation of available resources rather than enlargement of them. The object is to correct bad food-habits and to give positive instructions on right food, enough sleep, rest, and exercise the fundamental necessities of a healthy life, so that the citizen may feel himself mentally and physically fit, and also reach that standard of health, that no improvement can be effected by a change in the diet.

P. A. S. RAGHAVAN,
Hony. Secretary.

Trichinopoly Municipality

Details of Public Health Activities during October 1940

I. Vital Statistics :

Number of births registered	...	...	...	423
Number of deaths registered	...	...	...	286
Number of deaths from fever	...	...	...	1
Number of deaths from respiratory disease	...	...	...	18
Number of deaths under 1 year	...	...	...	53
Estimated birth rate	...	...	...	35.5
Estimated death rate per mille	...	...	...	24
Number of deaths from child birth	...	...	...	5
No. of deaths from Alimentary disease	...	...	...	43
Infant mortality rate	...	...	...	125.3

II. Infectious diseases :

	Attack.	Death.		Attack.	Death.
Cholera	Nil	—	Measles	Nil	—
Smallpox	1	Nil	Tuberculosis	not known	32
Chickenpox	Nil	—	Pneumonia	not known	32
Typhoid	not known	2	Diphtheria	Nil	—
No. of anti-cholera inoculation done	...	...		...	Nil
No. of anti-typhoid inoculation done	...	...		...	15
No. of vaccinations done :					
Primary vaccination	...	...		476	
Re-vaccination	...	...		2879	
			Total	...	3355

III. Maternity and Child Welfare :

(1) No. of cases visited by Woman Medical Officer.	(2) No. of houses visited by Health Visitor.
(a) Labour 5	(a) Infants ... 205
(b) Ante-natal 8	(b) Pre-school ... Nil
(c) Post-natal 117	(c) Ante-natal ... 45
	(d) Post-natal ... 6
(3) No. of labour cases conducted by Midwives...	... 150

IV. Propaganda:

No. of lectures with magic lantern demonstration	...	47
No. of lectures without magic lantern demonstration	...	13

V. Food adulteration:

No. of samples taken	...	...	...	25
No. prosecuted	...	...	...	5
Amount of fine imposed	...	...	...	Rs. 115
No. of samples reported adulterated	...	...	...	5
No. convicted	...	...	...	8

VI. Meat Inspection:

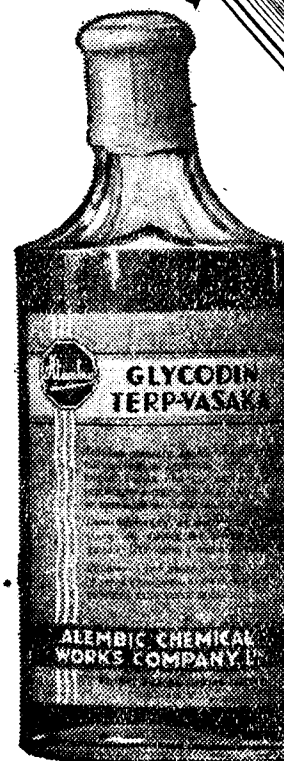
	No. passed	No. condemned
(1) Sheep	8088	114
(2) Goats	3132	17
(3) Cows and Heifers	307	2
(4) Bulls and Bullocks	101	24
(5) Buffaloes	41	2

VII. Dog Destruction:

(1) No. of dogs caught	172
(2) No. of dogs destroyed	153
(3) No. of dogs released	18

VIII. General remarks: Nil.

(Sd.) K. P. THOMAS,
Health Officer.



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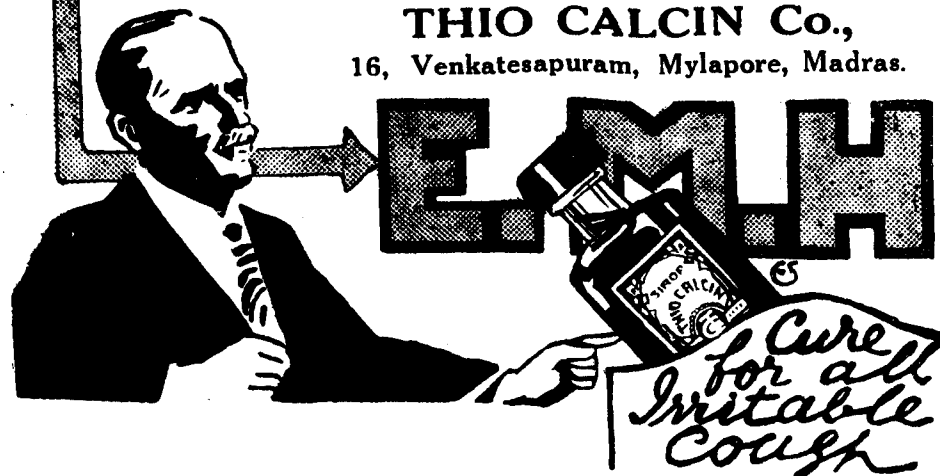
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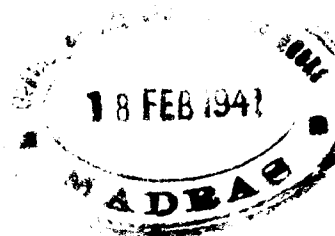
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THE MISCELLANY

OF



875

THE TRICHINOPOLY DISTRICT MEDICAL ASSOCIATION, Regd.

(Branch of the Indian Medical Association)

DECEMBER

1940

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Vol. VII

No. 12



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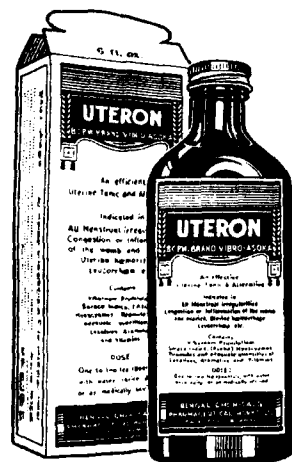
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TRICHINOPOLY DISTRICT MEDICAL ASSOCIATION

(REGISTERED)

FOR CIRCULATION AMONGST MEMBERS ONLY

Vol. VII]

DECEMBER 1940

[No. 12

Cancer Uterus

BY

DR. R. VENKATACHALAPATHY, M.B.B.S.

This is divided into two parts (1) cancer of the cervix and (2) cancer of the body. The former is the most common and even 40 to 80 per cent commoner than other conditions such as sarcoma or chorion-epitheleoma affecting the uterus. The frequency of occurrence of cancer of cervix in Multipara and its earlier incidence between the ages of 30 to 45 go to show that it is found at the end of the child-bearing period of a lady's life when she is on the threshold of menopause.

ETIOLOGY. As usual controversial and no deductions have so far been drawn as to the nature of its origin. Of course the universal theory of chronic irritation which has been applied to cancers in general in other parts of the body, is also given the prominence here. Cervical lacerations are said to lay open the endometrium and the discharge thus produced is the cause and the beginning of the irritative process. This is supported by the fact that in repeated child birth the cervix is badly lacerated leading to endocervicitis and irritating leucoreal discharges. The other factors such as heredity, age, parity, etc. are said to play a minor role.

