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(With which The Agra Medical Club Journal is incorporated)



Vol. 36 No. 8

CONTENTS

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August, 1942



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352

Editorial

Maternal Mortality in the City of
Bombay ... 185

Addresses and Articles

Ocular Complications of Epidemic
Dropsy

By Dr. R. S. Agarwal, L.S.M.F. ... 186

Yogic Methods as an Aid in the
Treatment of Tuberculosis

By Dr. G. R. Dongrey ... 189

The Challenge of Small-pox

By Dr. Santokh Singh, L.M.P.,
L.C.P.S. ... 192

Clinical Notes

Treatment of Immature Cataract
By Dr. K. Krishnamurty ... 193

Management of Inevitable Abortion
by Bromide

By Dr. Miss Sudhira Dey, L.M.F. ... 193

Is Malaria Transmitted from Mother
to Foetus?

By Dr. P. C. Dutt, L.M.F. ... 193

Special Articles

Modern Drugs (4) Local Anaesthetics
By Dr. M. S. Arunachalam, L.M.P. ... 194

Treatment of War Wounds and War
Burns

By Dr. W. Schweishelmer, M.D. ... 195

Medical News ... 196

Abstracts ... 200

Medical Councils ... 204

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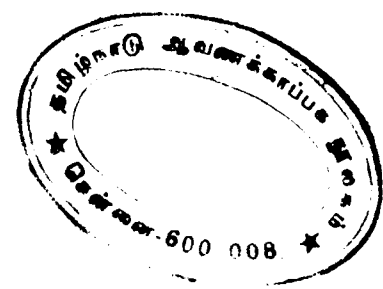
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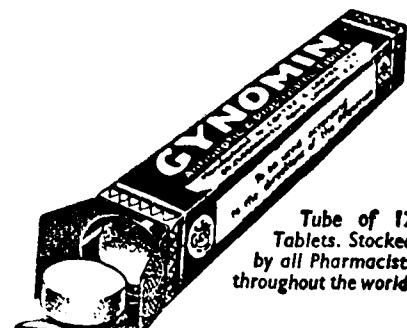
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Vol. 36 MADRAS : August, 1942 No. 8

Maternal Mortality in the City of Bombay*

Jhirad's report is the third of the series on the causes of maternal mortality: the first was by Mudaliar relating to Madras City in 1933, the second by Neal Edwards relating to Calcutta (1936-37), both of which were reviewed in our columns. The Report, under review, follows the lines of investigation of its predecessors, covers a period of twelve months (July 1937 to June 1938) and reviews about 340 cases of maternal deaths.

The plan of the Report is excellent and its preliminary classification of cases as showing (1) an avoidable factor (234 cases), (2) no departure from established practice (69) and (3) an unavoidable factor (20), gives, at the first sight, an unvarnished tale of how many a woman in gestation die due to avoidable causes. The remedy is obvious. The avoidable causes have to be minimised, which, indeed, is the primary problem in the mass fight against maternal mortality.

The avoidable factor is classified under four broad heads: (1) omission or inadequacy of antenatal examinations, (2) error of judgment in the management of the case, (3) lack of reasonable facilities, and (4) negligence of the patient or her friends.

No wonder, then, that the report shows the causes of maternal deaths in their inevitable order of occurrence. Where sepsis, anaemia and toxemia top the list it is undoubtedly an indication for better education of the public and for more extensive organisation of ante- and post-natal clinics.

There are certain features in the midwifery service in the city of Bombay

which deserve our attention and which has been ably discussed in the report. The first is the good record of Bombay in the provision of ample midwifery beds (1,289 beds for a population of 11½ lakhs which gives one bed to 900 of the population). The second is that 75.7 per cent. of births occurred in institutions, and only 24.3 per cent. at home, which is indeed a proud record for this proud city. Yet, Jhirad is surprised to learn that much latitude seems to be allowed to the untrained *dai*. She, therefore, rightly urges that this avoidable factor should be eliminated, and that this could be accomplished by creating public opinion and by bringing into force a Midwives' Act. We entirely agree with her when she writes that this is the first necessary measure in reducing maternal morbidity and mortality in Bombay, and we may add that the city is fully qualified to have this reform introduced immediately.

The report observes a tendency to discourage domiciliary midwifery as against institutional delivery. The latter, no doubt, is ideal; but yet we agree with Jhirad's remarks that a well-organised domiciliary service would be highly beneficial in many ways. Firstly it would avoid over-crowding in maternity hospitals or homes, and secondly it would be an effective means of popularising scientific methods of delivery. There is no country, in the West or in the East, where conditions are so ideal as it could give up domiciliary midwifery wholly, much less so in our country where our women are very shy and prefer domestic comforts to hospital discipline. It can by no means be denied that a good domiciliary service is, and will always be, an effective supplement to institutional service.

Of the many recommendations which the Report suggests, two appear to be of immediate importance: the organisation of 'flying squads' at each large maternity centre to attend to urgent emergencies in the patient's home, and organisation of transfusion service. The need for these is well illustrated by the history and investigation of maternal deaths recorded in this illuminating and masterly report.

*Report on the Investigation into the causes of Maternal Mortality in the City of Bombay, by Dr. J. Jhirad, M.D., B.Sc., *Health Bulletin*, No. 29, Price Re. 1/8/-.

ADDRESSES AND ARTICLES

Ocular Complications of Epidemic Dropsy

Dr. R. S. Agarwal, L.S.M.F.
(Eye Specialist, Delhi)

The serious and most important complication of Epidemic Dropsy is an increased intra-ocular tension named as *Bengal Glaucoma*.

Other two following complications though of minor importance have been observed.

- Hæmorrhages—extra-ocular and intra-ocular.
- A swollen condition of the papilla.

Bengal Glaucoma

It is to a certain extent of the primary chronic simple variety, and is characterised frequently by condition of enormous tension, without causing pain or congestion. This enormously high tension persists for a variable length of time and may become normal in some patients without doing appreciable damage to the eyes, whilst in other cases it causes partial loss of vision and fields and in others again leads to blindness.

Bengal Glaucoma was first noted in 1908, and the number of cases of glaucoma as a complication of Epidemic Dropsy has steadily gone higher and higher. During the last several epidemics glaucoma in sufferers from epidemic dropsy was estimated at about 3 to 4 per cent. Analysis show that 90 per cent. of cases occur amongst middle class, and the comparatively rich, the poor labouring and artisan classes supplying the rest. The disease is more common between 18 and 35. It is much less common amongst elderly persons between 50 and 70.

Aetiology

Bengal Glaucoma has many theories for its explanation, and has left the most astute observers so dissatisfied with the results of their researches. The aetiology of Bengal Glaucoma is not the aetiology of Epidemic dropsy because all sufferers of epidemic dropsy do not suffer from glaucoma; it is only a very small percentage of glaucoma sufferers, that is about 3 to 4 per cent. The toxin generated from rice or mustard oil, is supposed to be the cause of glaucoma by some but the authorities differ. Dr. Bates' theory about glaucoma seems to be very true and I herewith explain it in brief. It would be easy to understand Dr. Bates' theory if I give a short note about the function of the eye.

Function of the Eye

The act of seeing is passive. Things are seen, just as they are felt, or heard, or tasted, without effort or volition on the part of the subject. The optic nerve, the retina and the visual centres of the brain are as passive as the finger-nail. They have nothing whatever in their structure that makes it possible for them to do anything, and when they are the subject of effort from outside sources their efficiency is always impaired. The

mind is the source of all such efforts from outside sources brought to bear upon the eye. Every thought of effort in the mind, of whatever sort, transmits a motor impulse to the eye; and every such impulse causes a deviation from the normal in the shape of the eyeball. Mental strain of any kind always produces a conscious or unconscious eyestrain and if the strain takes the form of an effort to see, symptoms of defective eyesight are produced. The strain which causes glaucoma is different from those which cause errors of refraction. One can produce voluntary eye tension as follows.

Voluntary Production of Eye Tension

Put the fingers on the upper part of the eyeball while looking downward, and note its softness. Then do any of the following things:

- Try to see a letter, or other object, imperfectly, or (with the eyes either closed or open) to imagine it imperfectly.
- Try to see a letter, or a number of letters, all alike in blackness at one time, or to imagine them in this way.
- Try to imagine that a letter, or mental picture of a letter is stationary.
- Try to see a letter, or other object, double or to imagine it double.

When successful, the eyeball will become harder in proportion to the degree of strain, but, as it is very difficult to see, imagine, or remember things imperfectly, all may not be able at first to demonstrate the facts.

Normally the eyeball makes rapid, short rhythmic movements which are not usually conspicuous, but by direct examination with the ophthalmoscope it can always be demonstrated. When the eye strains and becomes harder, the movements of the eyeball are retarded, and the shifting of the eye is very slow, its excursions are wider, and the movements are jerky and made with apparent effort.

In epidemic dropsy persons who had the tendency to strain or begin to strain, suffer from glaucoma. Relief of strain always lessens tension and improves the vision. The discovery of Dr. Bates that relaxation methods cured glaucoma suggested that the cause was due to mental and eye strain. Experimental work has proved this to be true.

The belief that glaucoma appears only in a sick body does not seem to be true. Many persons who suffer from epidemic dropsy or other diseases do not suffer from glaucoma, while there are others who seem to have normal body suffer from glaucoma.

The cause of the increased number of glaucomatous cases is advanced civilization. Under the conditions of civilized life men's minds are under a continual strain. They have more things to worry them than uncivilized man had, and they are not obliged to keep cool and collected in order that they may see and do other things upon which existence depends.

The middle class and comparatively rich class of persons are under more strain and have more worries and anxieties than the poor class and it is why glaucoma is more prevalent in the middle and the rich class.

Pathology

In Epidemic dropsy when the mind and eye strain as in voluntary production of eye tension, two important changes take place:

- Spasm of external eye muscles. Spasm of the muscles causes increased tension, retards the rhythmic movements of the eyeball, and makes the eyeball more or less stationary. The following experiment on the muscles was performed by Dr. W. H. Bates, M.D.

"Shorten the Superior rectus by tucking, and thereby a tension of plus 1 is produced. The observation upon the Superior Oblique increased to plus 2. Operation on Inferior Oblique increased to maximum plus 3. All this time the tension of the other eyeball remained normal."

- Stimulation of ciliary body: ciliary body supplies more fluid to the inside of the eyeball then normal, and the tension of the eyeball is increased.

Due to strain and increased tension excavation of the disc takes place.

Signs and Symptoms

The signs and symptoms are peculiar and do not tally with those which have been studied from the Ophthalmological books.

- Due to increased strain the expression of the face of the patient is changed. He keeps the eyes widely open, indicating that he is trying to strain. The eyeballs are more or less stationary.
- Uncommonly high intra-ocular tension varying from 40 to even 100 m.m. of mercury by Schiotz Tonometer.
- Usually absence of pain.
- Usually absence of congestion of the eye.
- A normal and deep anterior chamber.
- Usually normal pupil reacting well to light and accommodation, but in some cases pupil more or less dilated.
- Presence of persistent rainbow halos.
- Intermittent periods of severe haziness of vision.
- Absence of cupping in many cases in spite of persistently high intraocular tension.
- Both eyes usually affected.
- No loss of field of vision for months in a certain number of cases even though the tension continues high. Nasal field is first affected.
- Cornea has a steamy appearance in some cases and evidence of corneal œdema is visible in many cases.

Sequelæ

Bengal glaucoma usually results in:

- Complete recovery without any loss of vision in mild cases.

- Recovery with loss of a portion of field of vision.
- Recovery with damage of a great deal of field of vision leaving what we call only a tubular vision.
- Retention to normal tension with loss of field of vision and also loss of a greater deal of acuity of central vision.
- Complete blindness.

Prognosis

Prognosis is usually quite good in the early stage. It is fair in advanced cases and nearly all patients can be saved from becoming blind. Prognosis is bad in very advanced cases when there is little or no vision.

Diagnosis

The diagnosis of Bengal Glaucoma is not difficult, especially when the patient comes at a season when the epidemic dropsy is rampant, or comes from a place where epidemic dropsy is prevalent. The earliest subjective symptoms are:

- Rainbow haloes round lights which are more or less persistent.
- Transient attacks of severe haziness of vision; this is specially so in the mornings and after a bath.
- Increased intra-ocular tension.

Other signs and symptoms appear sooner or later.

Prevention

Methods which can keep the mind and eyes relaxed, free from strain or which can relieve the symptoms of strain will prove specific in the prevention of glaucoma during epidemic dropsy. These are the few hints which may be introduced in the schools and taught to the public by demonstrations and books.

1. *Eye-Lids*: Eyelids play a great part in keeping the eyes relaxed. The upper eyelids should remain down without effort, keeping the eye half open. While looking upwards the chin should be raised and not the lids. In glaucoma the patient opens the eyes widely and stares. Keeping the lids down relieves the strain, and this can be demonstrated. 'Look at the letter on the Snellen test chart at fifteen feet distance. Now raise the eyelids as shown in the diagram. Note that the blackness of the letter begins to fade and there is a sort of heaviness in the temples. Now raise the chin and keep the lids down. Note that the blackness improves.'

2. *Blinking*: The greatest things are always the simplest. The act of blinking is the first and simplest, and a most important natural action of the eyelids. In blinking the upper eyelid comes a little downwards to cover the pupil and is again raised. Wrong blinking is usually very irregular and jerky. Blinking is a quick method of resting the eyes and can be done unconsciously all the day long, irrespective of what one may be doing. Blinking in glaucoma is usually very irregular and jerky and is accompanied by strain. It is interesting to observe the blinking demonstration. 'Look at a letter on the chart at fifteen feet distance. Stop blinking, note that the blackness of the letter begins to fade. Now blink and note that the blackness reappears.'

See how the animals blink and how the eyelids work in a tiny baby who has not yet lost its natural impulse and acquired the vicious habit of staring. One should blink at least ten or fifteen times a minute.

3. *Sun Gazing with eyes closed*: The health of the eye is based on light as the health of the lungs is based on air. The eye is the creation of light. Animals which possess eyes lose their vision if they are confined for sufficiently long time in darkness. Sun rays are very beneficial to the eyes and I can demonstrate that within a few minutes the vision is improved in children, adults and old people.

'When it is not hot, sit facing the sun with the eyes closed for ten to thirty minutes, while moving the body gently from side to side like a pendulum. The morning time is the best. There is no chance of any harmful effect.'

4. *Fine Print Reading*: Fine print reading is supposed to be harmful to the eyes but contrary is my experience. The reading of fine print, when it can be done without discomfort, has invariably proved to be beneficial, and the dimmer the light in which it can be read, and the closer to the eyes it can be held, the greater the benefit. By this means severe pain in the eyes has been relieved in a few minutes. The reason is that fine print cannot be read in a dim light and close to the eyes unless the eyes are relaxed, whereas large print can be read in a good light and at ordinary reading distance although the eyes may be under a strain. When fine print or photo print can be read under adverse conditions, the reading of ordinary print under ordinary conditions is vastly improved. 'Read fine print daily with blinking.'

5. *Swinging*: When the eyes move slowly or rapidly from side to side, stationary objects appear to move in the direction opposite to the movement of the head and eyes. This apparent movement of the objects is called swinging. It is a normal illusion. People with normal vision are not always conscious of the swing. However, when their attention is drawn to it, they can always realize it, and are always able to imagine stationary objects to be moving. A simple example of the swing is that experienced in a moving train. When you travel in a train, which is moving fast, and look out of the windows, you see the telegraph poles and other objects moving in an opposite direction.

The eye gets rest only when it is moving; and when it is moving, it imagines consciously or unconsciously the stationary objects to be moving in the opposite direction. Place your fingers lightly on the closed eyelids, you will feel the eyes to be moving slowly or rapidly in all directions.

When an effort is made to imagine stationary objects to be stationary, the eyes become fixed, and the heaviness is felt in the eyeballs and temples and the swing always fails. Therefore it is necessary to practise the swing exercise to keep the eyes relaxed.

'Stand facing the sky with the feet about one foot apart. Sway the body from side to side moving the sight on the sky without making any effort to see things. Note that nearer objects appear to move in the opposite direction while farther objects appear to move in the

same direction. Remember to blink once or twice in each movement. Practise at any time, specially before and after sleep, for five or ten minutes.'

6. *Use of tooth stick brush*: Chew the tooth stick and make a fine brush. Gently irritate the throat. Some mucoid and watery discharge will flow out of the mouth, nose and eyes. Its use, at every morning, keeps the circulation of blood in order, and helps in relieving the strain. Use the stick every morning.

Treatment

From the earlier days of the appearance of Bengal Glaucoma upto 1933, it had been the practice to operate on all eyes with high intra-ocular tension and in all stages of the disease; but experience has taught that it is not justifiable to operate except in progressing defective field and loss of vision. Late Dr. Acharya writes in his paper, "As regards my experience of 'simple glaucoma' the disease is a progressing one and in spite of all treatment the disease ends in complete blindness." The medicinal treatment is also unsatisfactory, and whatever treatment is given, it is to allay the symptoms only.

