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Indian Medical Journal

Aug 1940



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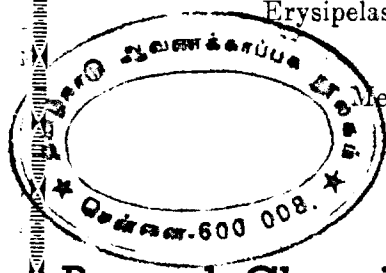
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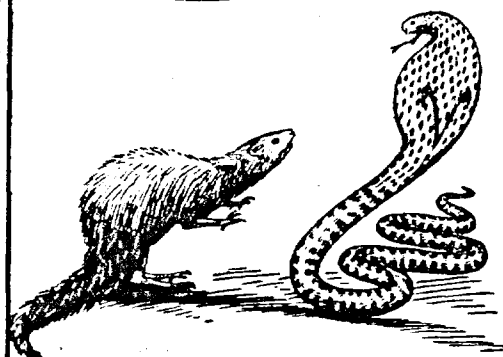
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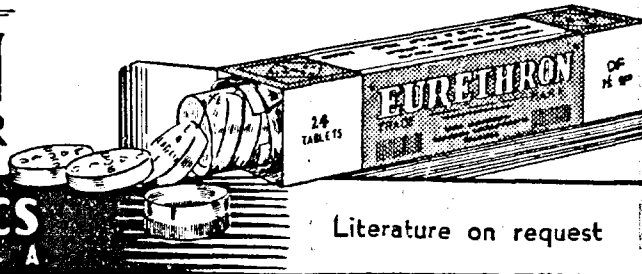