PATHOLOGY. The cells of the cervix are essentially of the squamous type whereas those of the body are columnar. Some growths start at the junction of the cervix with the body where the squamous epitheleum meets the parenchymatous

epitheleum at the endo-cervix. Two varieties of growth are encountered with—1. The Proliferative. Here the growths are confined to the cervix and hence squamous celled in nature. They are cauliflower like, proliferative, exuberant with everted edges. 2. The ulcerative or the excavating varieties are endo-cervical growths extending upwards and they grow in all directions. These growths slough and ulcerate with necrosis and take on a deep route. In these growths symptoms manifest rather late in disease and shatter our hopes of a good prognosis. Even in this type it is said that the body of the uterus is not involved.

The first effect of a cancerous growth is its attack on the lymphatic system, its favourite election of spread. The solitary parametrial or the uretral gland situated at the junction of the uterine artery and the urethra takes the credit of being attacked at the very start. Next in frequency come the glands situated in the broad ligament, then the obturator and the external iliac glands. Then posteriorly the internal iliac or the hypogastric set of glands and still more posteriorly in front of the sacrum the sacral glands get affected. If we trace upwards the spread invades the common iliac, the aortic and the lumbar group of glands. The enlargement of the inguinal glands in a case of cancer is due to the invasion of the cancer cells of the glands which form the chief path of drainage for the fundus, round-ligament and the labium majus.

SPREAD:—The usual four methods of spread apply here also.

1. *Permeation*:—Here the spread is affected without the involvement of the lymphatic system, i.e., it is merely an extension of the growth from tissue to tissue by mere continuity.

2. *Lymphatic Spread*:—This is the commonest mode of spread in all cancers and metastasis to distant regions of the body takes place by this route at a very early stage of the disease thus putting the greatest bar in our efforts at a curative treatment.

3. *Implantation*:—This is the common mode of spread in chorion epitheleoma, and the fungating types of growths. In

this pieces of growth get detached from the parent and implant themselves in neighbouring structures. Distant metastasis is explained as also possible by this method.

4. *Blood stream*:—This is the rarest mode of spread especially in a case of cancer, though commonest in sarcoma. Perhaps metastasis in the lungs and kidney is rarely affected by this path.

In advanced cancerous extension there is always an inflammatory zone around the ureter and peri-urethritis occurs. Thus the ureter gets constricted and the portion above the constriction dilates giving rise to stasis of urine and infection. This leads on to back-pressure causing pyelitis, pyelonephritis and surgical kidney. The ultimate result of these is uraemia leading on to coma and death.

CLINICAL GRADING:—1. Cases where the cancerous process is confined only to the cervix i.e., the portio-vaginalis.

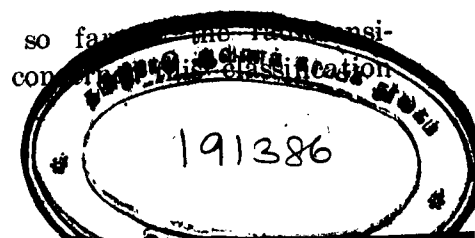
2. Cases where the growth extends into the anterior, posterior and lateral fornices and the proximal portion of the broad ligament.

3. A further advance of the previous case where extension occurs both anteriorly and posteriorly i.e., to the bladder in front and the rectum behind. It completely invades the fornices and the broad ligament.

4. Is the most advanced stage, where extensive metastasis into the brain and lungs occur with fistula formation. The clinical grading is important in so far as the treatment is affected. In the 1st stage itself people might be led away by the erroneous impression that amputation of the cervix alone would do. But from the pathology it has been noted that the earliest cases are seen with extension into the lymphatic system in the neighbourhood. So this goes to prove that even ordinary hyperectomy seems an incomplete procedure. Thus Werthen's operations with pan hysterectomy is suggested as the method of choice.

HISTOLOGICAL GRADING: In so far as the histological classification of the cancer cells is concerned, the following classification is suggested.

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is important. Accordingly this is divided into four groups:—
 (1) Spindle celled carcinoma, (2) A mixture of spindle and transitional celled carcinoma (3) purely transitional celled carcinoma and lastly (4) the spinous celled variety. The spindle celled variety or group (I) is said to be most malignant but at the same time it is most radio-sensitive thus showing the importance of an early diagnosis enhances the curative value of the case. On the other hand the spinous celled variety though less malignant is very much radio-resistant so that it is not easily amenable to the radium treatment.

SIGNS AND SYMPTOMS: 1. **Bleeding**—This is earliest symptom and first thing that is noticed by the patient. Even this is supposed to occur only when the cancerous condition is advanced at least three months. The slightest injury such as a casual vaginal examination, a simple coitus, the passing of a douche nozzle, an automobile journey or sometimes even straining at stools is supposed to start the bleeding aptly called the "spotting."

2. **Watery discharge**:—This should not be confused for the foul smelling discharge in the later stages of the disease.

3. **More of haemorrhage, sloughing masses, foul smelling discharge** when the case is a little more advanced.

4. **Cachexia**:—Severe anaemia, anorexia and dry skin and these are all explained as due to the sepsis.

5. **Pain**:—This is a late symptom and is commonly seen a year or so after the condition had developed. Severe pain in the lower part of the abdomen is said to be invariably associated with groups III and IV.

COMPLICATIONS: 1. **Profuse bleeding**. This is a common complication almost at the end stages of the disease, due to the erosion of a big vessel. Sometimes is due to the wrong technique in the application of radium. The haemorrhage is purely external.

2. **Fistula formation**: Either a vesico vaginal or a recto-vaginal and there is a discharge of either urine or faeces through the vaginal orifice.

3. **Pelvic peritonitis** leading on to a huge excavation into the parametrial tissue and causing the hard "plaster of paris Pelvis."

4. **Distant metastasis** into the kidney, brain, etc.

5. **Peri-urethral infection** leading on to back pressure and its consequences, such as pyonephrosis, uraemia with the end result of coma and death.

DIFFERENTIAL DIAGNOSIS.

Early diagnosis is all the more important, since even then the aim at curing the disease falls to 80%. This has to be differentiated from:

1. Tuberculous, syphilitic and septic ulcerations
2. Erosions,
3. Cervical fibroids
4. Chronic cervicitis
5. Sloughing polypi
6. Missed abortion.

In the last a dirty discharge and pain is common. The cervix is dilated and the mass is felt per vagina. In the cases of polypi there is a history of one to two years while discharge and the polypoid mass is felt on P. V. In chronic cervicitis there is hypertrophy of the uterus and the cervix is barrel shaped in contradistinction to the small uterus found in cancer. In cervical fibroids there is no bleeding on passing a sound and the tumour is felt easily.

Ulcers and erosions cause the greatest difficulty. In erosions we find a bright red granular surface around the Os soft to the touch and velvety in appearance. In cancer on the other hand it is dry area at the junctional epithelium of the portio vaginalis hard to the touch with an indurated base. The tip of the sound gets in easily into the cancerous area and bleeds in one or two places unlike the oozing in various places in an erosion.

DIAGNOSIS: Schillers' Test:—1. A solution of Iodine in Potassium Iodide is applied to the cervix after cleaning it.

A normal squamous epithelium contains glycogen and this stains the surface into a beautiful mahogany colour. Even in the earliest cancer cases these epithelial cells lose their glycogen content and thence when we apply the solution that particular portion of the surface remains unstained. This test is erroneous since even in tuberculous and syphilitic ulceration or the mere application of volselum denudes the surface of its epithelium and causes an error in the diagnosis.

2. The best thing to clinch at a diagnosis is to send a piece of the growth for pathological examination.

TREATMENT: Divided into (1) Operative (2) Radium (3) Palliative.