The results of the various operative methods of treatment which were suggested and practised have been so disappointing in all stages of the disease that we hesitate to foretell what may happen after any of them have been practised. Late Dr. Acharya writes, "In many cases a sclero-corneal trephining results in troublesome hæmorrhage. It takes a long time for the blood to get absorbed and even when absorbed, there is very little restoration of sight."

The relief of strain always lessens tension, and improves vision. All methods of treatment which promote relaxation always benefit glaucoma. Some of the best methods of producing relaxation are the practice of sun treatment, palming and different kinds of swinging exercises. There are some people who cannot practise a certain swing correctly until after weeks of instruction. They are full of excuses and are quite ready to find fault with the method rather their own lack of practising properly. Imagination of thin white line or a white centre of a letter 'O' whiter than the rest of the card is very helpful. Frequent enemas or purgatives, fasting, dropping of ginger powder mixed in milk in the nostrils once or twice a week, regulation of diet have proved beneficial in glaucoma patients. If the treatment can be regulated on these lines, all patients will be benefited. To obtain the best results, it is necessary to modify the routine from time to time, or to make certain changes, whenever improved methods of treatment are discovered. If a patient does not respond readily to a regular routine, it is evidence that this treatment is not for him and that he requires a different form of relaxation treatment. My book "Mind and Vision" available from Thackers Spink & Co., gives a good account about different relaxation methods, to which readers are requested to refer for a full instruction on the methods of treatment advocated by Dr. Bates.*

*A paper read at the 31st A. I. M. L. A. Conference, Ahmedabad, on 22-12-41.

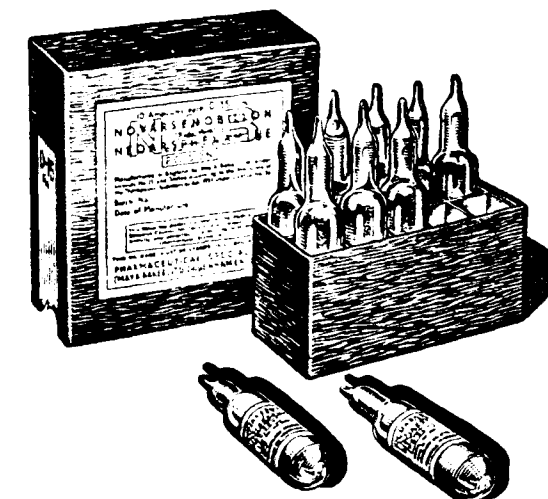
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Yogic Methods as an Aid in the Treatment of Tuberculosis*

Dr. G. R. Dongrey

(Medical Practitioner, Nagpur)

Retrospect

If we take a survey of what has been thought about tuberculosis we find in the *Rig Veda* that a mention of it has been made as a wasting disease and its cure envisaged by heightening the vital resistance of the body and elimination of the poison liberated in the system. It affects all the tissues equally. Various types of germs have been attributed to be the cause of the disease. Areotherapy was advocated while *Atanva Veda* prescribed morning sun and air, healthy dwellings, psychic suggestions and deep breathing.

Ayurveda deals with what it considers as four definite causes of this disease: (1) Exhaustion from both the physical and mental undertakings, (2) Obstruction to elimination of excretions, (3) Improper diet, (4) Loss of vitality, all amounting to lowering of body resistance. It prescribes the treatment accordingly.

Later contact with Unani medicine did not affect any change of principle. But the advent of the modern scientific medicine from the West has replaced the ancient mode of thinking based upon the inner revelations and realisation, and we have a new page in the history of tuberculosis starting from the date of the discovery of the tubercle bacilli by Koch in the year 1882. This discovery stimulated researches in all the aspects of the disease. Neglected cold, heredity, climatic influences which were considered to be the casual factors were abandoned in the light of this new discovery. Therapeutic measures were overhauled and fresh importance was imparted to the already promulgated measures of open air treatment. Tuberculin and other vaccines and sera were added to the armamentarium for diagnostic, curative and preventive purposes. Rest and sunshine were adopted amongst the means of cure and prevention. Tuberculosis dispensaries, sanatoria, hospitals, colonies and associations were established to fight against tuberculosis. Researches went to prove that (1) the disease is contracted in childhood, (2) although it has its manifestations in the various parts of the body it is morphologically an entity, (3) the infective agent is universal, (4) it may lie latent in any age, and (4) the unfavourable prognosis of the disease could be made favourable by early treatment.

Though equipped with the somewhat definite knowledge about its prevention and cure, yet we find ourselves in an unsatisfactory position to fight it out successfully. If we pause a little and do the stock-taking of our armamentarium we may find that we have not exhausted all the methods available to us.

The yogic methods of curing many a disease have been promulgated in our country since times of yore, but none of us have either tapped or practised them. But as our need for the relief of human sufferings is ever great, it is time that modern medicine undertakes researches as to the possibility of successfully applying the yogic methods for therapeutic purposes.

*A paper read at the 31st A. I. M. L. A. Conference, Ahmedabad, on 22-12-41.

The Seed of Tuberculosis is sown in Childhood

A child, before its birth, has to depend upon its mother for its nutrition. But no sooner it makes its appearance in this world than it struggles for air and food, as can be seen from its movements of limbs and attempts to suck its finger, thus indicating its need of food supply and air from outside. So we find fresh air, light, food and alternate rest and movement are the immediate needs of the child when born. But in our anxiety for the comfort and protection of the new born, we provide it with de-oxygenated, stuffy and vitiated atmosphere of warmed ill-ventilated dwellings of our own creation in preference to nature's fresh air and sunshine. This certainly disturbs the function and impairs the metabolism of the child. We also clothe it heavily with the result that the normal function of the skin is upset. We protect it from sunshine lest it would injure it. We feed it with various articles of our choice detrimental to the nutrition of the delicate tissues. We restrict its natural movements by impediments of clothing or otherwise. These disturb its body functions of elimination and assimilation, giving rise to accumulation of the toxic material in the system. These toxins intoxicate the tissues from which the child recovers according to its ability to excrete the effete material. But many a time it loses its powers of resistance and becomes liable to catch infection of all sorts, especially that of the ubiquitous tubercle bacilli. The incidence of this infection in childhood, as ascertained by tuberculin test, is indeed very great amounting to 75 per cent. of child population upto the age of fifteen. 97 per cent. of all the deaths in the hospitals show at the post-mortem active or healed form of tuberculosis. (Nageli).

From the mortality figures in different ages, we find that tuberculosis takes its highest toll from the bread earning and sexually active population, and this means a great social and economic loss to a country.

It would not be out of place if I mention here that the most important etiological factor in tuberculosis in India is the present social, economic and industrial organisations in which the major part of the rural resources are being utilized in cities, and thereby attract the rural population to congregate in crowded areas where no proper arrangements for dwelling, open spaces, play-ground, sunshine, fresh air, and balanced food exist. Thus deprived of the adequate physiological necessities they deteriorate in health and fall an easy prey to the tubercle bacilli which thrive well in such a soil. The rural population, on the other hand, are divested of their resources by catering to the needs of the cities, and the village folk do not find sufficient employment to give them necessary supply of food materials to maintain themselves in health. These factors make the soil rich for the infection to thrive and complete the vicious circle.

Having seen that tuberculous infection takes its root in childhood, it continues in all stages of life from childhood to old age. But it thrives well only when there is continuous impairment of body resistance. Knowing as we do what wonderful results are obtainable by sanatorium treatment of open air, regulated work and balanced food, one is inevitably led to conclude that the present way of ill-informed living which man has

created for himself and under which the vital resistance is impaired, has to be given up if he is to be spared by this devastating disease of mankind.

Principles of Treatment

Tuberculosis is a disease unknown to the primitive races. It infests largely the civilized, as a result of unnatural living. Therefore, our chief aim should naturally be directed to live healthy and natural life which heightens the body resistance and makes the soil unsuitable for tuberculous infection. And as unsuitability of the soil further depends upon the efficient elimination of the toxins from the tissues, such elimination forms the next important principle in treatment.

Can we effect a change in our living and adopt a way based on correct knowledge? My answer is in the affirmative. We find in the Yoga system a message for the whole humanity irrespective of any nationality, age or sex. It helps to attain not only a perfect physical body but also to develop the mind and soul. In the *Bhagvat Gita* we find it stated that "Yoga killeth out all pain for him who is regulated in eating and amusement, regulated in performing action, regulated in sleeping and waking; who abstaineth from excess, who is not too much addicted to sleep, nor even to wakefulness." With this revelation at our back to guide us, if we were to remodel our life accordingly, we shall be free from physical and mental ailments (tuberculosis included), and achieve the natural and eternal condition—health—and discard the diseased and temporary condition—sickness.

It is nearly seven years back since I was guided by Swami Kuvalayanand of Lonavala in the science of Yoga to utilize its methods in the relief and cure of the diseases, and to include them in the daily routine treatment of my patients. I have tried them in no less than 1,000 cases comprising of various diseases, and one hundred cases of tuberculosis both incipient and active.

Tuberculous patients are generally divided into three classes:

(1) Those patients who are toxic, and acute sufferers are kept in verandah, bathed in fresh air, given absolute rest in bed with abdominal cold compress once in the day and a second time in the night, and sponged twice in the morning and evening. Initial fast may be recommended if required and is followed by fruit juice or milk or both.

(2) Febrile patients but little better than No (1) are kept in bed; very gentle massage over the abdomen given in the sunshine and the whole body is sponged after gentle massage. After a preliminary fast, fruit and milk regimen is advocated according to the condition of the patient. Cough abates, fever subsides, sweats disappear, expectoration lessens or stops and sense of well-being supervenes within about two or three weeks.

(3) Mild cases: The daily routine starts with a tumbler of cold water, the patient either massages his abdomen or performs *Naoli* according to his strength, and is advised to attend carefully and methodically to his personal hygiene.

How to Massage

The patient lies on the mattress in the morning sun at right angles to the rays. He is given gentle, slow and rhythmical strokes over the abdomen for 10-15 minutes on the line of the colon, the strokes being about

20 per minute. Little mercurial ointment diluted with double the amount of ghee has been found to be of great service. Mercurial ointment should not be used for more than two months and should be substituted by oil thereafter.

As the patient gains strength, general massage, while lying in the sun, is given all over the body by centripetal strokes which are given gently, slowly and rhythmically for 10-20 minutes, the number of strokes being 12-15 per minute. It may be commenced in lower extremities from toes, and proceed to the groin; in upper extremities from finger nails to the armpit; and are finished with the chest on the front. The patient is then turned on his face and the whole of the posterior surface is massaged in the order given above finishing with the back. For lubrication purpose garlicked and irradiated coconut oil may be used.

The combined action of massage and sun's rays brings on vaso-dilatation and oedema of the soft tissues, and this relieves the congestion in the internal organs, effects ventilation of and proper excretion from the skin. The toxins disseminated into the general circulation from the focal lesion as a result of massage stimulate the formation of anti-bodies and thus acts on the same basis as Tuberculin does.

The other results may be briefly put as below:

- (1) Relieves pain and discomfort.
- (2) The rays sterilize the superficial tissues, and have more bactericidal effects in dust and smoke-free atmosphere and at high altitudes.
- (3) Sun exposure brings about healthy pigmentation of the skin.
- (4) Massage induces stimulating impulses to the brain and spinal cord and improve their condition and function, and in turn those of the whole system through its controlling power.
- (5) Combined action of massage and sunshine improves not only the general health but the chemical condition of blood.
- (6) Sense of well being, abatement or disappearance of cough, expectoration, fever and night sweats; improvement in appetite, digestion, circulation and respiration secures the elimination of the toxins from the body.
- (7) Increases the powers of body resistance which is the nature's method of defence against all sorts of infection including that of tuberculosis

Bath

Massage is followed by hot or cold sponging or hot bath followed by cold water rinse or cold bath according to the condition of the patient. It forms a very good stimulus to the vasomotor system, and its other physiological effects are too well known.

Yogic Methods

Yogic methods consist of (1) *Shatkriyas*, (2) *Bandhas*, (3) *Asanas* and (4) *Pranayam*.

Shatkriyas are the cleansing methods: (i) *Neti* for nose, (ii) *Shaoili* for stomach, (iii) *Kapalbhati* for respiratory passage, (iv) *Naoli* for the whole abdomen.

Asanas: They are practised after bath, commenced with topsy-turvy poses (*Shirshasan* and *Sarvangasan*) which secure rich supply of blood to the brain and endocrine glands (pituitary, pineal and thyroid) and drainage of the abdominal organs. *Matsyasan* is complementary to *Sarvangasan* when thyroid tissues are stretched and spinal column is bent posteriorly. Other asanas secure anterior and posterior bends and side twists while *Mayurasan* presses the lower part of the abdominal aorta and blood is thus allowed to circulate forcibly into the organs where supply emerges from the upper part of the aorta. *Shavasana* relaxes whole body. Thus asanas improve the nutrition of all the muscles of the body by alternate contraction and stretching with the least possible expenditure of energy, stretch the nerve roots, nerves and other tissues and thus improve their circulation and health also.

Kapalbhati is one of the *Shatkriyas*, and is an exercise with jerky, quick and repeated exhalations, made active by the play of the abdominal muscles and inhalation made passive, thus stimulating the respiratory centre to efficient functioning. *Pranayam* is a breathing exercise by which lungs are deeply inflated by inhalation through the nostrils with half closed glottis and then breath is retained for as many seconds as possible. The retained air is exhaled slowly, deeply and without any jerk. The ratio of the actions can be fixed as 1:4:2 or 1:2:2 (*Purak*—slow and deep inhalation; *Kumbhak*—breath retention; *Rechak*—slow and deep exhalation).

Asanas and *Pranayam* produce a great repairing power on account of the least possible energy expended in their practice. But they are not to be prescribed when there is rapid breaking of lung tissue and consequent toxin absorption as evidenced by rise in temperature, pulse rate, malaise, headache, loss of appetite, etc., when absolute rest is the treatment to be ordered. Our aim should be directed to allow as much toxin to be liberated and circulated in the system that would stimulate production of anti-bodies on the same basis as the use of tuberculin.

This scheme of treatment has worked admirably in my hands. There is progressive improvement both physical and mental from day to day. There is a sense of well being; appetite and digestion become normal, and skin colour improves.

Diet

The period of preliminary fast depends upon individual strength, temperament, and non-interference of the so-called kind friends and relatives. Two to three days' fast can easily be borne and advised. Where initial fast is contra-indicated or not possible, fruit regime is commenced with fruits of citrate variety such as oranges, pomegranates, grapes, etc. Milk may be added if required. The quality of milk and fruit should be increased according to the individual need and the capacity to assimilate. This regime of fruit diet may be followed by cereal diet using only such cereals as wheat, *juar* or rice, with vegetables mostly leafy and milk products such as milk, dahi, butter-milk, etc. To begin with, *chapati* be given at the mid-day meal and gradually extended for the dinner. Thus during the cereal diet, milk is taken in the morning half an hour after *asanas*; mid-day meal at about 12 noon and dinner at 8 p.m., should constitute the whole day's programme. There

should be observed absolute fast, or milk or fruit diet for one day only once a week. The quantity should be regulated according to the digestive capacity and we should by no means load the system. After meals, rest in bed is enjoined for one to two hours according to the circumstances.

Evening walk in open air, maintaining an upright carriage, may be advised in non-febrile cases.

Dinner of a cereal diet, and night rest close the routine.

Conclusion

Tuberculosis is disease of civilisation, as we see it today. Child is not born with tuberculosis but gets it through contact from parents, relatives and other members of the society in homes, schools, industrial centres, etc. The seed of the disease is sown in the childhood and the infection passes through the lymphatics. Its classification into surgical, pulmonary and intestinal is artificial because it is a systemic intoxication. Largest mortality from the infection is during the ages of 1 to 5 in childhood and 20-25 in adults. Generally we observe cases when they are far advanced and show signs of breaking down. No two persons getting tubercular infection are alike in manifestation of the disease. Only about 10 per cent. of the infected show signs of the infection while 90 per cent. recover from it without manifestation of any symptoms. It respects no age nor any social position although poor may be saved to a greater extent because of their more active habits.

No country is free from this disease. No sooner overcrowding takes place in society than the disease follows. During the last Great War, units from Colonies suffered heavily when brought for action on the continent. Seed and soil are not the only factors however. Unfavourable environment plays an important role in the causation of this disease.

Medicinal treatment has so far proved insufficient. Vaccines and sera have been found far from satisfactory. Artificial pneumothorax though it prolongs life does not cure the disease ultimately. There are die-hards on both the sides of surgery and medicine. Sunshine, air, water, food, rest and movement have been acclaimed as the best method of cure by all. We have found out from sanatorium experience and experimental observations that the conditions that are favourable to raise the body resistance and maintain health are inimical to the progress of tuberculosis.