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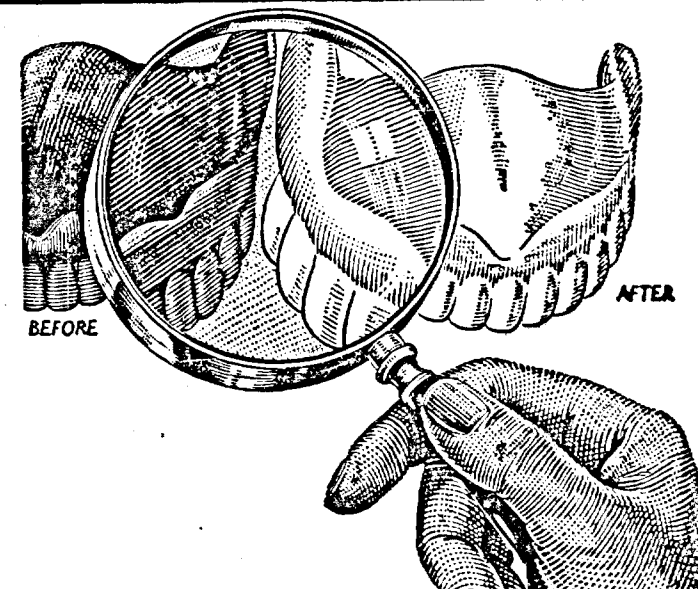
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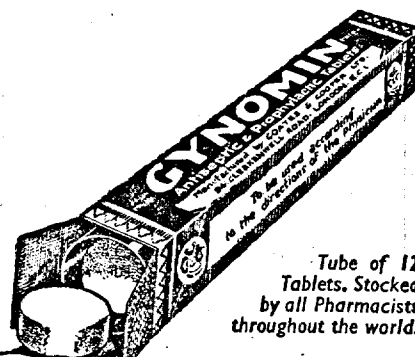
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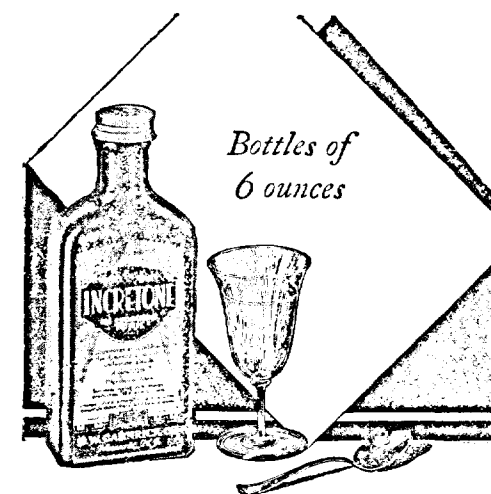
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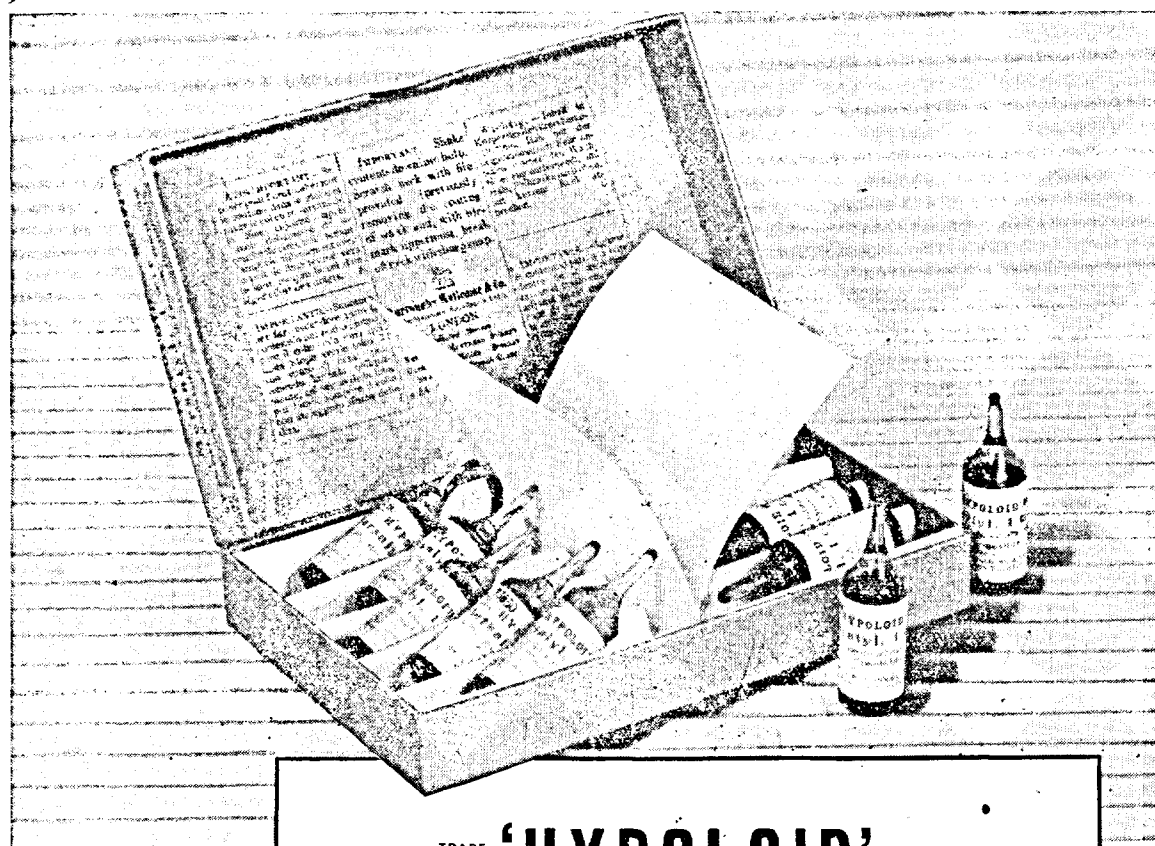