1. OPERATIVE: Is very extensive and risky. It involves a panhysterectomy i.e., complete removal of the uterus with the glands and the parametrial tissue, i.e., the entire pelvis is cleared of the invasion except the ureter and the pelvic vessels. This is the method employed in Werthen's operation. There is always a primary mortality.

2. RADIUM: This is very costly and not within the reach of the poor or average man. The application is done in five different ways, (1) needling (2) cavitation (3) surface application (4) deep burying and (5) distant therapy called the Bomb method. In the last method 4 grammes of radium in a container is placed at a distance of 10 cm. from the cervix. The patient is exposed for an hour. Thus it is a big dose given for a short time. The common methods employed are needling and cavitation.

Details of application:—50 m. gr. in a container is kept for 48 hours amounting to $50 \times 48 = 2400$ m. gr. hrs. are applied. Then wait for a week and then repeat till 7200 m. gr. hours are applied. Then a course of deep X-ray therapy about six exposures is advocated. The object of this is to kill any stray or outlying malignant cells. In the Paris method of application two varieties of needles one 13.3 m. gr. and 6.6 m. gr. are selected. Two of the former are put in the cervical canal i.e., 26.6 m. gr.; one of the former and one of the latter are put in each of the fornices i.e., $2(13.6 + 6.6) = 2 \times 20.2 = 40.4$ i.e., a total

of $26.6 + 40.4 = 67$ m. gr. This is put in the fornices by a spring device which stretches the vaginal fornices and called the colpostat. Hence in this method a good amount of radium acts throughout. In the Stockholm method 40 m. gr. are put in a container and in addition a separate 60 m. gr. is applied as a surface application.

Contra indications:—1. R. B. C. reduced to two million and W. B. C. to 7000. The radium should be continued only after improving the blood condition. Otherwise adopt deep X-ray.

2. Sepsis or sloughing masses.

3. Pyometra i.e. pus in the uterus as a complication of cancer and this will lead to severe reaction.

4. Sudden death perhaps due to histamine poisoning. So a thorough cleaning is advocated before the application.

Complications:—

1. Acute Peritonitis.

2. Radium Burnes.

3. Retension of urine and fistula formation.

4. Profuse bleeding due to erosion into a vessel.

PALLIATIVE: Applicable in bad cases where we can do nothing. Bromides, or a. p. c. powders especially at nights to relieve the pain. After some time these have no effect and morphia has to be resorted to. After sometime even $\frac{1}{2}$ gr. of morphia might be required to keep the patient quiet. Daily saline douches can be given to keep the discharge from smelling. Once a week a thorough clean up can be given. The sloughs are removed with H_2O_2 and acetone is applied especially in cauliflower growths. By this means the whole slough comes off. This is preferably done even before an operation. Even in spite of morphia the patient has pain and bleeding. In such cases alcohol injection is tried; 0.75 c.c. of absolute alcohol is given as a spinal injection choosing the space between the 2nd and the 3rd lumbar vertebra. If successful pain is relieved for

8 months and hence this has to be repeated. On its failure sympathectomy is resorted to.

CANCER OF THE BODY: Common in nullipara and the age of incidence is much later i.e., after the menopause after the age of 50. The progress is very slow. The uterus is probably little enlarged, and the invasion is slow. It is an adenocarcinoma and the cauliflower like growths are commonly encountered with. It gives rise to pyo-metria and spreads in all directions. The pain is explained as due to the stretching of the uterine wall and unlike cancer cervix is an early symptom. Even at 6 months the uterus is mobile and hence pan-hysterectomy is thought sufficiently curative. Radium is also tried.

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Minor Surgery in General Practice

BY

JOHN BRUCE, F.R.C.S. (Ed.)

The Minor Surgery of the Fingers and Hand

The surgical problems of the fingers and hand take justifiable precedence in any review of minor surgery. Well planned and well executed primary treatment may make all the difference between a normal and a permanently crippled hand; or between an unobtrusive deformity and a grossly misshapen member. The economic considerations alone make the subject one of inestimable importance, but to any body of medical men the subject is one of abiding interest, since we ourselves so often run the risk of ruin, in so far as the practice of our craft is concerned.

Accidental wounds of the Hands and Fingers

Accidental wounds may be variously classified but our purpose here is well served if we accept that wounds may be *simple*—that is, involving skin and subcutaneous tissues only—or *complicated*—by tendon, nerve or bone damage, by loss of skin, or by infection. In general it is wiser to despatch complicated wounds of the hand to a centre where they can be dealt with by all the resources available to the surgical expert. Nevertheless, the exploration of apparently simple wounds will occasionally reveal unsuspected tendon damage, and it is well to have an established routine of treatment.

The first consideration is that of anaesthesia, and for the general practitioner this constitutes, I should imagine, the biggest individual problem of all his minor surgical work. In my opinion, local anaesthesia is best avoided in cases of hand injuries. The tension of the solution may be just sufficient to determine further tissue devitalization; the injection may predispose to, or spread infection, and the operation may prove to be more extensive than appeared at first sight.

General anaesthesia is to be preferred, and is very conveniently obtained by one of the intravenous solutions. Pentothal sodium (5 gm. in 10 c.c. of distilled water) has proved particularly efficacious; it is given by injection into a convenient forearm vein rendered prominent by proximal compression. This drug is quickly detoxicated, and in a large personal series no untoward effect has been recorded. Nevertheless, it is good to know that a specific and dramatic antidote is available in the shape of gr. 1/60 picritoxin. The pentothal is obtained as a powder in ampoules along with ampoules of distilled water, so that the preparation of the solution presents no difficulty.

If local anaesthesia has to be employed, a 2 per cent solution of novocain is suitable. Unlike cocaine, it can be sterilized by boiling and it keeps indefinitely. The needle should be introduced at some distance from the actual wound, and the injection made in the direction of the wound, so that some of the solution, escaping from the wound, will tend to wash out a certain amount of the dirt that is present.

The purification of hand wounds offers some little difficulty. The covering of the palmar aspect of the hand consists of rough horny epithelium, varying in thickness from 1/32 to 1/16 in. in normal people, up to three times this in manual workers.

The deeper tissues of the hand are delicate—the tendon sheaths especially—and are easily irritated, with production of adhesions. The use of strong antiseptics is to be deprecated, therefore, and it will generally be sufficient simply to soak the hand or finger for 10-15 minutes in soapy water, and then to scrub the skin gently, wash over with ether, and finally mercuric biniodide. If antiseptic treatment of the wound is indicated, probably the best and least irritating solution is a watery solution of flavine (1 in 1000).

The suture and ligature material of choice is waxed silk. In the deeper tissues this provokes virtually no foreign body reaction, and therefore minimizes fibrosis and the formation of adhesions. In the skin, too, the freedom from irritation favours healing in the thick epidermis.

Drainage should be carried out whenever there has been gross contamination with dirt, or when the wound has been

open for more than 6 hours. The best material is a slip of thin dental rubber—a piece of an old rubber glove, for example. Gauze must on no account be used. It is the reverse of an effective drain; it becomes saturated with blood and serum, and thus acts literally as a plug which denies exit to the secretions of the wound. It is wiser to drain, if in doubt; and the drain may be removed in 24-48 hours should infection not occur. The wound should be dressed with dry sterile gauze after a gentle application of gentian violet or flavine. Moist dressings are to be avoided at all costs; even when infection develops, they are bad, as they result in a sudden and devitalized condition of the skin, and so favour the spread of the infective process.