Now the question arises whether tubercle bacilli is the cause of the whole show or the pre-existing lowered vital resistance? Time alone can answer this question. The second question is: Are we to wait for treatment till tubercle bacilli are found in the discharges, i.e., when the disintegration of the tissues has started and very little can be achieved by way of cure? The yogic methods for improving one's health or for treatment of diseases are very simple to carry out and may be more frequently resorted to than is the case at present.

How are we to adopt them? We know the disease starts in childhood and my solution is that we doctors and parents should first acquaint ourselves with the yogic methods and follow them ourselves. We should tackle the problem through homes and schools. When the health conscience is thus developed, these methods will naturally be followed when they grow to manhood and old age, unless otherwise impossible.

The Challenge of Small-pox

Dr. Santokh Singh, L.M.P. (C.P.), L.C.P.S. (Bom.)
(Irwin Hospital, Jamnagar)

Human feelings may be expressed in many ways : by the artist in form and colour, by the musician in composition and interpretation and by the writer in choice of words. My only medium is words, but I regret I have not sufficient facility in their use which would serve to convey the emotions which have stirred me in recent years about the tragedy of small-pox in our country. To me, small-pox appears to be the greatest calamity, not *Matta* or *Seella*, the Hindu Goddess of Nemesis, but the biggest demon on earth which devours mostly little, innocent and lovely children who

"Then drop like fading flowers, their beauty fled,
And close their sickly eyes and hand the head,
And revel up with the disease, lay dying in their bed."

Thackeray, writing in *Esmond*, recalls the gruesome ravages of small pox. "Hundreds of the young and beautiful had been carried to the grave, or had only risen from the bed frightfully scarred and disfigured by this malady. This pestilence would enter a village and destroy half its inhabitants. At its approach, not only the beautiful but the strongest were alarmed, and they fled who could."

This applies more truly to our country today. There are still a large number of children who are unvaccinated and who, therefore, die of this disease, or are permanently disfigured or blinded. At the lowest computation it may be said that more than 50 per cent. of children under five years of age remain without vaccination.

It is worthwhile to consider the reasons for this state of affairs.

There are a class of people in our country with a frame of mind which renders them incapable of sound judgment, but seek in every way to oppose vaccination. Because some vaccinated children are attacked by small-pox it is argued that it is no good as a preventive measure, not knowing there are various other factors which influence the course and the severity of an epidemic infection.

The only remedy is compulsory vaccination. The patience with which the people submit to authority and its orders known as Laws is indeed astonishing, and is the best argument in favour of the view that the people would welcome effective control by the State by means of compulsory vaccination.

The Virus of Small-pox

There seems to be little doubt that small-pox is due to a specific virus. But its exact nature has not been so far determined, nor do we know much about its antigenic qualities. The common mode of infection is by inhalation, and the first seat of lesion is generally in the respiratory mucous membrane. From there it grows and produces typical lesions on the skin. Some believe it to be a form of septicemia or toxemia, and the eruptions on the skin embolic in nature. The last one can with difficulty be explained except as a form of toxic allergy. Purpuric and recurring types may be assumed to be due to absence of immunity in blood, permitting an unlimited infection by strepto and staphylococci.

Vaccination

Protection against small-pox is a question of paramount importance. When all the variabilities of the human body are taken into account, the proof of the remarkable value of vaccination against small-pox cannot but be accepted as final. If any investigator begins his enquiry with any alternative hypothesis he soon finds that it will not meet the case. Jenner believed that vaccination confers a life-long immunity. That, of course, has now been proved to be wrong. But this by no means detracts the great value of his discovery, and the four points he stressed in connection with vaccination are still true :

- (1) Importance of using virus from vesicles free from suppuration.
- (2) The need for a clean operation.
- (3) Possibility of failure, and therefore of the need for repeating the operation.
- (4) Severe local lesion, induced by vaccination, does not indicate protection, and may even be harmful.

The strain used in the preparation of lymph vaccine must be fresh and potent enough to produce maximum results. The ideal strain should be such as would produce intense specific action with a safe local lesion. Sydenham says that small-pox also has its peculiar kinds which take one form during one epidemic, and another during subsequent epidemics ; and because the tests as to specificity of the lymph vaccine are so far found to be unsatisfactory one is lead to doubt the trustworthiness of a certain strain against a particular epidemic.

There is no doubt that vaccination done even four days after the infection can protect or modify the attack. It is also interesting to note that, according to Richettes, if the incubation period of fourteen days be divided into three periods—7 days, 3 days and 4 days—it will be accurate in the main to say that a successful vaccination in the first period will wholly prevent the attack, in the second period it will more or less modify the attack, and in the third it will only add to the patient's trouble.

The importance of re-vaccination is often stressed in the Public Health Reports from the provinces. This is as important and necessary as primary vaccination.

Treatment

In the absence of any specific treatment, it resolves itself into proper management and nursing, besides relief of symptoms.

The rôle which the application of light and water plays is important but controversial. Free ventilation and fresh air are indispensable but only minimum sunlight should be admitted. Hot water baths have hardly ever found favour in this country.

Subcutaneous injection of liver extract and Electragol have been tried and favourable results reported.

Serum therapy is still in its initial stage of trial and experiment.

Red light in the treatment of small-pox was tried as early as 1293 by the hanging of red curtains. This was only a rough improvisation. The modern method, however, is by infra-red light, but it has not yielded good results.

(Continued at foot of page 193)

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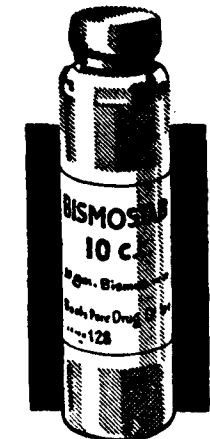
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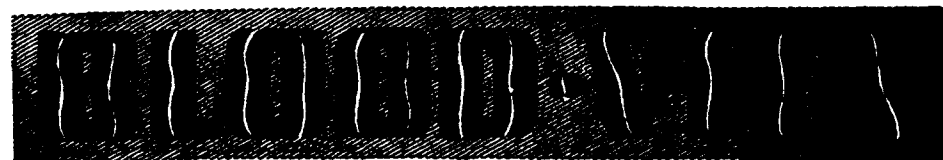
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CLINICAL NOTES

Treatment of Immature Cataract

Dr. K. Krishnamurty

(Ophthalmic Surgeon, L. N. Hospital, Chodavaram)

The following treatment which I have been adopting is more fruitful than to ask the patient to wait indefinitely till the lens get matured. The treatment is very simple and can be adopted by the general practitioners without the assistance of the specialist. The clinical results are fairly satisfactory.

Diet: Advise the patient to use hand-pound or semi-polished rice, and if this is not possible one ounce of bran may be taken. Two to three fresh lime fruits per day should also be taken.

Yeast: 1 oz. of yeast daily.

Vitamin C: 3 to 4 tablets a day.

Local Treatment: Apply anti-cataractous ointment (S. I. Eye Laboratory product) which consists of calcium chloride and iodide. This may be applied morning and evening and the eye massaged for five minutes.

The following improvements were noticed in my cases:

- (1) Definite improvement in vision.
- (2) Appreciable disappearance of the striæ of the lens.

The above treatment must be continued for a period of at least three months, and may be repeated if found necessary.

Management of Inevitable Abortion by Bromide

Dr. Miss Sudhira Dey, L.M.F.

(Budge-Budge Hospital, Calcutta)

I was called in to see a young girl of about twenty-two years 'floating' on a stream of blood like a slaughtered sheep. The patient's pulse could hardly be felt. Shock was immediately treated by morphine (gr. ½) with atropine (1/100). After relieving the patient's bladder I made a P. V. examination which revealed:

- (1) The cervix was acutely pointing towards the urethra.
- (2) The fundus of the uterus lay low in the pouch of Douglas, the size of it indicating pregnancy of about four months.
- (3) The os was slightly open but not enough to admit even the tip of my little finger.

After the preliminary restorative measures, she was able to talk when she gave an history that she was a primipara, four months pregnant, and had sudden bleeding with severe pain.

Before I left the case, there was again another bout of bleeding. I plugged the vagina, and left the case at 4 a.m. It was, however, reported that she began to bleed again when she was admitted into my hospital. Once again morphia was given, vaginal hot douche and plugging were also done. This produced little effect. I gave her Peacock's Bromide. (one dram) with advice to the nurse to repeat if the patient did not fall asleep.

When I visited her next morning she appeared better. And as the os was now fully dilated I removed the foetus with ovum forceps after which she had an uneventful convalescence.

The one interesting feature of this case is that what repeated doses of morphine could not do was done by bromides.

Is Malaria Transmitted from Mother to Foetus?

Dr. P. C. Dutt, L.M.F.

(A. M. O., Tinkong Tea Estate, Assam)

Case I: S. B. aged 28 years, multipara was in labour pains at the height of malarial fever. Blood slides taken from her peripheral blood, immediately before delivery revealed heavy M. T. infection. Placental blood did not show any parasites and the infant had no attack of malaria.

Case II: B. M. aged 24 years, a thinly built multipara, had low fever when she delivered a living female child. Soon after delivery the temperature shot up to 103°F.; she became drowsy, gradually deepening into coma and died within twenty-four hours. The child had no infection of malaria, during the period of a month or so, it was under observation.

Comments:

(1) From the above case notes, it seems that congenital malaria is not a common occurrence.

(2) If the maternal blood and the foetal circulatory apparatus is considered, it is seen that under normal physiological condition the maternal blood and the foetal blood are separated from each other by the delicate walls of the villi and the endothelial linings of the foetal capillaries, through which respiratory and metabolic changes between the maternal tissue and the foetus take place by diffusion and osmosis and perhaps by some selective action. As there is no mixing of the maternal and foetal blood, there cannot possibly be any transmission of malarial parasites from mother to foetus.

(3) If, however, due to some morbid condition or injury, there is any leakage of maternal blood through the intervening barrier into the foetal circulation, the chance of placental infection of malaria as recorded by some authorities, is more likely.

Acknowledgment

I am much indebted to my chief Dr. J. A. Lewis, M.B., B.S. (Lond.), M.R.C.S., L.R.C.P. for his encouragement and kind permission to publish this note.

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- (1) R. W. Johnstone—A Text-book of Midwifery, 7th Edition.
- (2) I. M. G., Oct. 1941, p. 638.

(Concluded from page 192)

Conclusion

The still widely prevalent small-pox epidemics in our country is a challenge which must be accepted by the State and the people, and steps must be taken to eradicate it completely. The only method now known is compulsory vaccination and revaccination. By this, other countries have succeeded in stamping out small-pox wholly, and there is no reason why we should not succeed similarly in ours.

"I wish I may be able to take up the sorrows of all those creatures who suffer and enter into them so that they may be made free from grief."—Bagwat.

SPECIAL ARTICLES

Modern Drugs

(4)

Local Anaesthetics

Dr. M. S. Arunachalam, L.M.P.

Cocaine is now little used for surface or infiltration anaesthesia, because, though it has the advantage of producing rapid and complete insensitivity to touch and pain yet its many disadvantages have led to the discovery of safer anaesthetics. These disadvantages are :

- (1) Powerful stimulation of the cardiac, respiratory, and central nervous system followed by depression.
- (2) Toxic action on the heart-muscle.
- (3) Local irritation.
- (4) Short duration of anaesthesia.
- (5) Drug addiction.

The synthetic substitutes, therefore, are now being used in an increasing measure not only in the field of minor surgery but also in the relief of pain in certain conditions. These have been found to be less toxic and to have longer duration of action, with the additional advantage of being capable of combination with a local vaso-constrictor such as adrenalin.

These substitutes fall broadly under three groups :—

- (1) Para-aminobenzyl group and para-aminobenzoic acid derivatives.
- (2) The Quinoline group.
- (3) The Pyridine group.

The representatives of these groups are :

- (1) (a) Procaine (Ethocaine Hydrochloride).
- (b) Procaine hydrochloride (B. W. & Co.).
- (c) Novocaine (Bayer).
- (d) Planocaine (M. & B.).
- (e) Butyn Sulphate (Abbot).
- (f) Proctocaine (Allen & Hanbury).
- (2) (a) Percaine (Ciba).
- (3) (a) Metycaine (Eli Lilly).

The Procaine Group

Members of this group are the ones which are most commonly used. They are potent, slow in action and well tolerated. They paralyse sensory nerve fibres without preceding stimulation. The time of onset of anaesthesia is 5 minutes after injection of a 2 per cent. solution, 10 minutes after 1 per cent. solution and 20 minutes after 0.5 per cent. Applied to mucous membrane, they are only slightly absorbed, but as surface anaesthetics they are much weaker than cocaine. All the members of this group are compatible with adrenalin. [Neotoncain (Ritcher), Arecan (Evans), and Parsetic (P. O. & Co.), are some of the proprietary preparations in combination with adrenalin or ephedrine]. They are more used for infiltration anaesthesia than for surface

anaesthesia. If used for relief of pain (of sprain, rheumatism and arthritis) an oily solution (almond oil) is generally preferred because of its slow and prolonged action, of its power to separate the inflamed tissues and of breaking down fine adhesions. For producing local anaesthesia, however, only watery solution is used, usually a 2 per cent. solution. Infiltration of oily solution ($\frac{1}{2}$ to 2 per cent.) for the relief of pain is resorted to in (1) sprains, (2) dislocations and fractures, (3) rheumatism, (4) arthritis, (5) traumatic synovitis, and (6) bursitis.

In sprains: Leriche introduced this method of relieving pain and of reducing the period of incapacity in 1927. Infiltration around the area of sprain results in immediate relief of pain, subsidence of swelling and restoration of mobility. How this is produced is not well understood at present, and is said to be due to the anaesthetic blocking the afferent impulses sent up by the tearing of ligaments. A $\frac{1}{2}$ to 2 per cent. solution of procaine is injected in several places into the periarticular tissues of the affected joint. About 10 to 15 c.c. will be usually found sufficient.

In rheumatic and arthritic pain: Injections are made into the tender spots which are followed by relief of pain and stiffness.

In fissures, pruritis and haemorrhoids: Proctocaine (Allen and Hanbury), which is a combination of butyl *p*-Aminobenzoate and benzyl alcohol in olive oil, is injected into the anal sphincter, up to 5 c.c. At first, it may be given in four or five separate punctures. Later it may be given in two punctures—right anterior and left anterior anal quadrants.

For Eye work: Butyn sulphate (Abbott) is the drug of choice in the removal of foreign bodies from the eye, since it does not increase ocular tension.

The Quinoline Group

Percaine (Ciba) is the most popular representative of this group. It is a complex Quinoline derivative. It is incompatible with alkalis, therefore it should be prepared in double distilled water. It is less irritating to the skin than the other local anaesthetics, and is used in a variety of conditions. As a surface anaesthetic, it is used in :

- (1) Nose and throat operations, by spraying, brushing or plugging—2 per cent. solution.
- (2) Eye operations—1 in 500 or 1,000 solution.
- (3) Painful fissures and haemorrhoids—2 per cent. solution.
- (4) Dilatation of urethra—1 in 1000 solution.
- (5) Infiltration anaesthesia—1 in 1000 solution to which is added adrenalin (10 to 20 drops of 1 in 1000) to 100 c.c. of the solution.
- (6) The relief of rectal and anal pain, injected in the form of oily solutions.

The Pyridine Group

Metycaine (Eli Lilly) is a synthetic pyridine derivative used for both surface and infiltration anaesthesia. It is commonly used for ophthalmic, oral, nasal and urogenital application in concentrations of 0.25 to 4 per cent.

MEDICO-POLITICAL SUPPLEMENT TO

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CONTENTS

Leading Articles	Page	Doctor and Patient in the Soviet Union—Dr. Julius Lipetz	Page
A Point Gained	41		
About Our Regional Branches	41		42

A Point Gained

Certainly a vital point has been gained by the decision of the Government of India to admit, as a war-time measure, medical practitioners who hold the following qualifications to the Emergency Cadre of the Indian Medical Service :

Membership of the College of Physicians and Surgeons of Bombay (M.C.P. and S.)
Diploma in Medicine and Surgery, Madras (D.M.S.).
Membership of the State Medical Faculties of the Punjab and the United Provinces (M.S.M.F.).
Membership of the State Medical Faculty of Bengal (M.M.F.).

This would show that the recognition of the Indian Medical Council for the purpose of eligibility to the Emergency I.M.S., is really less important than the willingness of the Government to do a just and right thing.