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ADDRESSES & ARTICLES

Planning of ordinary Tea Garden Hospital Dietaries*

• Dr. B. N. Chowdhury, L.M.F., Assistant Medical Officer, Monkhooshi Tea Estate, Hoogrijan P. O., Assam.

INTRODUCTION

So far as the planning of adequate dietaries in tea garden hospitals are concerned, attention to quality and quantity must be considered with an eye to cost. Coolies are generally habituated to take bulky food, which is generally made up of rice and therefore considered to take an unbalanced diet. The principal food substances necessary for maintenance of health are proteins, fats, carbohydrates, mineral salts and vitamins. On co-ordination of each of these essential constituents of food perfect nutrition depends.

CALORIES REQUIRED FOR ORDINARY DIET

There are many divergent views about the calories required for an ordinary patient. For a healthy man doing average work, it is necessary that the food should contain sufficient energy with an average of 3500 calories. In individual cases, however, certain modifying factors e.g., age, sex, height, build, work etc., must be considered.

Calorie requirements as calculated by research workers are as follows:—

League of Nations Standard	... 2400
Dr. Aykroyd	... 2600
Col. McCarrison	... 2500—3000
Sir Alfred Charrerton	... 1800
Dr. V. Krishna Row	... 2350

I think it will be quite sufficient if we supply 2500—3000 calories to an ordinary tea garden hospital adult patient.

CONSTITUENTS OF A WELL-BALANCED DIET

Let us consider now the ideal proportions of the principal food substances, e.g., protein, fat and carbohydrates. In this connection we have to devise means of how we can get a well-balanced diet, i.e., with ideal proportions of principal food factors in diet at a moderate cost. Rudra gave a modification of Aykroyd's

* Read before the Scientific meeting of Tingri Valley Branch, A. I. M. L. A. on the 25th February 1940

plan of dietary which is also satisfactory from the nutritional point of view. (I. M. J. Dec. 1938).

The following are the proportions:—

Carbohydrates	... 425 gm.
Proteins	... 70 gm.
Fats	... 71 gm.
Common Salt	... 10 gm.
Calcium	... 1.1 gm.
Phosphorous	... 1.5 gm.
Iron	... 60 Mgm.
Calories	... 2600

(a) *Protein*:—This is the most important factor for maintenance of life. It is found both in vegetable and animal food. The primary sources are the flesh of animals, eggs, milk and certain seeds and fruits of plants, especially leguminous varieties. Vegetable protein is of less value than animal protein. We must balance up the diet with a mixture of vegetable and animal protein. Aykroyd recommends that the proportion of animal protein should be at least one-fifth.

The following scale of protein requirement is suggested by Aykroyd.

Age & Sex	Grammes per day
Man 18 to 60	... 65
Woman 18 to 60	... 55
Boy 10 to 17	... 70
Child 6 to 9	... 60
Child 2 to 6	... 40—50.

(1 Grm. of protein evolves 4.1 calories.)

(b) *Fats*:—These are essential to ordinary diet and one great purpose served by fat in food is to diminish albuminous metabolism. Therefore it is called albumen sparing food. Sources of fat are animal and vegetable fats, e.g., butter or ghee, mustard oil, red palm oil, coconut and soya beans etc. The ideal proportion of fat in the diet according to Aykroyd should be not less than 45—60 gm.

Carbohydrates:—In ordinary diets carbohydrates are the chief source of energy. The Indian diet, composed mainly of grains and vegetables, contains a high percentage of carbohydrates. In fact in almost all cases the diet is unbalanced. In prescribing diet, attention must first be paid to supplying adequate amount of proteins, fats, vitamins and mineral salts in ideal proportion and then the remaining calorie requirements may be made up with carbohydrates.

Mineral Salts:—These are essential for nutrition and include common salt and salts of calcium, sodium, potassium, magnesium and iron. A diet should contain at least 1 gm. of

calcium oxide (which is equivalent to 0.67 gm. of calcium) daily; pregnant women and children require more. Iron is an essential constituent of hæmoglobin and is therefore needed in the body for formation of blood. At least 6 to 12 mgm. of iron in food are required to maintain the equilibrium.

(c) *Vitamins*:—Of course the character and functions of vitamins are not a matter for discussion here. We shall discuss only their sources and requirements in the diet. Vitamin A is found in animal fats, e.g., whole milk, curds, butter, unadulterated ghee, egg-yolk, liver, fish etc. Although most vegetables do not contain vitamin A the following contain the pigment carotene, which has got the same physiological functions as vitamin A:—

Spinach, lettuce, cabbage, coriander leaves, drumstick leaves, celery leaves and ripe fruits e.g., mangoes, papaya, tomato, orange etc.

A well-balanced diet should contain at least 3000 I. N. units of vitamins (about 3 oz. of leafy vegetables will supply this quantity).

Vitamin B₁: It is known as 'antiberiberi' Vitamin and commonly found in cereals, pulses, eggs, fruits, nuts, most vegetables, liver and to some extent in meat and milk. Milled rice contains insufficient vitamin B₁. 300 I. N. units are required per day and may be obtained if 4 oz. of unmilled cereal, 6 oz. of leafy and other vegetables and 2 to 3 oz. of pulses are consumed daily.

Vitamin B₂—Cereals are poor in vitamin B₂, some pulses e.g., gram, green leafy vegetables and certain roots and tubers are fairly rich. Richest sources are yeast, milk products (including skimmed milk, butter-milk, curds and cheese) lean meat, liver, eggs, pulses and green vegetables.