There is one last general point; although we all, in principle, accept the value of rest, both in the prevention and in the treatment of pain and infection in wounds, we are slow to apply it in practice. On the least provocation, therefore, the hand which has been stitched should also be splinted. Immobilization by simple bandage and sling is imperfect, and not to be trusted.

There are certain of the principles which guide us in the straightforward and uncomplicated wound, and they apply with equal force to those wounds which show complicating features.

Wounds Complicated by Tendon Damage

These are amongst the gravest of hand injuries, and when extensive, should certainly be treated in hospital. Quite often however, a damaged tendon is discovered only in the course of an operation, and the practitioner should therefore be prepared to deal with it. It is a safe and good rule never to attempt primary suture unless the wound is of the incised variety—glass cuts or knife wounds—and even then only when the wound is assuredly clean. It is often necessary to prolong the incision in order to secure the proximal end of a cut tendon, due regard should then be paid to the direction of the proposed extension. On the fingers, for example, the primary wound is generally transverse or oblique, and the proximal extension is best made along the side of the finger from one end of the primary cut,

When the ends of the tendon have been secured, suture should be carried out by the method of slicing and again the most efficient suture material is waxed silk. Wherever possible the sutured tendon should be covered by fat or fascia in order to prevent its adhesion to the skin wound, a complication which is one of the most potent causes of subsequent interference with function.

The exposure of a divided tendon may prove so difficult on account of haemorrhage that it is necessary to resort to the use of a tourniquet. When this is so, there are certain precautions that had to be observed if the procedure is to be efficient and safe. The wound should first be covered with sterile gauze, and the arm elevated for a period of 3 to 4 minutes. This favours the venous return of the limb, and also induces a reflex vaso-constriction which considerably reduces the blood flow to the hand. The tourniquet is then applied, and the first encircling turn should be sufficiently tight to occlude both the arterial and the venous circulation; if applied too slackly, the veins are compressed while the arterial circulation is maintained, and the part is left in a state of venous congestion which greatly hinders subsequent dissection.

The most common site for the application of a tourniquet in hand operations is the upper arm. The method, however, is not without danger, especially in women or girls with poorly developed muscles, for the radial nerve may be so compressed against the bone that paralysis develops. This "tourniquet paralysis," though temporary, may take 3 to 4 months to clear up, so that it is a serious complication. The risk of it is lessened if a broad rather than a narrow cuff is used, and in this respect the armlet of a sphygmomanometer makes an excellent and much safer instrument in general practice. It is, however, a good rule to remove any form of tourniquet as soon as the necessary exposure is obtained, the further manipulations being performed without it.

After tendon suture drainage should be avoided whenever possible. The pressure of a drain against an already traumatized and devitalized tendon predisposes to necrosis and sloughing, while it also favours the formation of adhesions within the

sheath. Lastly, after any tendon suture, no matter how small, splintage of the part in that posture in which the tendon is most completely relaxed is a "sine qua non" of success. In the hand the ideal splint is easily made for the individual patient from plaster-of-paris bandages. The simplest method of using these bandages is in the form of slabs or applications which are made roughly to the required shape, immersed in warm water, and then laid on the part dripping wet, and subsequently moulded to the required position. The plaster splint is retained in place by means of a gauze bandage. In the average case splintage should be continued in the relaxed position for three to four weeks after the tendon suture. Reeducative movements are then begun, and the usual physio-therapeutic methods employed to promote the return of function.

The prognosis after tendon suture varies considerably in different parts of the hand. Suture of the extensor tendons is, for example, a highly successful procedure. Wounds of the flexor tendons, on the other hand, have a bad prognosis and it is seldom indeed that wounds of the flexors of the fingers are followed by functional recovery. The prognosis is a little better in the palm, but here too, because of the close aggregation of so many tendons in such a confined space, a degree of permanent stiffness is the rule rather than the exception.

As a general rule, wounds of the hand which are complicated by fracture or by loss of skin should be regarded as outside the province of minor surgery. However, such wounds involving the terminal part of a finger are an exception. In such cases the lesion may involve soft tissues only, or else the soft tissues and the bone. In the latter event, the bony and soft tissue surfaces are commonly flush with each other, and if the wound is simply allowed to granulate the resulting scar is thin and painful. The proper procedure is then to remove the remaining part of the injured phalanx, in order to secure a proper fleshy scar, or else to cover the raw area with a free whole-thickness graft of skin, which may be conveniently taken from the front of the forearm, and anchored in place by a couple of stitches.

It sometimes happens that a detached portion of a finger is rescued and produced by the patient or his friends. In such circumstances replacement of the part is sometimes followed by union and the method is certainly well worth a trial unless the separated fragment is dirty or badly traumatized. It should be anchored with a couple of stitches, and a saline dressing applied; but a careful watch must be kept lest infection supervene. In the majority of cases, dry gangrene is the outcome, but even so, little if anything has been lost by giving the method a chance; and the eventual amputation need sacrifice no more tissue than a primary amputation at the time of the accident.

When the separated part of a digit is almost, but not completely detached, and is clean and not grossly confused, it may simply be replaced and fixed by one or two stitches. In many cases that is also followed by mummification, and formal amputation is subsequently required, but again nothing is lost thereby; on the other hand, the "fragment" often "takes", and unites. It is particularly important not to sacrifice any part of the thumb that can possibly be saved.

Tumours of the hand and fingers

The smaller tumours of the hand and fingers are suitable for operation in general practice. The principal varieties are the (1) ganglion, the (2) tendon-sheath tumour, and the (3) implantation or epidermoid cyst.

1. Ganglion

The ganglion is a cyst containing a thick mucoid substance with a certain resemblance to synovial fluid, and it is now generally agreed that the mucin is actually produced by the cells of the ganglion. The wall is not smooth and shiny, like the sac of a hydrocele, or the lining of a vein, and so injection treatment, at one time popular, is now considered valueless. Two methods of proved excellence are, however, available—formal excision and the "seton." The seton method is the simpler and in general practice always worth a trial in the first instance. A needle carrying a double strand of silkworm gut is passed through the swelling. The gut is left protruding from both needle

punctures, the ends being cut short. A gauze dressing is then applied. The contents of the ganglion tend to exude to the exterior along the gut, and the presence of the latter also induces an aseptic reaction which culminates in the obliteration of the cyst by fibrous tissue. The silkworm strands are removed in about 7 days, and the punctures sealed off with collodion, or covered by a dressing of Elastoplast.

Although these methods are frequently efficacious, recurrence sometimes takes place, and excision therefore is regarded as the method of choice. Removal of a ganglion should not be undertaken, however, without a nice appreciation of the possible difficulties of the operation. The ganglion is generally closely adherent to a tendon sheath or joint capsule, and excision may therefore involve a deep dissection during which the tendon sheath or joint is opened. This, *per se*, is a matter of little moment if the operation has been conducted with due aseptic precautions; otherwise it is fraught with danger. It does, however, imply that the original incision must be made sufficiently generous to enable the operator to see without difficulty what he is doing, and for the same purpose, the use of a tourniquet is an added advantage.