We do recognise, and are grateful for, the series of measures promulgated by the Government to improve the position of the licentiates in the Indian Medical Department. But these by no means vindicate the principle that all the statutorily registered medical practitioners should be given equal opportunities at the start, specially so during the period of Emergency. Judged not by conventions or regulation but by sheer merit, the licentiates' case for entry into the Emergency I.M.S. is quite strong and unequivocal. This is the opinion of British Doctors practising in our country, as evidenced by Dr. T. H. Somervell's letter to the *Hindu*, dated 2-7-1942, who writes :

"As an Englishman who has held a King's Commission in the R.A.M.C., and who for many years acted as an examiner in the M.B., B.S., examinations in Madras University, may I add my support to the opinion expressed by your correspondent Dr. V. C. G. Conran in your issue of June 25? For twenty years I have worked in a Hospital staffed almost entirely by Sub-Assistant Surgeons. I have found it to be undoubtedly true that after a few years of hospital experi-

ence a L.M.P. can do just as good work on the average as an M.B. After all, it is largely a question of finance, not of brains or capacity. Of two young men of equal brain power, one may have a family that can afford a College education, while the other family with great difficulty educate their boy in the shorter course. But the two have equal capacity for observation, and equal potential skill. And in a few years of experience of their profession, the less highly-trained man may become just as efficient as the holder of an M.B. degree, nay, even more so, if he is keen. I am most strongly of opinion that a L.M.P. or L.C.P.S., who has had an year or two in hospital work after qualification should be able to get a Commission in the R.A.M.C. or the I.M.S., and I most sincerely hope that the regulations may be altered to enable this to be possible."

One step more by the Government, and this problem is solved to the satisfaction of all. Let them decide boldly and wisely that all the medical licentiates are, at least as a war-time measure, eligible to enter the Emergency I.M.S. We may aptly address the Government in the words of the poet:

"Alas! what years you thus consume in vain
Ruled by this wretched bias of the brain."

About Our Regional Branches

The All-India Medical Licentiates' Association has, today, 180 Branches. But its successive annual reports indicate that a large number of them show little work and less enthusiasm.

The reason for this state of affairs is to be found, perhaps, in the belief of the Branches that it is the Central Body that is responsible for work and achievement and that their own rôle is no more than passive acquiescence or passive grumbling. And when they find that the Central Body does not take much interest in their local problems, this becomes a further cause of inertia, and manifests itself in the form of complaints that the office-bearers of the Central Body are more or less job-hunters.

The purpose of this article is to show that these beliefs are not wholly correct and that the real causes of the Branch becoming inert are (1) insular objectives, (2) confusion of duties, and (3) defective liaison between the Central Body and the Regional Branches.

Insular Objectives

When a Branch is brought into existence by the enthusiasm of a few licentiates in a particular area, the motif has always been to make collective efforts to remedy the service grievances by bringing them to the notice of the authorities. There is nothing dishonourable in this. But the fatal defect is to make this its primary objective. It soon wears off by frustration of hopes unfulfilled and by the disdain of the authorities. At this point, the Branch feels it has lost its mission and gives up its ghost. Often it happens thus. The Branch Secretary, usually a very able man, lays down his work the moment he personally reaps its benefit by promotion to the higher cadres of medical service. Not only does he give up his office but also become strangely hostile to the affairs of the Association. This produces a strong reaction in the minds of the members, and a prolonged lull in their activities. The membership of the Branch being small, it is usually not in a position to elect another secretary who has got the necessary drive and energy to organise Branch meetings, clinical, social or medico-political. The membership is necessarily small because its objectives are too insular to attract the larger body of private practitioners to whom harping incessantly on the grievances look silly and one-sided. When disruption begins other factors come into play: jealousy and quarrels over trifling matters, insufficient funds and the like. These drive the Branch to a state of suspended animation, coming up to life, for a while, when there is an external stimulus such as a Colonel or a Major presiding over its clinical meeting, or delivering a lecture under its auspices. In other words, the organisation of a Branch should be based on the strength of a large membership and a definite programme of work of public utility. And unless it is so based it is likely to die sooner or later. The membership must grow from month to month and cover at least 50 per cent. of the medical licentiates in a district. Secondly their main programme of work should be of a constructive character: collection of medical and public health statistics, clinical studies, identification with the work of medical relief and sanitation and intelligent appreciation of medico-political problems and their appropriate solution. A work of this kind will bring them in touch with the people, the Government and the Local Bodies and help to establish their importance and influence. Unless this background is created and maintained, their secondary but none the less important work of redressing the manifold grievances of those in various services would not compel the confidence and attention of the authorities, nor command the adherence of the larger group of the licentiate medical practitioners who seek avenues of public work. No institution, small or big, can have long and useful life if it merely lays stress on insular objectives without undertaking some form of constructive work or other.

Confusion of Duties

Local problems can only be solved by local work and local leaders. To expect active interference and help from the Central Body illustrates the prevailing confusion of respective duties. In fact, the strength and influence of the latter depends on the adherence of public causes by its constituent Branches. It is they that build the reputation of the Central Body and not vice-

versa. To expect otherwise is to confuse each other's duties, leading both to a blind alley. There is a feeling among many Branches that the Central Body does not render sufficient help and encouragement in their work, and on this belief allow themselves to languish after a brief spell of activities. This is self-imposed stalemate and could by no means be avoided if the Branches do not build their strength and structure by their own work and achievement. The Central Body is like the cardiac mechanism. The Branches represent the circulatory system. If there are faults in the circulation both suffer, but the cardium cannot be blamed for dysfunction.

Defective Liaison

This does not mean that the organisation and functioning of the Central Body is above fault. Its chief demerit lies in the defective liaison between it and the constituent Branches. At present the only connecting link is the Provincial Secretary, and because he is there some Branches are alive and kicking. But this arrangement has not produced optimum results for various reasons into which we need not go at present. Experience and results show that better form of active and recurring liaison should be established between the centre and the periphery without which substantial and sustained work becomes difficult, if not impossible. Such a link is capable of immense benefit and can be effected only if the work and objectives of the Association are based on the essentials of a business organisation. How this could be planned and worked out will be discussed in our next article.

A. VISWANATHAN.

Doctor and Patient in the Soviet Union*

Dr. Julius Lipetz

In viewing a country's medical services we must examine:—

- (1) Methods of organisation.
- (2) Efficiency in serving that country's population.
- (3) The place taken in the general advance of Medical Science.

In this article I give some impressions of the actual treatment of people in the Soviet Union in health and in disease, basing it to a fair degree on notes made during a visit to Russia in the late summer of 1939.

In Britain we are justly proud of the far-reaching developments in the prevention and treatment of disease which have taken place in the last 150 years. The development of industry and the close confinement of people in factory and workshop and in grossly inadequate houses created medical problems of widespread urgency. Sewerage schemes, scavenging, pure water supplies and land drainage in these conditions did more to save life than an army of doctors might achieve. Soap and water largely banished the louse and the flea, and with their retreat went cholera, plague and typhus. Within 100 years our death rate dropped from some 22 per 1,000 to 12 per 1,000. Because of such advances in our social security we honour names like Chadwick, Kay-Shuttle-

*Reproduced from *Post-Graduate Medical Journal*, Jan. 1942, with due acknowledgments.

worth, Engels and Shaftesbury. These and others described what they saw and drew the correct conclusions from their observations.

A century after the passing of our earlier Factory Acts, Lenin had to tell the Russians, "Either Socialism will destroy the louse or the louse will destroy Socialism." The young Soviet Republics set to with a will, and in these last twenty-four years have built their Socialist State and, with it, their socialised health services. Within twenty years they have reduced their infant mortality to less than half of its previous high figure. Other vital statistics show similar trends and such figures are the measure of the medical progress of a nation.

We who started so much earlier in the race for medical progress may well examine with interest and enlightenment certain factors which have produced a rate of advance at once widespread and intensive.

Firstly, we find a medical service which is free to all. A service which is co-ordinated from top to bottom, developed overnight, as it were, on certain basic theories. The Commissariat of Health is directly responsible for all the multitudinous units which constitute the health services of Soviet Russia. It is interesting to note that in the early nineteen twenties the doctors were the first professional class prepared to work in harmony with the new régime. The reason lay partly in the fact that their first Commissar of Health, Dr. Semashko, an old Bolshevik and friend of Lenin, quickly made it evident that in the making of medical appointments he never questioned a doctor's politics so long as he was prepared to give conscientious and single-minded service to the Soviet medical services. Quite early, although working under great difficulties, they were able to lay the foundations of health services which before long were to play such a spectacular part in lifting the new Russia out of the depths to which it had sunk in the years before.

Gone is the long held superstition that any one doctor constitutes the unit of the profession. In an age of production by social co-operation, the unit of medicine similarly is held to be the team of doctors working from a central clinic with all the requirements of modern methods of diagnosis and treatment at their command. Working on a shift system they are able to devote untired and unhurried care to their patients. Let us observe some of the features of Soviet medicine by visiting certain hospitals and clinics.

Polyclinics and Hospitals

The Polyclinic Aeroflot is a pleasant well laid-out building at an aerodrome near Moscow on the road to Hinki port on the Moscow Volga Canal. It serves the personnel of the air fleet, the workers attached to the aerodrome and their families. There are two main sections, the polyclinic proper and a small hospital of forty-five beds. Fifty-eight doctors are employed and the complete staff numbered 230. Apart from emergency work, there were two full working shifts of five hours each from 9 a.m. to 2 p.m. and 3 p.m. to 8 p.m. Shifts are arranged to suit the convenience of the workers who use the polyclinic. Patients can always attend by appointment, and even a first visit could be arranged

by 'phone. As a result, the spacious and comfortably furnished waiting room was fairly empty, even when the work of the hospital and clinic was in full swing. On the ground flat, which was devoted to the polyclinic, was a series of rooms for the various specialists. The dental department had a staff of eight dentists working in shifts. Each sees ten to twelve patients daily, except the newly-qualified dentist, who sees perhaps three patients per day. There was an X-ray department, diagnostic and therapeutic, a clinical laboratory, etc. The physiotherapy department was quite a complicated place with many devices for prodding and kneading. Vibrating instruments seemed popular. The urologist I found was also treating cases of venereal disease. Their methods seemed similar to our own. In other rooms I saw various specialists at work, a surgeon, a general physician, an aurist, ophthalmologist, and so on. The atmosphere of the building in general was that of a hospital. In the individual consulting rooms it was something between that of a hospital and a doctor's surgery in this country. The polyclinic was, in fact, a general practitioner service and a specialist service combined. As a general practitioner, I was particularly interested to know whether, with the ready availability of specialists, there was any tendency for patients to travel around from one specialist to another and without being the special responsibility of one particular general physician. I was assured that this did not happen and that each case was definitely under the care of one physician to whom the patient returned after any further consultation. At no time did I find doctors hurried or showing signs of overwork. One surgeon whom I questioned referred to his records and was able to tell me that during that year he had seen on an average 200 patients per month. How I wished that our many excellent surgeons and physicians in hospitals and clinics here could have the same leisurely opportunity of examining their cases. I was eager to observe the general approach and reactions of the patients in the presence of these various doctors. In the main there was a readiness for the patient to take part in the consultation, much as we find here when we consult with a patient of better education. Only in the older patients brought up in a previous régime did I find a tendency to accept respectfully the decision of the doctor in a more passive way, and to address him or her as "sir," or something corresponding to such address. With these older patients the general atmosphere and tone compared more closely with the usual panel patient consultation found in busy industrial practice where a doctor most often has little time to enter on fuller discussion and explanation and the patient in the main does not expect such leisurely procedure. In general, it seems good for medical men to work in teams with their colleagues. Under such conditions one is much more likely to retain interest in one's work and even a fair degree of enthusiasm. The doctor's working day is spent in seeing patients and not in rushing about from nursing homes to hospitals or covering a large mileage through the busy streets of towns—how often do our G.P.'s, even in towns, travel many miles to see one patient, thus breaking into the whole rhythm of a day's work. In the Soviet Union each is a full-time worker in his institution, much as we find in our own Hammer-smith Hospital in London. The nurses worked in

gowns and slippers, thus making for easy comfort if not elegance. They were in the main kindly and friendly with the patients and showed a definite keenness to learn from the different cases. In this particular polyclinic some of the nurses had originally been unqualified workers on the staff, such as cleaners, and had taken advantage of facilities for further education. The director was a keen and friendly man around forty years of age. He also had formerly been one of the unqualified workers on the staff. The nurses worked on an average about a six-seven hour day. Most live at home, but there is always a proportion, especially of the more senior ones, who live in the nurses' home attached to or near the hospital. The hospital kitchen attached to the polyclinic supplied meals for the forty-five in-patients. It was spotless. The chefs had qualified in a school for medical cooking and had salaries comparable with the less highly paid members of the medical and surgical staff. All new patients had to be seen by the director before admission, except in case of emergency. Each section of the staff met regularly to discuss their part in the running of the polyclinic, i.e., doctors together, maids together, nurses, etc. About once in three months all met together as a hospital Soviet in order that their various activities might best be co-related.

The apparent standard of efficiency of the various medical men and women whom I saw at work, varied according as we judged by average British hospital standards or by those of general practice. By the latter the standard was high, by the former it was often less than we would expect from a hospital consultant here. In the main, after discounting the hospital atmosphere and recollecting that here was what corresponded to our general practitioner service, the standard was excellent.

In Moscow I also visited the Central Clinical Hospital of People's Commissariat of Railway Workers. This was a hospital of 500 beds with 50 doctors and 134 nurses. The director who received me was, I found later, an old Bolshevik and a partisan or guerilla fighter in the Intervention wars following the 1917 Revolution. No ward contained more than six beds, and an interesting feature of Soviet hospitals is that the patients who are up and about have dining rooms which are separate from the wards. The average stay of patients was eighteen days. Patients were sent home sooner than we would find here; for example, hernias and appendices averaged eight days, confinements only seven to eight days. I was informed that *in the whole of this hospital there was no chloroform or ether*. Spinal and intravenous anaesthetics were used. Here again I noticed extensive facilities for physiotherapy and hydrotherapy. The hospital library, which received the "Lancet" (and, I believe, the B. M. J.), was still rather undeveloped, and the young urologist who spoke English and kindly showed me round part of the hospital would have welcomed an interchange of journals on urology with his British colleagues.

A visit to the Hospital for Industrial Diseases in Leningrad was of interest in that it served as a practical demonstration of the stress which the Soviet health services place upon preventive medicine and of how closely they endeavour to relate their theories to practical experience. This hospital served the whole of Leningrad and the surrounding area, which includes one-quarter

of the Soviet industrial production. It was staffed by 103 doctors for a total of fifty beds, many of which were empty at the time of my visit. The building was old and quite unimpressive. For the clinical part of the hospital there was a staff of twelve doctors and twelve nurses. Admission is restricted to cases of definite industrial disease, e.g., poisoning by fumes, etc. Ordinary accidents in places of work go elsewhere. Where such specific industrial accidents occur, a doctor, an engineer and a chemist go immediately to the factory. These three technicians examine the situation and no work can start in that section of the factory until their permission has been given. This procedure applies to urgent or acute cases.

All people in industry are required by law to be examined medically at regular intervals. In most cases this interval is one of six months, occasionally it is yearly, and it may be as often as monthly, as, for example, in the case of workers with tetraethyl lead. Where a particular factory shows a higher percentage of sick returns than a fair average, the hospital sends an engineer and a chemist to find out why. When new substances and methods which might develop noxious products are introduced to industry a test section is opened in the factory, and only when the results from a medical point of view are considered satisfactory may production go forward on the scale desired by the industry concerned. Records are kept of all workers who have developed industrial diseases and these patients are examined periodically by the factory doctors and also by a doctor from the institute. The hospital contains twenty-one different laboratories for investigations into certain subjects, e.g., ventilation, light, temperature, dust, vibration, etc.

Of special interest was an oxygen room with heavy doors and inlet tubes through the walls and an observation window through which the doctor watches the progress of the patient. Among the relatively few cases in the hospital were two of sulphur dioxide poisoning in workers from match factories and a case of lead poisoning in a patient who made accumulators for motor cars.

Health Education

A visit to the House of Sanitary Culture gave a further impression of the emphasis placed by the Commissariat of Health on preventive medicine and health education. This institute bore a certain similarity to the pavilion prepared by the B. M. A. for the Empire Exhibition in Glasgow some years ago, but was on a much larger scale. Throughout the Soviet Union there are 300 such Houses of Sanitary Culture with a Central Institute in Moscow.

When we observe the immense sums spent on medical research and on preventive medicine in its widest sense it is not surprising that one of our leading surgeons, after a visit to the U. S. S. R. in which he examined hospitals and institutes of a more specialised nature than those in which I was interested, expressed the view that "The medical scientists of Russia are being given better opportunity to produce good work than in any other country I know . . . their conditions of work are well-nigh ideal." He linked this statement

(Continued on page 203 of the Journal)

Contra-indications

Many of these local anaesthetics should not be used in cases of hyperthyroidism. Some patients are hypersensitive to these drugs.

The anaesthetic solution should be as fresh as possible, and should not be exposed to light. Solutions which show change of colour, precipitation or flocculation should be discarded.

Overdosage should carefully be avoided. Some of the symptoms of overdosage are, pallor, rapid pulse, lowered blood pressure, and even loss of consciousness. Or they may manifest symptoms of respiratory failure. Or there may be excessive stimulation of the central nervous system showing excitement, delirium and convulsions.

In fact, the secret of success in the art of local anaesthesia is in the optimum dosage necessary for a particular case on hand.

Treatment of War Wounds and War Burns

(American Publications)

Dr. W. Schweisheimer, M.D.

(New Rochelle, U. S. A.)

American doctors and ambulances had plenty of opportunity of watching and treating war injuries of all sorts. In the foreground of interest today are the sulfadiazine preparations. So far the triple-dye treatment—used by British surgeons on war burns—had proved very valuable, particularly in treating flame-seared fighter pilots who escape from crippled aircraft but are badly burned about the face, hands and legs. Cosmetically, also, results are good.

Spraying Sulfadiazine

directly onto burns is being hailed as a most effective method of treating burns yet devised. Since nine months Dr. Kenneth L. Pickrell of John Hopkins Hospital, Baltimore, has treated 115 badly burned patients and lost only one. No infection occurred in any of the patients with second degree burns. Burned areas are said to "heal more rapidly than with any form of treatment previously used at the John Hopkins Hospital. No preliminary washing or cleaning of burned areas is needed in the new treatment. The nurse starts spraying the sulfadiazine while the surgeon is scrubbing his hands in preparation for removal of blisters and loose tissue. The sulfadiazine allays a great deal of the patient's pain.

In the more serious cases, the patients are treated for shock and put to bed on sterilized sheets under a heat cradle to keep them warm. The sulfadiazine spray is continued every hour at first, for four days. By this time a thin transparent scab forms through which the doctor can watch the healing of the burn and the growth of new skin tissues. After about ten days the edges of the scab begin to loosen and separate from the skin beneath. At this time sulfadiazine compresses can be applied and in many cases sterile mineral oil sprays followed by salt solution compresses allow the scab to be removed in large sheets. In third degree burns the scab is left in place for at least two weeks. The sulfadiazine solution has a pH value of about 9. It is clear with

a faint yellow colour which may darken unless stored in dark bottles. It does not stain, is almost odourless, has a bitter taste, does not injure skin, mucous membranes or granulating surfaces and can be used safely in and around the eyes. The sulfadiazine for the spray is used in a solution of 3.5% sulfadiazine in 8% triethanolamine. The ointment for covering burns in patients not requiring hospitalization consists of 5% sulfadiazine and 8% triethanolamine in a stearin base. J. A. Key and T. H. Burford, St. Louis, report on operations in which

Sulfanilamide Powder

was implanted in the wound. A saturated solution of sulfanilamide crystals inhibits the growth not only of susceptible strains of streptococci but of staphylococci and gas bacilli and other organisms not susceptible to the drug in dilute solutions. The efficiency of the drug varies inversely with the number of organisms present.

Sulfanilamide powder remains in wounds for about 48 hours, saturates the fluid in the wound and diffuses into the surrounding tissue. For clean operative wounds much less of the drug is used than for contaminated ones. Rarely more than 5 gm. is placed in a single wound. All the wounds healed by primary intention, indicating that sulfanilamide does not interfere with healing.

Surgeon Rear Admiral Cecil P. G. Wakely, Royal Naval Hospital, Hants, England, has published some of his experiences in "Surgery". The treatment of severe burns, according to him, is a three-fold problem: first, the saving of life; second, the local treatment; third, preservation or reservation of the function of the parts involved. Shock is combated by morphine, blood serum, adrenal cortical extract, oxygen and heat. Tannic acid is used for burns of the trunk. The usual procedure is to cleanse with saline, remove dead tissues, swab with 1% or 2% gentian violet, and then apply 5% tannic acid followed by 10% silver nitrate solution. For third degree burns in some areas, dressings saturated with petroleum jelly and balsam of peru may be expedient. Gentian violet jelly or cod-liver oil dressings are advised for burns of the face. Triple-dye is effective too, but tannic acid is contra-indicated for use on the face. The envelope-irrigation method of treating burns, devised by John Bunyan, is suitable for burns of the extremities.

Gramicidin

Three years ago, Dr. R. J. Dubos of the Rockefeller Institute discovered a germ-killer brewed by bacteria that live in the soil. A product of chemical warfare between germs, the brew, called gramicidin, overcomes certain streptococci, staphylococci, pneumococci. In tests in animals and humans it is from 1,000 to 100,000 times as strong as sulfanilamide in healing local infections; it destroys, however, also red blood cells. Recently Drs. C. H. Rammelkamp, Jr. and C. S. Keefer of the Boston University School of Medicine reported a hopeful experiment with gramicidin. They put it directly on the wounds of several patients with ulcers and skin diseases. One patient who had a leg ulcer for fifteen years, was cured in three weeks. The others recovered even more rapidly. But the doctors made it clear that the dangers of gramicidin have to be tested more completely. It is still available only to research workers.

Bipp and Liquid Petrolatum on Wounds

Gurd and McKim, Montreal, Canada, discuss the use of bipp (one part of bismuth subnitrate, one part of iodoform powder and one part of liquid petrolatum) packing in the treatment of civilian and war wounds. The advantages of the treatment are relief of pain, stimulation of a healthy reaction on the part of the tissues, control of the original infection and the fact that usually dressings need to be changed only in from three to six weeks, thus lessening infection. The employment of the bipp-liquid petrolatum technic is specifically recommended for (1) acute traumatic lesions whether due to gunshot wounds, automobile injuries or construction accidents associated with potential infections and compound fractures, (2) infected wounds resulting from untreated trauma or suppurating or phlegmonous wounds from other causes and (3) as a prophylactic measure against infection of the wall of the body when certain infected cavities, such as abdominal abscesses, empyema or lung abscesses are opened, and when operating on the mastoid or other deep-seated abscesses.

Adrenal Cortex Extract and Burns

Rhoads, Wolff and Lee, Philadelphia, administered adrenal cortex extract to patients with extensive burns. The burned area was debrided and tanned, and the patient placed under a thermoregulated cradle. Hematocrit and plasma protein levels were determined at intervals of six hours for 48 hours and less frequently thereafter. A continuous infusion of citrated blood plasma, diluted with an equal volume or more of 5 per cent. dextrose in distilled water or with 0.85 per cent. sodium chloride, was given in amounts to keep the hematocrit below 55 and the plasma protein level about 6 gm. per hundred cubic centimeters. Adrenal cortex extract was used intravenously, and the dosage varied from 5 to 10 c.c. every six hours for adults, and in proportionate amounts for children. Adrenal cortex extract reduces the amount of plasma required to restore the circulation to normal, reduces the amount of plasma protein which enters the interstitial fluid and shortens the period of stagnant anoxia. A definite chloride retention occurs. None should be given these patients unless indicated by blood analysis.

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MEDICAL NEWS**Our American Letter****Sister Kenny's Treatment of Poliomyelitis**

The revolutionary new treatment for infantile paralysis, developed during the last thirty years in Australia by Sister Elizabeth Kenny was officially approved by a committee of the National Foundation for Infantile Paralysis at the second annual meeting of the foundation at the New York Academy of Medicine. The treatment had previously been officially approved in Australia.

In 1940, Sister Kenny tried to gain recognition of her method from the medical profession in the United States. After some fruitless efforts she went to Dr. M. Henderson of the Mayo Clinic at Rochester, Minn. He arranged for her to try her methods at the University of Minnesota Medical School. A preliminary report of W. H. Cole and M. E. Knapp, from the University of Minnesota Medical School, on twenty-six patients with acute anterior poliomyelitis treated by the Kelly method, started from the fact that the currently accepted methods of treatment of the disease are far from satisfactory. The authors had success with the Sister Kenny method and demanded that the method should be given a fair trial.

Sister Kenny's method is characterized by the "abandonment of immobilization." It has no place for the use of splints or plaster of paris fixation. Some of the reasons of this condemnation are: immobilization prolongs the condition of muscle spasm and prevents its treatment; it promotes the condition of stiffness; interferes with nutrition of skin, subcutaneous tissues and muscles; reduces circulation; cannot prevent deformities; diminishes the volume of nerve impulse through the nervous system; produces changes in the capsular ligaments; interferes with the normal function of the subconscious mind.

In Kenny's treatment, hot fomentations are applied to the affected muscles. They are renewed every two hours in most cases. Passive movements through the range of motion possible without pain are carried out several times a day. In addition an attempt is made to maintain awareness of the part by training once or twice a day as soon as muscle spasm is sufficiently reduced. The details of the method cannot be learned quickly. Sister Kenny had to overcome staggering difficulties until her method has gained the approval of the medical world. But it seems that the goal now has been reached—to the benefit of suffering and needlessly crippled children.

Phosphorus—Life Generator

Phosphorus the element that shines in the dark and is therefore named the "light bringer", has an important role as the prime generator of energy in the living organism. This important part has recently been pointed out by Dr. Franklin C. McLean of the University of Chicago. Phosphorus, used as a rat poison, and as a smoke producer in war, has been known for some time to be one of the body's essential minerals.

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The element serves as a storage battery and as a transmission line, transporting energy for living to all the tissues and fluids of the body, building and maintaining the body's skeletal framework, and storing up energy for use by the muscles when needed. It is found nearly everywhere in the animal organism, just as it is found nearly everywhere in nature.

The source of the phosphorus which flows through the animal organism in a never-ending stream is the soil. The plants take it up, and man gets it directly by eating the plants or indirectly by way of the tissues of plant-eating animals. Fertilization of the soil consists in supplying it with phosphorus as well as with nitrogen, the two elements without which the plants cannot grow. The adult human organism, Dr. McLean said, contains about 700 grams (more than a pound and a half) of phosphorus. Of this amount about 600 grams are in the skeleton. The remainder is present in the tissues and in the blood plasma, largely in the form of phosphates which enter into a considerable number and variety of chemical combination. Fifty grams of phosphorus are found in the muscles of adult man.

Of the complex organic compounds of phosphorus found in the animal organism, the organism appears to be able to synthesize all of them from inorganic phosphates, though it cannot synthesize all the organic substances that go into the phosphorus compounds. The daily requirement for phosphorus in the adult human organism is in the neighbourhood of one gram, and is even higher in the growing child where the needs of the skeleton must be met.

Early Use of Iodine for War Wounds

The first specific reference to the use of tincture of iodine in wounds appears to be that made in 1839 by John Davis, then surgeon to the General Infirmary at Hertford, England. In his book "Selections in Pathology and Surgery" he wanted "to bring into general notice a remedy whose superior curative properties, as an external application, appear to be but little known to the profession."

What is, in all probability, the earliest recorded account of iodine tincture being applied to wounds sustained in battle, relates to the American Civil War. In 1862, General John R. Gordon held the centre of General Lee's army at Sharpsburg. He suffered several wounds in the battle. Dr. Weatherly, of the Sixth Alabama Regiment, had the General removed to a base hospital, and prescribed tincture of iodine to be painted on the wounds three or four times a day. Mrs. Gordon, his wife, as his nurse, putting a liberal interpretation on her instructions, painted the wounds very many times a day. The patient recovered, he outlived the war, and became Senator for the Commonwealth of Georgia.

Allergy to Therapeutic Substances

S. M. Feinberg, of the division of allergy, North-Western University Medical School, Chicago, warns that allergic phenomena ranging from simple local swelling and urticaria to rhinitis, asthma, dermatitis, damage to the liver, kidney, brain or blood, anaphylactic shock and death may result from the use of these substances in sensitive patients. Serum reactions are the most common of man-made sensitizations. There are various types of reaction to serum: serum-sickness; accelerated serum sickness; immediate serum reactions.

Of the drugs, aspirin is the most flagrant offender, according to Feinberg, usually causing asthma, although urticaria, angioneurotic edema, dermatitis, rhinitis, abdominal pain and headache may occur. Often the patient unknowingly persists in the use of the drug as treatment for the illness caused by it. Quinine, barbiturates, aminopyrine, antipyrine, morphine and codeine are capable of initiating mild or severe symptoms in individuals sensitive to them. Skin tests, as a means of detecting drug sensitivity, are unreliable; almost anyone will show a positive scratch test with morphine or codeine.

The sulfonamides may occasion rashes, asthma, edema, granulocytopenia and photosensitivity. Some of the effects of arsenic are atopic in origin. Often the benzol radical in a particular preparation is responsible, and change to another compound will avoid trouble. Contact dermatitis from the lipid substance in poison ivy is well known. Some individuals will get similar skin eruptions from handling primrose, ragweed or other plants, or from dyes and chemicals containing mercury, quinine, nickel or resorcin. The formula of all lotions or ointments must be well known before use. Many otherwise obscure instances of skin disease, frequent colds, rhinitis, and protracted asthma may be cleared up if the physician is aware that such illnesses may be caused by the very medicaments used for a cure.

Substance Prescribed Oftenest

An interesting subject for speculation is the question of what drug or substance is prescribed oftenest by the doctor. Without attempting to cite statistics in the matter, the editor of the *Journal of the Indiana State Medical Association* believes that it is not digitalis or any other drug in the usual sense of the word that is prescribed most often, but that probably milk is mentioned oftener by the doctor than any other remedial agent, with possibly water and certain foods in second and third places.

Chemotherapy of Meningitis

When chemotherapy is resorted to in cases of meningitis, maximum doses of the appropriate drug should be given at the beginning of the treatment, not at the end, at which time it is less effective,—according to A. L. Hoyne, in a report on the Therapy of the Cook County Hospital, Chicago. If sulfanilamide is used it is usual to give one-half the estimated total daily dose initially. This dose frequently ranges from 2 to 4 gm. and is estimated on the basis of 0.06-0.12 gm. per pound of body weight, depending on the severity of the disease. If the patient cannot take the drug by mouth, it may be given in 0.8 per cent. solution subcutaneously. About 200 c.c. of such solution may be given twice a day until oral administration is possible; then 1 gm. every 4 hours usually suffices. If the patient is treated with sulfapyridine and can take the drug orally from the onset, an initial dose of 4 gm. or less is given, depending on the severity of the disease, the weight and age of the patient. This is then followed by 1 gm. every four hours.

As soon as possible, sulfapyridine should be given by mouth instead of by vein. If there is evidence of blood in the urine, sulfapyridine should be stopped and sulfathiazole or sulfanilamide substituted. When these drugs are used it is mandatory that the patient have an

adequate fluid intake. These drugs may also be given rectally, as the sodium salts usually, in a perforated capsule or in a starch solution in the form of a retention enema.

After the acute symptoms have come under control, the sulfa drugs are continued at a reduced dosage. The patient is usually off all medication in eight days but to continue medication at reduced dosage lessens the possibility of relapse or of complications. The use of sulfadiazine at present is in the experimental stage, and should not be used as a routine until its place has been established.

Our Canadian Letter

Insulin and Insulin Substitutes

E. T. Waters and C. H. Best, Department of Physiology, University of Toronto, gave a survey on the secretion of the pancreas and insulin. As for the Insulin Standard, they point out that zinc insulin crystals from all sources so far examined (man, cattle, hog, sheep, bison, fish) have the same potency. Very recently, preparations of zinc insulin crystals have been made of slightly greater potency than usual. This work may have considerable theoretic interest. The international standard, a preparation of zinc insulin crystals, is defined as containing 22 units per milligram. There are two well established methods of assaying the potency of an insulin preparation. The lowering of blood sugar in fasting rabbits and the production of convulsions in fasting mice furnish satisfactory effects of insulin for the comparison of unknown and standard products.

Much experimental work continues to be done in efforts to obtain a substitute for insulin, preferably one which will be active when given by mouth. Numerous plant extracts have been tried, and with some a lowering of the blood sugar has been noted. Several derivatives of guanidine have also been tried, perhaps the best known being decamethylene diguanidine. This substance does not increase deposition of muscle glycogen and its effect on hepatic glycogenesis is accomplished in a highly unphysiologic manner—by damaging the liver. Other substances besides this substance interfere with sugar formation in this manner. It is preferable for the diabetic organism to excrete the large quantities of dextrose made by a relatively healthy liver than to be made "sugar free" by damaging the liver so that less dextrose is formed.

A considerable advance in insulin therapy was made by the combination of insulin with protamine, according to Waters and Best. The method was further perfected by the discovery that the addition of a small amount of zinc salt not only prolonged the effectiveness of the insulin but also stabilized what was otherwise a troublesome mixture to administer. The following substances among others have also been added to insulin, and a delayed action of the hormone noted: zinc salts, spermine, arginine, thymus extract, alum, globin and hexamethylenetetramine.

Venereal Disease Control

The attempts to deal with venereal disease in Canada date from the First World War. In a report of Gordon Bates, General Director, The Health League of Canada,

Toronto, he mentions that there has been a considerable discussion as to the application of the routine Wassermann test in recruits and considerable speculation as to why it was not adopted immediately on the outbreak of War. In the United States it is being used in connection with the physical examination of all men called up under the selective draft. "In Canada we are told that there is no reason for applying such a test in the army when it is not used in the civil population."

The answer, Bates says, is that if it is not applied many soldiers will eventually develop disabilities which will unfit them to be soldiers. The suggestion that it is a hardship for a soldier or anyone else to be submitted to a scientific test for the detection of a serious disease is of course ridiculous.