Satisfactory anaesthesia may be obtained by local infiltration with novocain, and it is important to apply the solution over a relatively wide area. The incision is generally longitudinal and the edges of the wound are reflected to each side, and the fascia divided to expose the surface of the tumour. The overlying tissues are gently retracted, and the base of the ganglion defined by blunt dissection. It should now be possible to determine the deep connections of the cyst, which is then removed. The ganglion is frequently ruptured in the course of the dissection; in this event, the mucoid material should be completely evacuated, and the cyst wall defined. Opening into the joint is a common event, but as a rule it is not necessary to repair the defect with sutures.

2. *Tendon sheath tumours and epidermoid cysts* occur especially on the palmar aspect of the fingers and hands. The tumours are generally solid and, at least when small, are not adherent to the skin. The cyst is the result of an injury—often a penetrating wound—in which epithelial cells are transplanted

to the subcutaneous tissues, and continue to grow, with the production of an epithelial-lined cyst. To the touch, they differ distinctly from tendon tumours; they are often attached to skin, and they do not alter in tension with the movement of the tendon.

Each can simply be removed under the local anaesthesia, as each is encapsulated, and little or no dissection is called for. The method of administering the local anæsthætic should be varied according to the site. When the tumour is situated on the finger, a regional block can easily be obtained by introducing 5 c. c. of 2 per cent novocain in the form of a ring at the root of the finger, so that the digital nerves are blocked.

In the palm the method generally used is local infiltration, in which the tumour itself is surrounded by a ring of anaesthetic solution. In superficial tumours it is necessary to infiltrate only the subcutaneous tissues; in deeper tumours, the deeper tissues must be infiltrated as well. This circumjection method has the disadvantage that it tends to obscure the boundaries of the tumour, and it is a wise precaution to indicate its site by a circular indelible pencil mark, or pen and ink, after the preliminary cleansing of the skin.

Alternatively, to avoid this disadvantage, recourse may be had to the method of regional block anaesthesia, in which the sensory nerves of the palm are anaesthetised at the level of the wrist. Dermal wheals are raised on the radial and ulnar borders of the forearm, two finger-breadths above the wrist. Through them a subcutaneous ring of novocain is introduced to encircle the wrist completely. Next, 5 c. c. of the solution are introduced alongside the palmaris longus tendon, to block the median nerve; and 5 c. c. are introduced at a depth of $\frac{3}{4}$ in. to 1 in. behind the tendon of the flexor carpi ulnaris, to block the ulnar nerve; and finally 5 c. c. are injected over the lateral aspect of the lower end of the radius to block the sensory branch of the radial nerve.

Infection of the Hand and Fingers

The subject of infections of the hand and fingers is too large to be dealt with comprehensively in this lecture. There

are, however, certain points of importance to which attention may usefully be drawn. My experience is that in general practice most difficulty seems to arise in relation to infection in the finger pulp and in the tendon sheaths of the fingers.

Infection in the pulp is infection within a closed space traversed by strong vertical septa which extend from the deep layer of the skin to the periosteum. The rise in tension when suppuration occurs within the space is extremely liable to cause occlusion of the arteries which run within it, and supply the end of the bone; and infection is prone to extend along these fibrous septa to the surface of the bone. Septic necrosis is therefore a rapid and an important sequel of pulp infection, and is a justification for very early operative treatment. There is still a great tendency, unfortunately, to deal with this infection in general practice by a midline incision of inadequate drainage. It is essential to have one or two lateral incisions so that the scalpel can be passed horizontally into the pulp close to the bone in order that the septa be divided. It is sometimes advocated that a horse-shoe-shaped incision be made round the end of the finger, and a flap of pulp reflected proximally. This unquestionably provides efficient drainage, but as the infection subsides, the flap shrinks, and accurate replacement does not occur. The resulting scar is therefore ugly, and this mode of approach is better avoided.

Tendon-sheath infections are of even greater importance than pulp infections, since in a large majority of cases cure is obtained only at the expense of a stiff finger. The operative treatment of suppurative tenosynovitis should seldom be carried out in general practice; nevertheless it is the general practitioner who has the most important function to serve of arriving at the diagnosis. The lesion most often confused with tenosynovitis is a simple subcutaneous infection of the finger—a cellulitis, and it is essential to have some reasonably rigid diagnostic criteria. There are five constant features which warrant the diagnosis or tendon-sheath suppuration.

They are:

1. The affected finger is held stiffly in a position of semiflexion.

2. Active extension is impossible.
3. Passive extension is exquisitely painful, and the pain is referred to the proximal end of the sheath.
4. The swelling of the finger is principally on the palmar aspect.
5. There is an area of tenderness accurately delimited by the boundaries of the sheath. This tenderness is most easily elicited by the use of a fine pointed object—hence its common description as “pencil-point tenderness.”

If all these signs are present, an exploratory operation should be undertaken without further delay if the tendon is to be saved. The practitioner must not be deceived by the striking relief of pain, and the improvement in the general condition which follows the rupture of the sheath into the tissues of the palm.

The operation for suppurative tenosynovitis should be conducted with strict asepsis, and under general anaesthesia. A tourniquet should be employed so that the sheath may be exposed in a bloodless field and the presence of pus within it confirmed before an incision is made into it. The skin incision should be placed along the lateral or medial side of the finger. Midline incisions are to be strongly deprecated as they lead in the first place to prolapse of the tendon, with sloughing, and in the second place to fibrous contracture of the scar. When the sheath has been well laid open, it is not necessary to introduce a drain, which, in point of fact, is dangerous and bad in so far as it predisposes to sloughing of the tendon. If the tendon is found to be already yellow, dull and soft, the possibility of a movable finger afterwards is so exceedingly remote that in order to avoid a prolonged discharging wound the tendon should be ruthlessly cut away.

An important and sometimes early complication of tendon-sheath infection of the finger is suppurative arthritis of the interphalangeal joint. This must be watched for as it alters the whole course of the treatment. It can be diagnosed in three ways. In the first place an abscess tends to form over

the dorsal aspect of the joint. In the second place lateral mobility can be determined, and is often associated with grating from ulceration of the cartilage, and in the third place a radiological examination shows obvious necrosis of the joint surfaces. When arthritis supervenes, amputation should forthwith be carried out by the guillotine method. The affected part of the finger is more or less literally chopped off, and no attempt is made to suture the soft parts. This is the most rapid method of overcoming the effects of the infection. In many cases the raw area granulates well, and a useful scar results. In a larger proportion of cases it is necessary to reamputate at a later date when the infection has completely subsided.

The after-treatment of hand and finger infections is in many ways as important as the operation, and three points in connection with it are worthy of especial emphasis. In the first place, the continued use of moist dressings should be avoided. The usual application is a hot lint soak, but this is wrong; it makes the epidermis so sudden that it favours multiplication and the spread of the infecting organisms, rather than the localization of the infection. The appreciation of the dangers of wet boric lint is, I consider, one of the appreciable advances in the management of these important lesions. The second point is that so far as possible the subsequent dressings should be aseptic—dry sterile gauze is best—in order that the danger of mixed infection be avoided. The access of additional and different organisms may have a very harmful effect on the course of hand infections; it may be just sufficient to determine the occurrence of one or other of such complications as bone necrosis, tendon-sloughing, or later, adhesions.

The third point worthy of repeated emphasis is the value of rest in the after-care of hand and finger infections. In severely toxic or septicaemic cases rest in bed should be insisted upon; in milder cases the application of a splint or plaster slab may make a decided contribution, not only to the patient's comfort, but also to the speed and the extent of his ultimate recovery.

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Scabies—Diagnosis and Treatment

BY

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Scabies or Itch, as it is commonly called, is one of the very few diseases in Dermatology that could be successfully controlled and cured.

Scabies is the commonest condition. The causative agent is an Arthropod known as *Sarcoptes* or *Acarus Scabiei* Degur. The female which is the cause of the whole mischief is about 1.3 to 1.4 mm. in length. The male is much smaller in size and dies a few hours after copulation. The chief lesion is the burrow, a winding circuitous pathway from 1 to 20 mm. in length. The life of the female *Acarus* is spent in the burrow. It travels the length of the burrow, laying eggs along the path and settles down at the other end underneath the vesicle. The burrow is situated in the horny layer. The *Acarus* could be demonstrated by running a needle along the burrow, very gently till the vesicle is reached, when, the needle is lifted up gently, bursting the vesicle. The tip of the needle very often picks up the *Acarus*. But it is certainly not so easy and straightforward as the books describe it; you have to make quite a few artificial burrows before you succeed in putting your needle in the real one. The *Acarus* is visible to the naked eye as a minute whitish speck—a lens helps us to examine it in greater detail. The body bears 8 legs. The two anterior pairs bear suckers. Both the hind pairs in the female bear bristles, while, there is only one pair of bristles in the male.

This burrowing insect is specially adapted to the human host. The mite burrows into, and within the horny layer reaches the less cornified epidermal cells, and there derives the nutrient substances which enable it to live and to propagate. The mating and entire life cycle of the insect take place in the human host. The result of this parasitism is the disease "Scabies." The severity of the manifestations and the degree of itching vary, from person to person. In the case of mite,

it is said, that the salivary secretion of each species of mite, is capable of dissolving the horny layer only.

The mite, which thrives on apes and monkeys is supposed to be very similar to the human parasite. Any of the subvarieties could produce itching in man, with consequent scratch lesions resembling to some extent human Scabies. These have been collectively called "Itching Dermatoses." These lesions differ in their distribution. In them, burrows are absent, urticarial lesions are present, so is dermatographia, and impetiginisation is not a prominent feature. It is well to remember about these Pseudo-scabies, and, the cure is so very much hastened in a persistent case, by correctly advising the removal of a cat or a dog from the household. Since the 17th century reports of Itching Human Dermatoses caused by the mites of animals have been appearing in Dermatological literature. In 1931 the Royal Society of Medicine held a symposium on Scabies and Ringworm of animal origin at a joint meeting of the sections of Comparative Medicine and Dermatology. The mites of the cat and dog seem to be fairly common causes of dermatitis in man, and have therefore received particular attention from medical authors. Human dermatoses due to mites from birds have been reported but certainly less frequently.

Diagnosis of Scabies is fairly easy, but there is a tendency to be slightly indiscriminate about it. You all know the sites of election—webs of fingers, volar aspect of wrist, anterior axillary fold—glans penis etc. It is worth while to remember that the scalp, palms and soles, are affected more often in children and infants. Discrete lesions on the soles and palms in children could be invariably put down as scabies even when the commoner sites are free. Affection of the palms and soles do occur in adults in very severe types. This is given the name Norwegian Scabies. This condition is due entirely to neglect, perfunctory treatment and greatly undermined general condition. In a generalised bad type it is useful to eliminate Hansen infection in the individual. Glans penis, is such a common site, that, any scratchy lesion there, could be straight-away treated with Ungeuentum Danish.

Diagnosis :—

(1) *Pediculosis* rather rare. May have to be differentiated sometimes. The itching is most on covered areas and it is always possible to demonstrate the *Pediculi* in the seams of the clothes and over the hairy regions.

(2) *Fungus of the Palm*. The distribution, the marked nocturnal itching in Scabies and if possible the demonstration of the *Acarus* identifies Scabies.

Scabies occurring as discrete punctate lesions on the thighs; scratchy—very much more during the night—with the places of election free, is often missed; on careful examination in the majority of the cases you could detect a few very early papules on the prepuce.

Very great stress is laid on the correct diagnosis, because, Scabies, as I have said, is one of the very few diseases which has a specific, and could be cured and controlled.

(3) Scabies of the glans penis and prepuce has to be differentiated from *soft sore*, *primary chancre*, *herpes* and *lichen*. The multiple slightly crusted lesions, not painful, not indurated, extremely itchy with the other places of election affected in most cases, help us to identify Scabies.

TREATMENT:—Danish ointment (Ref. General Hospital Pharmacopia, Madras)—is to-day the unguent of choice in the majority of cases. It was introduced by Eblers in 1917. It is to the formation at a Polysulphide of Potassium that Danish ointment owes its high degree of efficacy; unfortunately it involves an elaborate process in the making.

I will lay stress on three points, in the treatment.

1. The preliminary scrub:—The Idea is to open up all burrows and vesicles. The more thoroughly this is done the quicker and more complete the cure.

2. Use of sufficient quantity of ointment:—One of the chief causes of delayed healing is insufficient and consequently perfunctory application of ointment.

3. Treat the family:—There is no use treating the patient if the other members of the family have the disease untreated. We should try and avoid the chances for re-infection by treating the other members of the family suffering from the affection and disinfecting the clothes, vessels etc. which the patient has used. In the early part of the evening the part is washed with soap and water—a nail brush could be used with advantage. If the infection is quite generalised, it is advisable to have a bath. The ointment is rubbed in thoroughly over the entire affected area left overnight, and washed in the morning. This is repeated on 3 consecutive nights. The ideal thing to do will be to put the patient to bed for 2 or 3 complete days. This is however not a practicable step in the case of the majority of patients coming to us for treatment. Over-use of the ointment produces an irritation which is mistaken for the itching due to Scabies and thus, the condition is aggravated by rubbing in more ointment.

Constipation, anaemia and albuminuria may have to be attended to in addition to the specific treatment. Sometimes we do get a case of inflamed Scabies. The hand and forearm are swollen and painful and sometimes a rise of temperature. This is due to bad handling of the case. Boric or permanganate baths, starch poultice, staphylococcal vaccine for the pustulation, any of the sulphonamides orally or through the needle, Lotio Calaminae or Cremor Zinci for external use, quietens the condition. A weak Unguentum Hydrargiri Ammoniata is more useful than Danish in these cases. From my experience, where the usual Lotio-calaminae does not agree, the lotion without the glycerine, is suitable. Cremor Zinci without the Aqua Calcis agrees in some cases, where the schedule cream causes irritation.

Revant and Mahew suggest painting the affected areas with a 40 per cent aqueous solution of Sodium Thiosulphate after a soap and water wash. After 15 minutes, the parts are painted over with a 4 per cent solution of Hydrochloric Acid. This procedure is repeated the next evening.

Macleod is in favour of a 6 per cent solution of Hyposulphate of Sodium. A lint soaked in this solution is kept over

the area for 10 minutes. The lint is taken away and the part painted with 3 per cent tartaric acid.

Sherwell advises sprinkling a tablespoonful of flowers of sulphur over the bed clothes before retiring. He promises good results.

Application of a 1 in 2 solution of Sulphuretted Potash and dabbing the area with 5 to 10 per cent solution of Acetic acid sulphur is left adherent as a thick coating (B. M. I.)

A 10 to 20 percent solution of Hexamine intravenously is said to be good for Scabies.

The curative action of sulphur taken internally as a specific is far fetched. It is converted into an alkaline sulphide in the intestine where it acts as a laxative.

Cases where the ointment may not be suitable sulphur could be added on to Lotio calaminæ. 10 to 20 grains to an ounce.