Immunization of Canadian Air Force

A. H. Sellers, Toronto, states that outbreaks of diphtheria and scarlet fever among the air force personnel during last winter and spring caused procedures promising effective future control to be introduced. The programme calls for Schick and Dick testing and subsequent immunization of all air force personnel throughout Canada and Newfoundland during the training period, before proceeding overseas where these diseases are more prevalent. By this procedure it can be expected that diphtheria will be almost completely eliminated from the air force personnel. For scarlet fever the ground is not so certain, but immunization is the best available weapon.

All personnel either in or entering the service are Schick and Dick tested. Schick-sensitive persons are not given toxoid. Special clinics with trained personnel have been set up at large stations of initial entry. Permanent record of all tests and inoculations are made, and when immunization is complete the records are sent to air force headquarters to be used for statistical purposes. The result of the Schick test is read in 24 or 48 hours, and if negative is read again in 5 or 7 days. The Dick reaction is read in 22 or 24 hours, and all those showing a positive one are given five 1 c.c. injections of scarlet fever toxin subcutaneously at weekly intervals in graded doses.

9th Bengal Provincial Medical Conference

(A. I. M. L. A.)

Dr. Bhupatinath Chauhan, General Secretary of the above Conference, writes to announce that it will be held at Mymensingh on 26th and 27th September, 1942, and appeals to all the Bengal Licentiates to make it a success. Reception Committee Membership Fee is Rs. 4/- (for Medical Students Rs. 2/-). Scientific papers for the Conference may kindly be sent to Dr. A. Talukder, Station Road, Mymensingh.

Dr. JAMIATRAM B. DESAI, AHMEDABAD, WRITES :

In the 'Educational Trust' published in last June Supplement of the I.M.J., page 31, please note that the first eight scholarships amounting to Rs. 1,300 shall be for the post-graduate students, while the last four scholarships amounting to Rs. 400 shall be for the sons and daughters of the members.

Our Indian Letter

District Board Medical Officers (U. P.)

There are more than 150 District Board Dispensaries in the United Provinces, and the medical officers attached to them formed into an Association five years ago with the specific object of redressing their grievances. Their Fifth Annual Conference was held at Lucknow on April 26 under the Presidentship of Dr. Pandya, D.P.H., who in the course of address rightly pointed out :

"You have general and special grievances. You not only labour under those disadvantages which relate to licentiates as a class, but you are also subject to those which are peculiar to your service conditions. I do not propose to deal with the former as they are too well known to all of us and do not need recapitulation. As regards the latter, it may be mentioned that your duties are arduous, you have to work in rural areas where amenities of city life are absent, you find it difficult to educate your children and above all you have to make the two ends meet on a meagre salary. Your demands relating to pay, pension, leave, etc., are reasonable and should, especially in the absence of any future prospects, receive favourable consideration at the hands of the authorities. As regards the security of tenure of the posts of the members of this useful service there seems to be no reason why a medical officer should not have the same rights and privileges to which a secretary, an engineer, an overseer, or a sanitary inspector is entitled. You are all qualified medical men, working under difficult circumstances, and a decision affecting your tenure of office should not be vested solely in the Boards."

"You are handicapped by the lack of skilled assistance which you require in the discharge of your responsible duties to the public. You are working under the disadvantage of being provided with ill-equipped dispensaries and underpaid, ill-trained and inadequate subordinate staff. You should have full authority over the menial staff and be given adequate powers to deal with your subordinates."

"The only way to remove these grievances is to bring this service on a par with the P. S. M. S. by the formation of a District Board Service of Medical Officers under the Inspector-General of Civil Hospitals."

Of the recent injustice that has been done to them is their exclusion from the protection offered to other officers of the District Boards. The Conference naturally protested against this invidious action of the Government in the following words :—

"Resolved that this Conference of the Association places on record its emphatic protest against the fact that the Government has accorded two-third protection to the Engineers, Assessing Officers, Accountants, Overseers, Sub-overseers and Sanitary Inspectors of the Boards but has left out the Medical Officers directly recruited by the Boards of these Provinces and strongly urges the Government that the Medical Officers who are legitimately covered by the expression 'Officer' used in Section 72 of the D. B. Act, 1922 and are not allowed the benefit of protection while others are already enjoying it, should also be granted two-third protection like them at the earliest possible moment, in order to allay the fears and disaffection prevailing amongst the District Board Medical Officers of these Provinces."

"Further resolved that the Government should be requested to issue reminders to Boards regarding the recent G. O. No. 4040/IX/417-1941 dated 30-1-42 for favour of the early reply within a specified date in order to speed the matter."

Such an exclusion is more penal than proper, and one wonders what is at the bottom of such deliberate injustice to a class of medical officers who are engaged in essential service like medical relief.

Assam Tuberculosis Association

It has just issued its second annual report (1941) and gives a short review of its activities in this Province. It is gratifying to note that the Assam Legislative Assembly voted the grant of Rs. 84,000 for the establishment of a Provincial Clinic and Sanatorium to be sited in Shillong. There was unfortunately strong public opinion against its location in the heart of the city under the wrong belief that it will spread the infection. This public feeling was met by abandoning the original site and by locating it in the compound of the civil hospital. The report further mentions that the complete organisation of the District Branches has not yet been effected but that progress is being made in this direction. At Kohima (Naga Hills) a tuberculosis ward of six beds was built at a cost of Rs. 3,600. A tuberculosis ward is under construction at Mokokchund. Nowgong's opposition against the opening of a clinic in one of the rooms of the Sadder Hospital is being met by propaganda work, and it is hoped to establish a clinic soon in this important town. Other places where tuberculosis work is being done, at present on a small scale, are Jorhat, Lushai Hills, Dibrugarh, Pasighat, Silchar, Haflong and Dhubri. The report stresses on the need to thrash out the question of the respective spheres and responsibilities of the Provincial Association and the District Branches. This is considered necessary because the Provincial Association has of itself no income except the affiliation fees paid by the District Branches out of their respective allotment from the Anti-Tuberculosis Fund.

U. P. War Injuries Scheme

The Governor of the United Provinces is pleased to order that any person managing any dispensary or hospital which shall have been designated by the District Magistrate as a hospital or a first-aid post in the local A. R. P. scheme, shall provide at such hospital or dispensary medical and surgical treatment for persons who have sustained war injuries, or war service injuries of the nature specified in sub-section 1 of Section 3 of the War Injuries Ordinance of 1941, and shall keep such records and make such returns relating to the persons treated for such injuries as are required under the War Injuries Scheme, 1942. Any person failing to comply with this order, when so required, shall be punishable with fine which may extend to one thousand rupees. The Governor of the United Provinces has appointed all the District Judges, all Sessions Judges and all Civil Judges to be Claims Officers for the making of payments under the War Injuries Scheme, 1942, says a notification issued in an extraordinary issue of the U. P. Gazette. The Governor has also appointed all civil surgeons and all assistant surgeons in charge of hospitals to be competent medical authorities for the purposes of the War Injuries Scheme. By another notification, the Governor has directed that no report of death need be recorded in respect of persons whose death is certified by a Magistrate to have been caused by enemy action or in respect of persons dying in a hospital or a first-aid post, whose death is certified by the medical officer in charge of the hospital or first-aid post to have been caused by enemy action.

Organisation of Blood Banks

A conference of some forty civil and military medical men was held at Delhi during May to discuss the need for and the methods of pooling all resources and knowledge with regard to the collection and preservation of blood for transfusion purposes, and to get an organisation for the purpose of working in the main centres in India. An expert, recently brought from England, was present at the conference to give technical advice based on experience in that country. Two objectives were placed before the conference: firstly to ensure that some generalised education among the medical profession in India in the technique of blood collection and transfusion was made available, and secondly to organise donors in the country and produce plasma or serum. Small blood banks exist in various parts of India. The intention is to increase their number and size and not to centralise the organisation, because blood donors must necessarily be dispersed in many different parts of the country and accordingly the centres of collection, preservation and transfusion should also be dispersed. The number of donors in this country is said to be in the region of 10,000 as against about a quarter of a million in England; but it is explained that, in the beginning, the numbers were small in England also. With propaganda through the Press and the Cinema and through personal approach more and more volunteers came forward to help the cause.

Honorary Medical Officers, Madras

On behalf of the Honorary Medical Officers' Association, Madras, a deputation consisting of Drs. C. R. Krishnaswami, S. K. Menon and K. C. Nambiar waited on Mr. T. Austin, Adviser to H. E. the Governor, on 27th May in respect of the honorarium to be paid to those working now in the city and in other emergency coastal towns. Major-General H. Stott, Surgeon-General to the Government of Madras, was also present. The deputationists urged three main points for the consideration of the Government. One related to the amount of honorarium to be paid and another to the date on which effect is to be given to its payment. The deputationists pleaded for the removal of the existing distinction between the degree-holders and the diploma-holders among the honorary assistant medical officers. The deputationists brought to the notice of the Adviser the honorary system working in Bengal and in Britain and urged the necessity to sanction a fair honorarium with retrospective effect. After discussion, the Adviser informed the deputationists that the points raised by them would be carefully examined by the Government.

Recruitment to the Emergency I. M. S. for Work within India

A press communique states that the Government have now decided to recruit Emergency I. M. S. officers for the sole purpose of service within India on pay and allowances lesser than those that are applicable to persons bound for over-sea services. What are the actual terms and conditions of this branch of the Emergency I. M. S. are not yet published, but it is said that in future recruitment to the permanent I. M. S. candidates from this category would be given preference.

ABSTRACTS

OPERATIVE TREATMENT FOR FUNICULAR HYDROCELE: S. C. Das Gupta, Cal. Med. Review, Sep. 1941.

The steps of the operation are as follows:—(1) anesthesia; (2) line of incision; (3) dissection and separation of the sac; (4-A) eversion of the sac, by which the secreting area comes in contact with the raw surface; (4-B) extirpation of the sac, by cutting away the parietal serous layer; (5) replacement of the testis in its bed; and (6) suture of the skin.

The incision is usually made either through the scrotum or inguinal region close to that for inguinal hernia. The former being the *direct method* is mostly followed, while the latter is an *indirect method* which was introduced by Pauchet. I performed several operations in Pauchet's method but could not find it either advantageous or very successful. In this method though it is easy to disinfect the skin more effectually and affords an opportunity for dealing with a hernial sac at the same time, but the surgical approach is difficult and the structures very thick and vascular. I have, therefore, discarded it. I shall describe the scrotal operation only.

Steps of the Operation: Anesthesia may be general or local. In an uncomplicated small hydrocele, I use 1 per cent. sterilized novocain solution in the line of incision only and some times a few c.c. into the sac also. In nervous patients, it is better to give a little morphine combined with atropine half an hour before the operation. In some cases I inject 0.5 per cent. novocain just below the external ring around the cord blocking the nerve supply. I operated over thousands of cases by this method. But in large and long standing hydrocele, specially when partial excision of the sac or skin of the scrotum is necessary, I use a general anesthesia, which is convenient as well as safe.

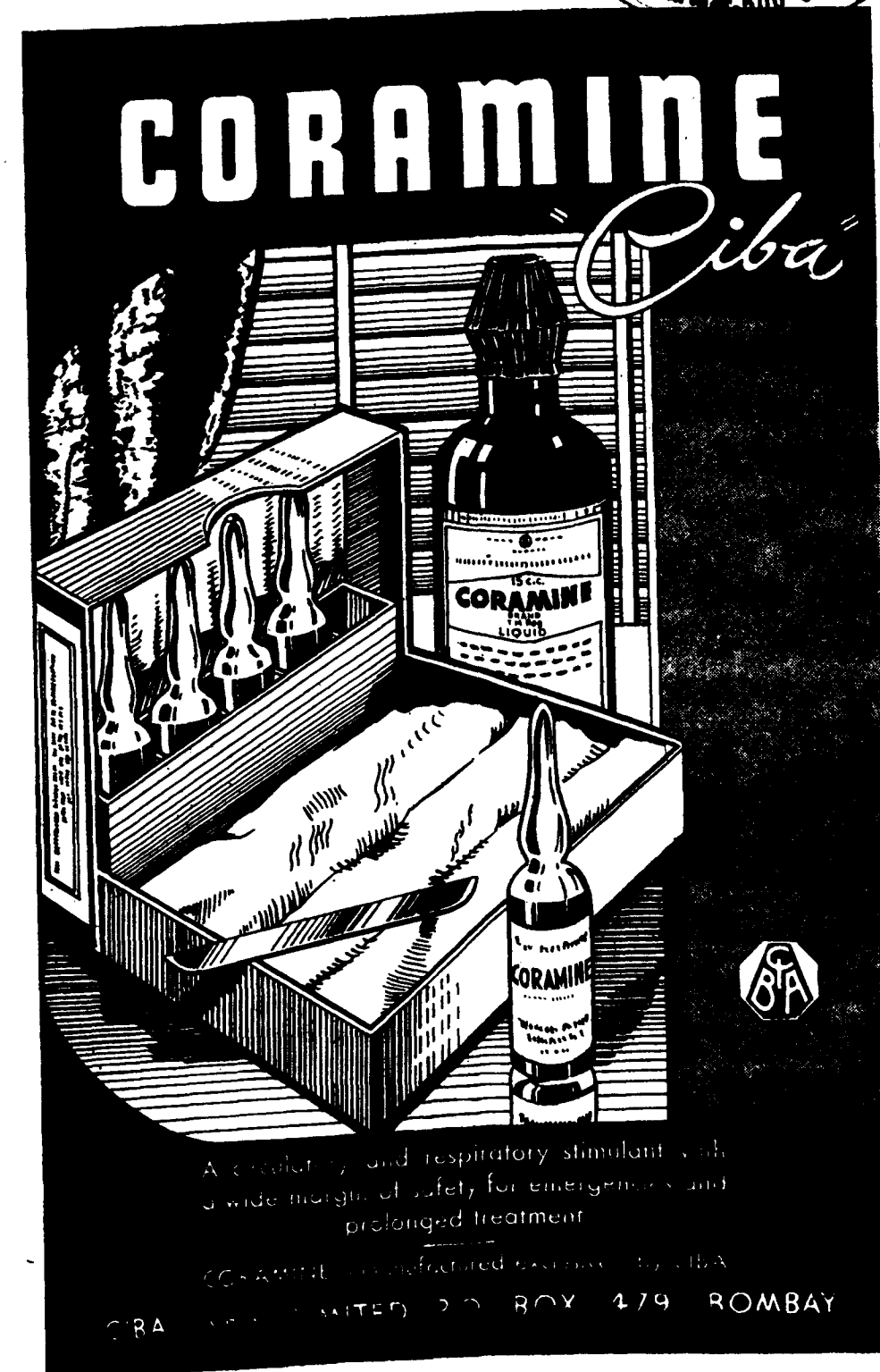
(2) The skin should be stretched quite *tight* by an assistant holding the posterior aspect of the scrotum without rolling the testis to either side or this may be done by the operator himself.

The incision should be clean cut, without tailing and made longitudinally from 2 to 4 inches or so along the longest diameter of the tumour, about from 1½ to 3 inches or so away from the median raphe, i.e., the line midway between the raphe and the border of the scrotum touching the thigh, rather more medially than externally, as the cord and vessels are placed posteriorly and are apt to be injured during the opening of the sac. Again it is advisable that the incision should not encroach on the dark rugose skin of the scrotum below, which is very difficult to cleanse and disinfect.

(3) Next, all the coats should be divided one after another till you come upon the real tunica, bluish semi-transparent and slightly shining in appearance; but when thickened the appearance is changed, and the transparency disappears. Now hold all the other tissues except the tunica proper on either side by tissue forceps, and separate the tunica all round by means of a gauze compress, blades of the curved scissors or the handle of a scalpel, and then bring out the unopened sac with the testis inside, by squeezing from below. Then divide all the loose fascia surrounding the sac on all sides, above and below.

If the hydrocele be a very big one, one can avoid a big incision by tapping the hydrocele just before operation; but one must not drain all the fluid, lest there may be danger of injuring the testis; so at least one-fourth of the fluid should be left within the sac. It may be tapped also after a small skin incision and exposure of the tunica, and fluid is drained out in a sterilized bowl.

(4) Now, open the sac anteriorly by a small incision. If the testis be twisted or the sac be devoid of fluid, you can hit on the posterior aspect or cut the testis proper, and there may be profuse bleeding; so if you must secure the bleeding points, stitch up the opening in the testis proper by fine catgut at once. If you are in doubt or make a false opening, you may try my "needle" test. Prick a bluish soft transparent area, if a jet of fluid appears, you are sure you get into the sac; if not, try again and again till you hit the proper spot. Then incise the part between two dissecting forceps, avoiding blood vessels or important structures such as epididymis and so on. Catch hold of



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TREATMENT OF MALARIA

The most common armament against an attack by malarial disease is the Quinine salt isolated from the barks of various species of Cinchona. The variety of cinchona that is official in the British Pharmacopoeia (1914) is *Cinchona Succirubra*, a 'red' cinchona bark which is cultivated in Java and India. Of course, various species of cinchona are now being cultivated in various places for the production of this important antimalarial alkaloid. But Java virtually produces 90 per cent. of the world output. The requirement for Quinine salt in India is believed to be more than two lakh pounds according to the most conservative estimate; whereas the country produces only a fraction of her real requirement. It is obvious, therefore, that any cut of supply from Java hinders the treatment of malarial patients by the physicians in general. Further, there are cases which cannot be treated with Quinine or its salts. In fact, the chemo-therapeutic problems of malaria include various phases of work; and as such Quinine, though a good anti-malarial, is not an ideal drug. Over and above, it is extremely bitter.