Sulphur could be added to Cremor Zinci with advantage.

Specially in children, sulphur may have to be substituted by either Beta-Naphthol or Balsam of Peru. To mention a few patents which I have used Sarcoptol A.F.D., Scabicide Upjohn, Mitigal, Nyal's Itch paste, and sulphur '48' Crooks Scabicide and Mitigal are best used diluted. When Scabies occurs with any other condition it is advisable to treat the scabies first.

The Treatment of Infantile Cirrhosis of the Liver

BY

U. SRINIVASA RAO, M.B.B.S.

The subject of the treatment of infantile Billiary Cirrhosis is a difficult one, and the general public and the medical profession believe that we do not have a certain cure for this malady. But how can we offer a true and effective remedy for this disease the etiology of which is yet under speculation? People who have tasted failure with our methods of treatment are reluctant to trust again in scientific medicine, and so try various preparations which have created in the minds of the public as well as in a few medical men, the impression of being true specifics for infantial Hepatic Cirrhosis owing to sheer advertisement and propaganda in the lay press. As a rule most of our treatment for this disease is symptomatic. However in the following few lines, I shall outline the principles of treatment that have been based upon certain probable etiological factors.

The consideration of the treatment falls under two heads: Curative and Prophylactic.

I. CURATIVE: This can be considered under three subdivisions.

(a) *Hygienic*. In all acute and subacute cases rest in bed is essential. In chronic cases rest in bed is necessary for the most part of the day. The child requires plenty of sunshine, if not ultra-violet ray exposures to the abdomen. The environment must be healthy and the climate bracing.

(b) *Dietetic*. In every case attention to the diet is of paramount importance. The diet consists essentially of diluted skimmed milk, fruit juices, light vegetable soups, malted milk, a little double boiled rice, weak tea or coffee, and plenty of glucose. To older children barley water and butter milk might be allowed

in addition. An aim is kept on forming a mixed diet free from excess of fat. Tomato juice is an excellent addition to the child's daily menu. Avoidance of tubers, sweets, hard irritating and fibrous food and fermenting diet, is important. Among the fruits, oranges, lemons, sweet limes, papaya, grapes, pomegranates and wood apple might be given freely. Some workers like Radhakrishna Rao and Gothoskar prefer goat's or ass's milk to cow's milk, but in my opinion next to mother's milk, diluted skimmed cow's milk to which a balanced carbohydrate like Karo syrup has been added, is to be preferred to ass's or goat's milk.

(c) *Medicinal (i) Specific.*

Treatment cannot wait till the exact cause of the disease is discovered and till such time, it has necessarily to be empirical. Prabhu was led to prescribe Zinc in the form of an oxide on the result of the analysis of one of the commonly used indigenous preparations for liver complaints. In his hands, it has proved quite harmless and seemed to retard the progress of the disease even in advanced cases. Nobody is able to explain the action of Zinc on the liver. I have attempted to modify the evolution of toxic cirrhosis due to carbon tetra-chloride in experimental animals, like albina rats, by simultaneous oral administration of vitamins A and C and Zinc oxide, suspended in olive oil and the last mentioned drug has definitely delayed the induction of cirrhosis and produced a milder type of fibrosis of the liver in the animals. Narayanamurthi advocates the use of Merck extra pure Zinc Oxide. But I have used ordinary Zinc Oxide in daily doses of $1\frac{1}{2}$ to 3 grains, in combination with other cholagogues. An useful prescription is as follows:

Zinc Oxide	gr. $1\frac{1}{2}$
Hyd. Cum Creta	gr. $1\frac{1}{2}$
Pulv. Rhei Co.	gr. 6
Ft. Pulv. 3 one T. D. S.	

Sometimes a daily injection of 5 to 10 units of Zinc-protamine-Insulin with oral glucose administration has yielded good results.

Vitamin C is another excellent drug for use in Infantile Cirrhosis as it has been found to be very efficacious to control the intestinal toxæmia and dehydrate the dropsical organs by increasing the urinary output. Sarma found excellent results with Vitamin C both orally and parenterally. I have also found clinically Vitamin C to be beneficial and my route of choice has been the oral one. A daily administration of one tablet of Redoxon (50 Mgm. of Vitamin C) supplemented with plenty of orange and lime juices is adequate. Treatment with Vitamin C is rational, as it has a direct action on the endothelial integrity of the hepatic capillaries and the essential lesion of the Infantile Hepatic Cirrhosis is endothelial damage resulting in swelling and spasm with later fibrosis of the hepatic venous terminals. This theory of genesis of the fibrosis of the hepatic venous terminals has been put forward by my Professor Dr. P. Ramachandra Rao, and my experimental work at the Pathology laboratory of Madras Medical College confirms the above findings. Further, simultaneous administration of Vitamin C to animals undergoing induction of experimental toxic cirrhosis has prolonged the relative period of induction more than in the control animals. Sarma has found beneficial results with oral administration of adrenal cortex which is supposed to be rich in Vitamin C and anti-marasmic and anti-allergic factors, but I have had no experience with this product.

- Another drug which has inspired in me a hope of proving to be a fair remedy especially in early cases is Acetyl Choline. The exact pathogenesis of the pre-cirrhotic central necrosis in Infantile Cirrhosis was suggested by Dr. Ramachandra Rao to be vascular (ischaemic) in nature and probably resulted from a vasomotor imbalance (vasa spasm due to sympathetico-tonia) induced by the toxin. Though Radhakrishna Rao did not feel justified in supporting such a theory experimental work done by me on isolated livers has definitely proved Dr. Ramachandra Rao's theory. Moreover, I believe that the preliminary vaso-constriction in addition to causing damage and swelling of the endothelium of the hepatic venous terminals, when it is sustained, later on, leads to permanent sclerosis and occlusion of the hepatic venous radicals presenting the characteristic

pathological picture of Infantile Hepatic Cirrhosis. This theory has further been supplemented by the pathological study of livers of experimental animals in which toxic cirrhosis has been induced and which have died at varying periods of induction. To prevent vaso-spasm and to counteract the sympathetico-tonia, a vago mimetic drug is required and the choice is Acetyl Choline. I give 0.1 gramme of Acetyl-Choline (Roche or B. D. H.) 1 c.c. distilled water subcutaneously, once in three days. No ill effects as recorded in the books such as fall of blood pressure etc., are encountered. The number of injections required depends upon the case. This line of treatment requires further study and confirmation.

Sarma has been using for sometime the splenic hormone (Prospen-Ifah) in $\frac{1}{4}$ – $\frac{1}{2}$ c.c. intra-muscular injection twice a week, and found marked improvement in a couple of cases, but there is no pathological rationale in its usage.

The other drugs prescribed commonly are the usual Ammonium, Chloride, Sodii Salicylas, Ext. Kalmegh Co., Ext. Punarnava Liq., Ext. Gulvel Liq., and Tict. Rhei Co. A few proprietary medicines are Cirobil and Cirolysin. The best patent medicine to supplement the previously outlined treatment, if the patient can afford, is Chionia, given 1 tea-spoonful in $\frac{1}{2}$ oz. of water twice a day after food.

The rationale of using stock B. Coli vaccines, as advocated by Lahiri's finding of B. coli in blood cultures is to be interpreted as due to faulty filtration power of the liver in very advanced cases, leading to the escape of the organisms from the intestinal tract through the portal stream to the general circulation.