It is for the above reasons that search for quinine substitute continues. The substitute should be active against all the malarial parasites, should be less bitter and should not exert any side or untoward reaction. Continuous research only may lead to a successful production of an ideal anti-malarial. In fact, after extensive investigations made in the Research Laboratory of Bengal Immunity it has been possible to produce and issue a new schizonticide possessing a definite action against asexual forms of all the three malarial parasites. It is known in the market as "ALECRIN". Alecrin is in tablet form—each tablet containing 0.1 gm. of the active principles. Thorough laboratory experiments and subsequent clinical trials show that in 'Alecrin' physicians would find a remedy for the treatment of malaria (even in case of pregnancy).

Alecrin is also indicated in black-water fever and giardiasis. It may be simply taken orally after meals with plenty of fluids including glucose and alkalies and there are no definite contra-indications to this synthetic anti-malarial treatment.

the edges of the divided tunica with tissue forceps on either side and then enlarge the opening by feeling the direction and depth by a probe or finger above and below (right or left) and then the surgeon looking into the opening should see that any big vessel, epididymis or testicle proper is not cut or injured. This opening should not be too large, too small having to exert too much force to bring out the testis. Always take care that the testis or tunica may not come in contact with the bare skin. The which should be completely covered with sterilised towels. The testis is squeezed or pulled out gently by means of a gauze compress and the eversion is lightly effected, turning the inside out. The everted edges of the tunica should be stitched with catgut behind and in most cases below, or rarely upwards either by two or three interrupted or a continuous suture. The opening should be contracted sufficiently, yet allowing the passage of the cord without strangulation.

(5) Sometimes, the tunica becomes too thick and even cartilaginous and is very difficult to evert; so either the thick tunica should be snipped off (partial excision, see below) with scissors $\frac{1}{2}$ inch away from the testis (Carson). I usually crush the edges if there is only slight oozing; but if spurting, a continuous button-hole suture of catgut should be applied all along the cut edge. Sometimes the quantity of fluid is only 1 or 2 drachms and in other cases you meet with multilocular cysts, each containing a small quantity of fluid and each of which should be opened. But in these cases tunica is too thick or too small, so as not to allow complete eversion. Therefore, you have to evert the edge outwards as far as possible and put fixation stitches with the tunica outside by catgut, so that the eversion may not be undone.

A word about congenital hydrocele in which the processus vaginalis communicates with peritoneal cavity. It should be treated as in a congenital hernia, and the canal should be painted with some irritant such as lysol or tinct. iodine rectified without going into the peritoneal cavity. The canal if large, should be narrowed, and if possible, sutured around the cord without strangulation. In one or two of my cases there was accumulation of fluid, and again I had to perform a second operation.

Hemorrhage and sepsis are the greatest danger in this operation. Very often I paint the tunica with rectified tincture of iodine to ensure antiseptis. Rough and careless handling of the testis should be avoided. Do not leave or neglect to secure even a small bleeding point either in tunica, subcutaneous tissue or skin. If you are in doubt of slightest oozing even, it is better to leave a small drainage at the most dependent part or through a stab incision "if the high operation is adopted", as advised by Everidge. The drainage should be removed after 24 to 48 hours.

(6) You must in the first place see that there is no bleeding or spurting, and when you are quite satisfied, the edges of the wound and the skin with all its coats are held apart by two tissue forceps on either side for the replacement of the testis in the newly formed bed. If the space be small or very tight it can be enlarged by gloved finger or a clamp introduced into the lower angle of the wound in order to stretch at the bottom of the scrotum. The testis is then placed in the cavity thus formed at the expense of the cellular tissue of the tunica. If not, you should be taken to see that the cord is not twisted in any way and that the posterior surface of the testis is apposed against the posterior aspect of the cavity.

(7) As a rule in ordinary hydrocele the skin is only sutured, and that does quite all right; but in big ones the suture should be done at two levels, first of the subcutaneous tissues with fine catgut and then of the skin with silk worm gut or Michel's clip. Before applying stitches the upper and lower angle of the wound is held with two tissue forceps and the part kept stretched in a straight line over which tincture iodine is painted; and then interrupted stitches are applied from one end to another without inversion or folding in of the skin, beginning from above on the right side and below on the left. In doubtful cases even when all bleeding points seem to be apparently secured, it is better and safer to put a cigarette drainage at the lower most angle, and remove the same after 24 or 48 hours and last of all squeeze out the last drop of blood accumulated in the cavity and then paint the line of suture with tincture iodine, and over it tincture benzoin co. Apply a bandage with firm pressure on the scrotum. In case of a big scrotum, it is better to suspend and support it firmly on to the waist band till the stitches are removed on the seventh day.

Complications and their prevention and treatment: I have said more than once to secure the minutest bleeding point and in doubtful cases leave a drainage. If a drainage is left, you can detect hemorrhage by the soaking of the bandage. But if a drainage is not left, the patient will complain of pain and restlessness; and then the size of the scrotum will grow and the penis may be engulfed by the growing tumour, intra or subcutaneous hemorrhage might itself by the appearance of ecchymosis on the skin. This usually occurs within twelve hours.

The dressing should be removed at once, and if there is fresh oozing, the patient should be taken to the table, stitches removed, loose clots dislodged, and then bleeding points secured, and stitches may be applied again according to the condition of the wound, leaving a drainage. A dose of morphine should be injected to calm the patient.

Strict antiseptic precaution prevents sepsis. The patient should be advised to pass urine lying on the side, so that the dressing may not be soaked with urine.

In about 2 per cent. of cases, the swelling does not subside and patient would complain that the size of the tumour is the same as before, which however reflects discredit on the surgeon. There may be inflammation of the testis, epididymitis, funiculitis and so on. Deep sepsis and suppuration may follow, and if not opened in time, multiple sinuses in the subcutaneous tissues or within the testis proper may follow, and if not taken care of in time, it may ultimately necessitate removal of the organ, which is the worst of all, in order to save the patient's life.

Hot compress, support of the scrotum, application of glycerin, belladonna and ichthyol, timely opening of the pus cavity, injections of prontosil, mixed infection phylacogen or urea sulphazide by mouth help to overcome inflammatory swelling and sepsis.

HEART FAILURE IN THE AGED; A clinical study: Howell, Post-Graduate Medical Journal, Dec. 1941.

The heart failure of old age differs considerably from a similar condition occurring in earlier life. The aetiology, course, prognosis and treatment are all, to some extent, modified by the special circumstances. Even the presenting symptoms are not the same in some cases. In a series of forty-five elderly people, all showing evidence of cardiac failure, these differences were clearly marked.

The series was composed of thirty-nine Chelsea pensioners and six private patients, of whom two were women. The youngest patient was sixty-two and the oldest a few months over ninety. Only six were under seventy, while fourteen were over eighty and the other twenty-five between seventy and eighty.

Eleven of the cases recorded followed shortly after or formed part of an attack of bronchitis. Each of these patients was accustomed to have some degree of bronchitis each year for some time past.

No cases of rheumatic or congenital heart disease were found. The youngest patient (62) was the only one with syphilitic heart disease, although a positive Wasserman reaction is not very uncommon amongst Chelsea pensioners. Hypertensive heart disease was present in seventeen, whose ages ranged from sixty-five to eighty-five. Coronary artery disease occurred in eleven patients. Heart block of unknown origin accounted for one case, while two died from the complications of an atheromatous aorta. The remaining thirteen were labelled "myocardial degeneration." They consisted of cases of congestive failure without any valvular lesion, whose blood pressure was not raised at any time and whose symptoms were dyspnoea on exertion and not precordial pain.

Twenty-three patients, just over half the total, showed evidence of congestive heart failure. In six cases the right ventricle alone seemed affected, with systemic oedema; and in six the left alone was affected, with pulmonary oedema. The remainder showed failure of both sides of the heart together. Nine of the patients showed a number of cerebral symptoms as described below.

Table 1. Aetiology

Hypertensive heart disease	...	...	17
Coronary artery disease	...	...	11
"Myocardial degeneration"	...	...	13
Atheromatous aorta	...	...	2
Syphilitic heart disease	...	...	1
Heart block	...	...	1
			49

Table 2. Varieties of Failure

Congestive failure, right ventricle	...	6
" " left ventricle	...	6
" " both ventricles	...	9
Coronary thrombosis	...	11
Dissecting aneurism	...	1
Multiple embolism	...	1
Stokes-Adams syndrome	...	1
" Progressive cerebral ischæmia," alone	...	10
		45

Eleven patients were diagnosed as coronary thrombosis. This could not be confirmed by electrocardiograph, for lack of facilities. Four of these cases had subsequent fatal attacks and two showed failure of both right and left ventricles later. One patient died after multiple emboli, from atheromatous plaques in aorta and coeliac axis (post-mortem finding). The emboli were found in the pancreas, gut, spleen, kidneys and left femoral artery. Another had a dissecting aneurism of the aorta. Both these men were under sixty-eight years of age. The case of heart block died after several Stokes-Adams attacks.

Nine of the patients showing congestive failure, together with ten other cases not having either pulmonary or systemic oedema, showed a series of mental symptoms which were accompanied by a falling blood-pressure in all those patients in which it was taken. Unfortunately, many of the records of cases have perished through enemy action, so that proper documentation cannot be given.

The first change to be noticed was a vague and muddled state of mind in a patient otherwise well. Thought processes formerly normal now became slow or irregular. Eventually the man or woman came to need help from another person in order to dress properly, to do shopping, etc. So far this was just the senile change commonly seen in old people who are beginning to "fail".

Shortly, however, delusions began to appear. Some of these were of persecution or merely concerned the price of articles. Some disorientation of time and place often occurred at this stage. Failure to recognise friends or relations was also common. If the blood pressure were taken at this time, two groups of cases would be found. On the one hand, patients with figures of 150/80 mm. or below, altered little and did not show any signs of cardiac failure. The other group showed pressures around 190/110 and became progressively worse. Nine out of the nineteen cases in this group went into congestive failure. They would usually respond to treatment with digitalis and mersalyl. But, in any case, the cerebral symptoms continued to advance, so that the patients often seemed worse after recovery from congestive failure than while they had oedema.

The next stage was one of increasing restlessness, sometimes going on to violence. The clinical picture resembled the condition known as "cerebral irritation" seen after head injuries. A similar state also followed two cases of cerebral thrombosis occurring in hypertensive subjects. This violence was found to coincide with a marked drop in blood pressure in all cases in which pressures were taken. The blood pressure of seven patients, whose records remain, varied from 130/80 to 105/70 at this stage. All had previous systolic figures around 180-200 mm.

As the restlessness passed off, each case became stuporous and incontinent, gradually passing into a terminal coma at pressures of 90/60 mm. or thereabouts. After this, the pulse could hardly be detected at the wrist, but one patient lingered three days in this condition.

Four cases of this type, in which the fundus was examined, showed retinal vessels much smaller than the average and quite different from the thickened arteries of the typical hypertensive. No hæmorrhages or exudates were seen. The optic disc appeared normal.

Consideration of the facts related above suggested that the train of symptoms might be caused by a gradual but progressive cerebral ischæmia due to a failing myocardium. This theory was supported by the fact that many of the patients had a very poor peripheral circulation and their hands and feet were cold, blue and cyanosed.

The treatment of congestive failure in old people is less satisfactory than in younger patients. Tab. digitalis folia, in

doses of 1 gr. t.d.s., might prove beneficial in the early stages, but rarely relieved oedema when given alone. More than this usually produced nausea in a short time.

Mersalyl, on the other hand, proved invaluable. Preceded by four doses of a mixture containing ammonium chloride 30 gr. to the ounce, and given intramuscularly or intravenously once or even twice a week, it almost always produced diuresis in a satisfactory manner. No toxic results were observed in any of the cases, and only two failures occurred in twenty-one cases, most of whom had three or more injections.

Apart from the use of trinitrin (gr. 1/130) in angina pectoris, several vaso-dilators were tried as remedies in arteriosclerosis, either cerebral or systemic. The most effective of these was euphyllin, now called cardophyllin. Six cases of cerebral arteriosclerosis became brighter and more alert mentally on four tablets a day, while their subjective sensations also improved. A control group of six showed no such changes. Such a small number is hardly conclusive.

One case of "myocardial degeneration" showing auricular fibrillation was given quinidine gr. 3 t.d.s. for two days, but the patient asked to have the drug stopped "as it did not suit him." Two other cases with fibrillation improved on digitalis folia gr. 1 t.d.s. for a time, but eventually passed into coma and died.

SOME USEFUL DRUGS AND HOW TO GIVE THEM: Hurst, Clinical Journal, Jan. 1942.

Adrenaline in Asthma: In the treatment of the asthmatic paroxysm the preponderating activity of the vagal over the sympathetic nerve supply to the bronchi could theoretically be overcome by means of drugs such as atropine, which paralyzes the vagus or by adrenaline, which stimulates the broncho-dilator fibres of the sympathetic. The inhalation of fumes from powders containing stramonium or belladonna, which was formerly the universal method of treatment, had the grave disadvantage of causing chronic bronchitis by irritating the bronchial mucous membrane. This treatment should never be used, as the opposite method of restoring the balance by means of adrenaline has no such disadvantage and is also more promptly and more constantly effective. The patient should be taught to inject the adrenaline himself, as if he does this at the first sign that an attack is developing it will be aborted, and one or two minims will often be sufficient though five or more would have been required if he had to wait for a doctor or nurse to give the injection at the height of the attack. This small dose gives rise to none of the unpleasant symptoms often caused by larger doses and as it does not even rise the blood-pressure, there is no danger of damaging the arteries. Its use has in many cases the further justification of making good a deficiency in the secretion of adrenaline, the treatment being analogous to that of myxoedema with thyroid preparations. It also reproduces the way in which relief may on rare occasions occur under natural conditions. If an individual during a severe attack of asthma comes under the influence of sudden fear or anger, the two emotions which Cannon showed stimulate the secretion of adrenaline, the attack immediately ceases, the patient having had an "autogenous dose" of adrenaline. We may hope that the time will come when asthma will be curable, but until that consummation has been attained, the proper use of adrenaline deprives asthma of most of its terrors, and makes it possible for every asthmatic to live a life of moderate activity.

The rare condition of *status asthmaticus*, in which severe asthma continues uninterruptedly for days or weeks and may end in fatal exhaustion can always be arrested by the method of continuous adrenaline injection, which I first used about ten years ago, and which has since been found to be equally effective in the treatment of anaphylactic shock. The needle is kept in position with a full syringe, and after an initial injection of a dose which is known to cause no unpleasant symptoms, one or more minims are injected every 15, 30, or 60 seconds, according to the patient's reaction the rate being varied until it is found how frequently the injection can be made without any unpleasant symptoms arising. The injections are continued, if necessary, for even half an hour or more. Relief always follows, and generally manifests itself by the patient falling into a deep sleep, which may be the first he has had for several days.

Short paroxysmal attacks of abdominal pain with vomiting or diarrhoea or both are occasionally allergic in origin. They

(Concluded from Supplement, page 44)

occur in individuals with a personal or family history of asthma or other allergic disease, and the attacks are associated with eosinophilia. They can often be prevented by excluding certain articles of food, such as pig, to which the patient is found to be sensitive, but if this does not prove successful, they can always be aborted by an injection of adrenaline, equally useful in many cases of urticaria and in some of migraine.

Caffeine and Iodide in Asthma: The slight shortness of breath generally present in the intervals between attacks of asthma can often be relieved by means of caffeine, thus enabling a patient to take more exercise than would otherwise be possible. Half an hour after taking three or four 2-gr. caffeine citrate tablets, an asthmatic may be able to enjoy a round of golf, which would previously have been beyond his powers. No caffeine should be taken after 6 p.m., as it is likely to prevent sleep at night.

Apart from adrenaline, iodide is probably the most useful drug in asthma. A dose of 5 gr. given at night or night and morning is enough; larger doses are often harmful, and in most cases it is best given without stramonium or expectorant drugs. It renders the tenacious mucous plugs and spirals of uncomplicated asthma more watery, so that the patient can expel them without the paroxysms of coughing which always greatly aggravate the dyspnoea.

Carbon Dioxide in Hay-Fever: In the summer of 1925 I visited Mont Dore, "la providence des asthmatiques". It is one of the coldest and rainiest places in France, but it is situated 3,500 ft. above sea-level, so that its altitude exerts a favourable influence on many visitors. Drinking the water is regarded as an essential part of the treatment, but I feel very doubtful whether the trace of arsenic they contain can have any beneficial action. Walking round a room filled with the vapour of Mont Dore water at a temperature of 90°F. is the treatment upon which the physicians there lay most stress, on account of the "sedatif, decongestif, detersif, anti-catarrhal et anti-spasmodique" action which the vapour is said to exert on the bronchi, and there is no doubt that it helps many asthmatics. A nasal douche of the gases derived from the Mont Dore water, consisting of over 99 per cent. of carbon dioxide for 5 to 15 minutes is commonly used. It produces a slight tingling sensation in the nose, and occasionally a burning feeling at the top of the head—probably when some of the gas enters the sinuses. Though it is claimed that the inhalation owes most of its success in the treatment of nasal catarrh to the fact that the gases are a natural product, I was so much impressed by the improvement which occurred in my own case that I thought a douche of ordinary carbon dioxide would be worth a trial at home. Before my visit I had been suffering from vasomotor rhinitis and almost always had a running nose with paroxysmal attacks of sneezing and rhinorrhoea. The one thing which Mont Dore did for me was to improve the condition of my nose.

For a long time I was unable to obtain a satisfactory apparatus, as the manufacturers would supply the gas only in enormous cylinders, and it proved impossible to make a generating plant which was safe as well as small. In 1930 I saw Sir Francis Shipway give an anæsthetic, with which he mixed carbon dioxide from a small cylinder in order to make the patient breathe more deeply. These cylinders are now widely used, and an apparatus can be obtained in which a nose-piece, like the ear piece of a stethoscope, is attached to it by a rubber tube. The patient breathes through his mouth, and a moderately rapid stream of the gas is allowed to flow into the nose without being actually inhaled.

In vasomotor rhinitis the treatment should be given for five to ten minutes up each nostril every morning. In hay-fever this should be done throughout the hay-fever season, and in addition the gas should be used as often as necessary during the day immediately an attack threatens and continued until it passes off. For paroxysmal sneezing and nose-running the treatment should also be given immediately an attack begins. In case of asthma which begin with an attack of this kind the gas may prevent the dyspnoea from developing.

The treatment has proved of great value in a considerable number of cases of hay-fever and other forms of paroxysmal rhinorrhoea and sneezing. It has often a remarkable effect in vasomotor rhinitis, and is sometimes useful even when the condition is in part due to infection, though I do not suppose that it can exert any antiseptic action. Exactly how it works I do not know, but the action is certainly a direct one on the nasal mucous membrane, and is quite distinct from that produced by the inhalation of carbon dioxide on the respiratory centre.

with the fact that the supreme body in Soviet medicine, the Commissariat of Health, was largely composed of eminent practical clinicians and scientists.

Such things as I have described above concern the more routine working of certain limited aspects of Soviet Medical Services, much as if in this country one made a tour of any of our ordinary hospitals or clinics in which much constructive work of excellent quality is being turned out, where dependably good clinicians are doing their daily work and doing it well.

What of the high lights of Soviet Medicine! It is not sufficient for a nation to be satisfied with the carrying out, even if efficiently, of the daily treatment and prevention of disease. Medical science must advance. Life cannot stand still. Cancer and countless other problems await solution. Not until the doctor, working in conjunction with the society of which he is a part, has eliminated the necessity for that society to require doctors will his struggle for progress cease. The doctor must eliminate the doctor before his work is done.

The achievements of Soviet medicine in more specialised and perhaps more spectacular fields have been described by others more competent to judge of their significance. The work of Professor Filatov on corneal grafting has become classic. Working in Odessa (now tragically part of the scorched earth) he developed a very efficient technique of treating corneal opacities by grafting the cornea from healthy eyes. The supply of healthy corneas is derived mainly from the bodies of people killed in accidents and the eyes may be stored in an ice-box for anything up to a week before use. Since it was found that diseased tissue in the neighbourhood of the grafts frequently showed improvement, Professor Filatov has developed his grafting as a form of treatment for such conditions as skin tuberculosis and certain corneal lesions. The people of the U. S. S. R. show a similar readiness to allow their dead to contribute to the health of the living by their development of the use of stored cadaver blood. In the Central Emergency Hospital of Moscow (a hospital with some 750 beds) extensive use has been made of stored supplies of cadaver blood. In this hospital the enthusiastic surgical chief, Professor Judin, has operated upon a very large number of perforated peptic ulcers, using for several years back the method of partial gastrectomy. Having on an average 150 of these cases each year, he found that the considerable degree of shock associated with them was much benefited by blood transfusion. With the stimulus provided by the need for such large quantities of blood, Professor Judin experimented with and developed the use of cadaver blood. Soviet scientists seem to think that the gulf which separates life from death is not quite so wide as we are accustomed to assume. It is not improbable that the concept of the Unity of Opposites embodied in their underlying Marxist philosophy may in some degree account for their readiness to call in the dead to redress the imbalance of the living. At any rate, Professor Judin is able to show remarkably low mortality figures for his ruptured ulcers treated by partial gastrectomy and transfusions.

MEDICAL COUNCILS

Bombay: Meeting held on 23-2-42.

The Council elected, under Rule 42, the following six Members for the Executive Committee for the year 1942, till the expiry of the term of the present Council Members:—

Dr. JIVRAJ N. MEHTA, M.D., M.R.C.P., F.C.P.S., J.P.
Dr. B. G. VAD, M.D., F.C.P.S., J.P.
Dr. C. A. AMESUR, M.S., M.R.C.S., L.R.C.P., D.L.O.
Dr. GEORGE COELHO, M.B.B.S., B.Hy., M.R.C.P., F.C.P.S.
Dr. U. B. NARAYANARAO, L.C.P.S.
Dr. V. D. SATHAYE, B.Sc., L.C.P.S.

The Council also decided to revise the existing Rule 42 as under:—

“The Executive Committee shall consist of the President, and six members of the Council elected by ballot at the first Meeting of the Council and the Executive Committee so elected will hold office for one year.”

The Council also passed a resolution that having regard to the present emergency, it would be desirable to postpone the ensuing election due in September next, and with this end in view to request Government to extend the term of office of Members of the Medical Council due to expire on 17th September 1942 by a suitable amendment in the relevant section of the Act.

With reference to the memorandum from the Surgeon-General with the Government of Bombay forwarding a copy of Government Memorandum No. S/23/12078/B, dated 1st August 1941, along with a petition from Mr. Chhotubhai Parikh, Kapadvanj, seeking registration of his name under the Bombay Medical Act, 1912, by virtue of the qualification obtained by him in 1917 from the School of Physicians and Surgeons of Bengal (now transformed into the Carmichael Medical College) it was decided to accept the recommendation of the Committee to inform the Surgeon-General that they do not see fit to recommend the recognition of the qualification obtained from the aforesaid institution for registration under the Bombay Medical Act, 1912, and that Government be requested to direct the applicant concerned to apply to the Board of Indian Systems of Medicine for entry of his name in the List maintained by the said Board under section 18 of the Bombay Medical Practitioners' Act, 1938.

With reference to the Government Notification No. 3334/33 published in the *Bombay Government Gazette* Extraordinary, dated 11th November 1941, relating to the Draft Bill to amend section 32 of the Bombay Medical Practitioners' Act, 1938, and the letter thereon from Dr. Jivraj N. Mehta, M.D., M.R.C.P., F.C.P.S., J.P., it was decided to accept the Committee's recommendation to inform Government that the Council are not in agreement with the proposed amendment and that the applicability of Government Notifications No. 3330/33, dated 13th April 1940, and 15th October 1941, should, in the opinion of the Council, be restricted in the case of those medical practitioners who were on the staff of the respective institutions mentioned therein on or before the 4th November 1941.

As regards the letter from the Joint Hon. Secretary, Bombay Medical Association, respecting the interpretation of the Executive Committee in the matter of professional relationship between practitioners registered under the Bombay Medical Act, 1912, and those registered under the Bombay Medical Practitioners' Act, 1938, it was decided to accept the Report of the Sub-Committee in this behalf. To quote the relevant portion of the Report “Section II (1) (h) of the Code of Medical Ethics says that the following practice should be avoided:—

‘Covering persons who do not hold a registrable qualification under the Medical Acts or the Bombay Medical Acts or the other Indian Provincial Medical Registration Acts.....’

The persons to whom the Joint Hon. Secretary refers in his letter are registered under the Bombay Medical Practitioners' Act, 1938. Therefore, in our opinion, association with these persons cannot come in under the purview of the abovementioned section of the Code of Medical Ethics.”

With reference to Memorandum No. S. 66 (9)-D, dated 27th November 1941, from the Surgeon-General with the Government

of Bombay below Government Memorandum, General Department, No. 9417/B, dated 6th November 1941, and accompanying, on the question of recognition of medical degrees by the Bombay Medical Council, it was decided that having regard to the Government of India Notifications No. F. 43-19 (9)/40-H, and No. F. 43-19 (10)/40-H, dated 11th December 1941, and No. F. 43-19/40-H, dated 27th January 1942, and in view of the inadvisability on national grounds of having on the schedule to the Bombay Medical Act, 1912, the medical qualifications granted by medical institutions of countries outside India which have not entered into reciprocal relations with the Medical Council of India, the Bombay Medical Council requests Government to so amend section 20 of the Bombay Medical Act, 1912, as to obviate the difficulty evinced in the opinion of the Remembrancer of Legal Affairs in the matter of the deletion from the schedule to the Bombay Medical Act, 1912, qualifications of all non-Indian Licensing Bodies that are not included in the Second Schedule to the Indian Medical Council Act, 1933.

As regards the representation from the Bombay Nurses, Midwives and Health Visitors' Council, regarding the advisability of urging Registered Medical Practitioners not to employ or associate with any nurse, midwife, assistant midwife or health visitor not registered in the said Council, the views of Medical Associations, Societies and Unions in the Province of Bombay and Sind on the point raised were elicited and it was decided that Registered Medical Practitioners be advised not to encourage association with or employment of unqualified nurses, midwives or health visitors so long as qualified ones were available.

U. P.: Meeting held on 27th March 1942.

The following resolution was considered: “This Council thinks that the strike by the house staff of the King George's Hospital was a serious offence against the professional conduct of registered medical practitioners and those who took part in it should be dealt with under section 26 of the United Provinces Medical Act.”

A point of order was raised.

It was decided that the resolution as it stands is not according to the procedure in that names are not mentioned. There should be a specific complaint against a specific individual or individuals and anybody may bring forward a proper complaint as required by rule 2 of the rules for the conduct of enquiries under section 26 of the Act.

(a) The following resolution was unanimously passed:

“This Council recommends to the United Provinces Government that the medical practitioners with registrable qualifications be excluded from the operation of the Government notification No. 1413/P.C.—II-1940, dated the 26th February, 1942, as published in *Extraordinary United Provinces Gazette*, of Friday, 27th February, 1942, as it will entail great hardship and clerical work on them.”

The following resolution was postponed for consideration after the war:—

“This Council resolves that all important resolutions passed by this Council since its inception be printed in book form of convenient size so as to give them publicity as also for the information of the members of this Council. The resolutions should show the names of the proposer and the seconder of the resolution as also whether it was opposed and if so, the names of members supporting and opposing should also be printed.”

The following resolution was passed:

“The United Provinces Medical Council recommends to the Government of India through the United Provinces Government to be pleased to recognize the medical qualifications recognized by the Council as registrable by Indian Medical Council during the present emergency following the precedent adopted by the British Government under Defence Regulation 32-B, by which medical qualifications, hitherto unrecognized have been declared temporarily registrable by the General Medical Council.”

It was agreed to that this Council should continue registering medical practitioners as soon as their results were announced provisionally by the Principals of the Medical College, Lucknow, and the Medical School, Agra.

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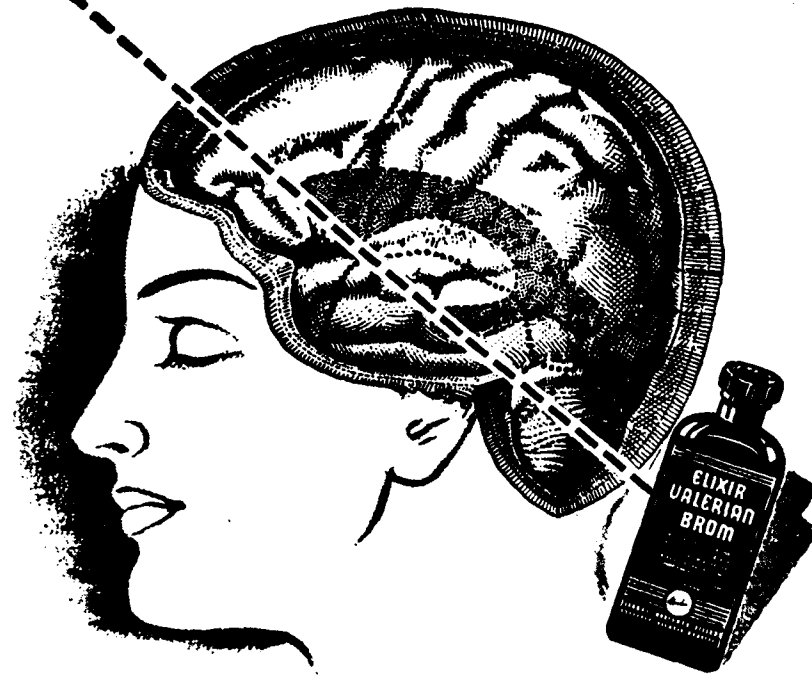
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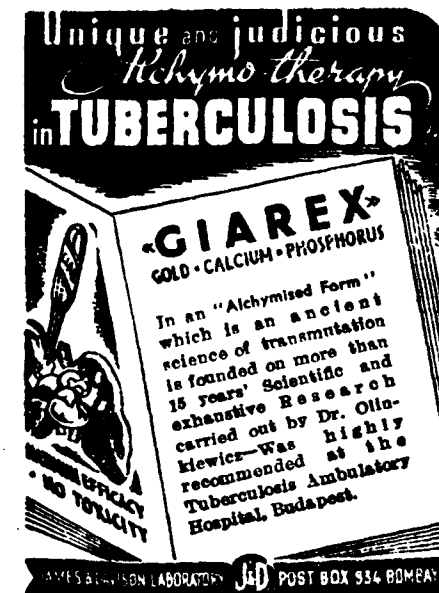
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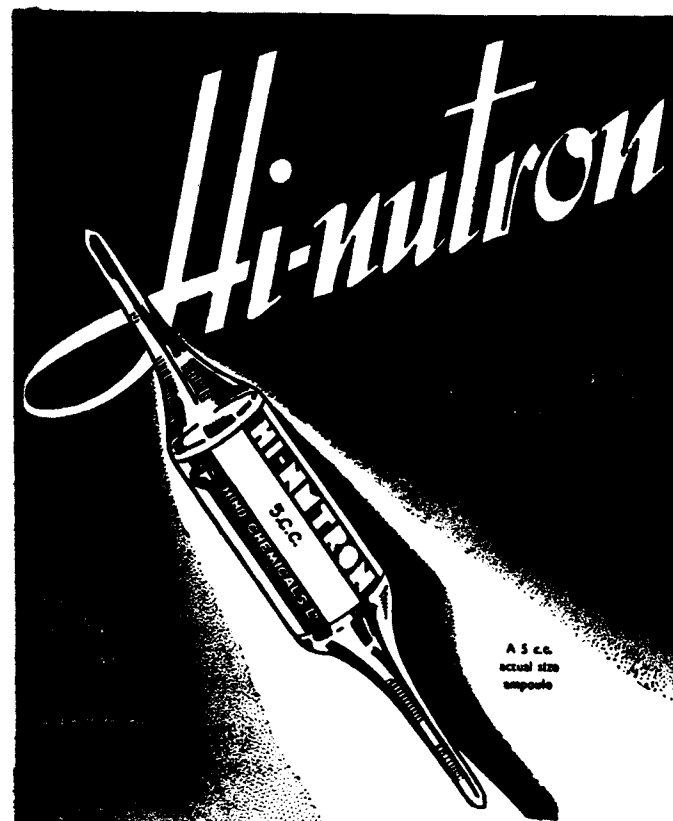
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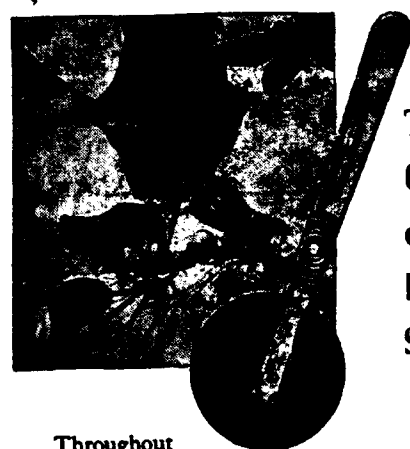
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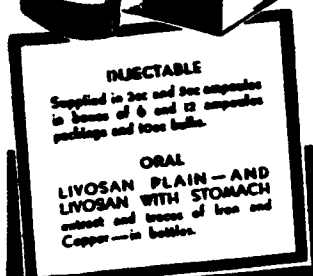
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