(ii) *Symptomatic.*

1. *Fever.* Usually it is due to a mild infection of the lungs and a diaphoretic mixture containing Sodii Salicylas and Ammonium Benzoas is the best. Abdominal distention is relieved by Pitutrin injections.

2. *Hæmorrhagic tendency:*—Bleeding especially in the terminal stages occurs from the mucous surfaces and is best treated

from the mucous surfaces and is best treated with Vitamin C and Calcium. In severe cases Haemoplastic Serum is to be used.*

3. *Anæmia:*—An anaemia tending towards the macrocytic type has been found by me in a good number of cases. This is probably partly nutritional and partly due to deficient storage and utilization of the anti-anæmic principle in the liver. For this, the treatment of choice is a weekly injection of 2 c.c. of an efficient liver extract like Hepatex T. The children do not tolerate any iron preparation orally as they invariably get diarrhoea.

4. *Constipation:*—Castor oil is to be avoided as it produces an after constipation. The ideal purgatives are small doses of Sodii sulphas, or Milk of Magnesia.

5. *Diarrhoea:*—The commonly used Bismuth and Kaolin mixtures are to be employed.

6. *Dropsy:*—When dropsy appears suddenly and is generalised, Calcium Diuretin, Vitamin C and cardiac tonics are indicated.

7. *Ascites:*—Ascites should not be tapped except when the respiratory and cardiac embarrassments are very severe. The children do not stand more than 6 to 7 tapping and moreover, since the kidneys are acting very well, mercurial diuretics like Esidrone or Salyrgan might be employed. As usual the preliminary administration of Ammonium Chloride enhances the urinary output.

8. *Jaundice:*—Plenty of Glucose and calcium are recommended. It is not worth while trying the bile-salt substitution therapy.

Little hope is to be entertained regarding recovery when a patient is seen in a state complicated by Pneumonia, Nephritis, Tuberculosis, Uraemia, Cholaemia, Septic fever, or bowel hæmorrhages which are usually terminal events.

PROPHYLACTIC: There is nothing much to say about prophylaxis except proper ante- and post-natal care of the mother

and careful dietary of the child. Mallic prohibits mother's milk when the disease is familial, a healthy wet-nurse being substituted. Sarma lays great stress on the proper antenatal care of the mother so as to prevent toxæmias of pregnancy. Mother's milk is essentially ideal for the baby especially so during its first six months of life. Encouragement of breast feeding is thus an all important point in nonfamilial cases.

I appeal to all practitioners not to pass on their cases of Infantile Cirrhosis to the vendors of secret liver specifics, but to try some of the drugs that I have discussed especially Acetyl Choline and Vitamin C. I am indebted to Dr. Ramachandra Rao, M.B., Ph.D. (Lond.), Professor of Pathology, Madras Medical College, under whom I had rare privilege of working as a Research Scholar, and to my chief, Dr. P. Arunachalam, M.D., M.R.C.P., T.D.D. and D.M.E., Professor of Clinical Medicine, Stanley Medical College and Physician, Government Stanley Hospital, in whose wards Acetyl Choline was tried and who was always encouraging me in my efforts. I have to express thanks to the Indian Research Fund Association for the grant that has enabled me to conduct the Research at the Madras Medical College.

(*Journal of South Indian Medicine, Decr. 1940.*)

The Trichinopoly District Medical Association

(Branch of the Indian Medical Association)

TRICHINOPOLY

A monthly meeting of the above Association was held at 5-30 p.m. on Saturday the 23rd Nov. '40 in the Govt. Head Quarters Hospital, Trichinopoly, when about 30 members were present. Dr. N. N. Sujeer, the District Medical Officer and the President of the Association presided. The medical staff of the Govt. Hd. Qrs. Hospital was 'at home'.

Dr. B. Shanker Rau, L.M. & S., Asst. Dist. Medical Officer, demonstrated the case of young woman who by accident swallowed caustic soda and developed stricture of the oesophagus. The stricture was impermeable and even impassable. When x-ray taken at this stage showed a tapering constriction which ended about three inches above the stomach. As the patient was getting weaker and weaker for want of nourishment gastrostomy was done and feeding was carried on through this opening. Two months later the patient was able to swallow fluids and thin *kanji* by mouth which was getting into stomach. An x-ray the day previous to demonstration showed that the constriction of the oesophagus had dilated very much and barium meal given by mouth was seen in the stomach. There was a certain amount of hyper-motility of the stomach, as within fifteen minutes part of the stomach was empty and the barium was in the small intestines.

He next demonstrated a small girl aged about four who had separation of the lower epiphysis of the left humerus and the fragments were in good position when the hand was kept in acute flexion with simple bandage.

Dr. V. Subramanian, L.M.P., then demonstrated a case of a boy aged about 10 who was getting spastic contraction of the left great toe on and off for the last 15 days. There was a discussion on this case, in which a few members took part.

With a vote of thanks to the chair the meeting terminated.

P. A. S. RAGHAVAN,
Hony. Secretary.

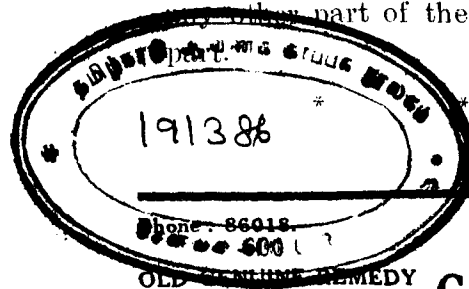
One of the most important and lasting results of war since ancient times has been the gain in knowledge of how to heal broken bones and torn tissues. It is too early to say whether victims of car and industrial accidents in future will be helped by the lessons surgeons learn from the present war, but a look at the past, even so recent a past as the war in Spain, suggests that this may be so.

* * * * *

Normal biting pressure for a man is sixty to sixty-five pounds. A woman's jaw exerts only twenty-five to thirty pounds of pressure. A pressure of fifty pounds is required to bite a round seedai.

* * * * *

In proportion to its size, the foot does more work than any other part of the body, and is probably the most neglected.



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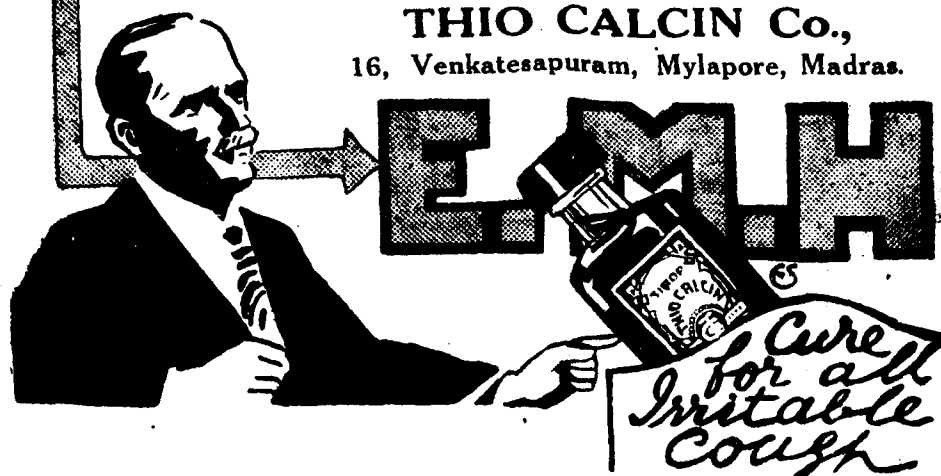
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