Vitamin C is found in fresh fruits and vegetables. Among vegetables green leafy varieties are best. Pulses and cereals in germinating stage contain a good deal of it. Germinating pulses may contain 10–15 mgm. of vitamin C per 100 gm. A well-balanced diet should contain 30–50 mgm. of vitamin C per day.

Vitamin D is found in liver and liver oil, egg-yolk, milk, and milk fat. The body has the power to synthesize vitamin D when the skin is exposed to sunlight.

PLANNING OF HOSPITAL DIET

Let us now discuss the diet ordinarily supplied in the estate hospitals from the point of view of essential food factors and calories evolved.

The following table shows in 1 oz. of common articles of food, the essential food factors in gms. and calories:—

	Pro- teins	Fats	Carbohy- drates	Calo- ries	Min. Salts	Vitamins A B C D E
Rice	1.84	.22	26.41	114	587	+
Dal	6.5	.99	16.2	100	3.37	+++
M. Oil	...	28.00	...	252	...	...
Onion	.37	.03	3.06	14	...	++++
Salt	...	...	...	...	1007	...
Vegetables						
leafy	.39	.03	1.27	7	...	+++++
Non-leafy	.70	.04	8.15	36	...	++++

The diet scale of average tea garden hospitals is as follows:—

	Pro- teins	Fats	Carbohy- drates	Calo- ries	Min. Salts	Vitamins A B C D E
Rice ... 24 oz.	44.16	5.28	626.64	2725	...	+
Dal ... 6 oz.	39.00	5.94	97.2	600	...	+++
M. Oil ... ½ oz.	...	14.0	...	126	...	...
Onion ... 1 oz.	.37	.03	3.06	14	...	++++
Sago ... 1 oz.	2.10	...	22.0	99	...	...
Sugar ... 1 oz.	...	...	28.3	113	...	...
Milk ... 4 oz.	3.76	4.08	5.44	72	...	+++++
Egg ... ½ oz.	1.7	1.5	...	19	...	++++
Vege- tables ... 8 oz.	5.6	.32	65.2	238	...	+++++
Total	96.69	31.15	917.84	4056		

From the above analysis we see that the total energy is above the average required. The reason is that main stress is on rice only. Protein is sufficient, but very little of it is of animal origin. Fats are deficient and supplies of accessory substances are minimal.

Let us consider how we can allot common food articles to protein, fat and carbohydrate requirements and balance them up to form a basic diet. In this allotment of articles there are some difficulties. A study of the above analysis of the diet scale shows that, in order to balance the diet, the fat content must be increased and we must decrease the quantity of rice. The reduction of rice would also bring the calorie value of the diet within ordinary limits. Coolies are generally habituated and have got special affinity to take rice in large quantity. So it is difficult on the one hand to reduce the quantity of rice and on the other hand to balance up the diet.

M. N. Rudra suggested a plan of dietary (I. M. J.) as follows:—

Germinated gram	... 1 oz.	This scale contains:—
Gur	... ½ oz.	
Rice	... 7 oz.	Carbohydrate 425 gm.
Potato	... 2 oz.	Fat 70 "
Leafy Vegetables	... 3 oz.	Proteins 71 "
Spices	... ½ oz.	Calories 2600 "
Fruits	... 1 oz.	Mineral Salts and
Whole-wheat flour	... 7 oz.	vitamins adequate
Salt	... ½ oz.	amount

The average cost of this scale will be about -/2/2 which is moderate, yet the coolies would not be satisfied with it owing to the low quantity of rice and his lack of habituation to take wheat flour.

Let us now sketch out a scale of well-balanced diet at a low cost.

	Pro- teins	Fats	Carbohy- drates	Calo- ries	Min. Salts	Vitamins A B C D E
Rice ... 20 oz.	42.0	4.0	480.0	2134	...	+
Dal ... 3 oz.	19.5	2.97	48.6	300	...	++
M. Oil 1 oz.	...	28.0	...	252	...	...
Onion 1 oz.	.37	.03	3.06	14	...	+++
Vege- tables ...	...	...	...	...	...	...
Non-leafy 2 oz.	1.4	.8	16.3	72	...	++++
do. leafy 4 oz.	1	...	4.0	20	...	+++++
Salt ½ oz.	...	...	...	...	...	...
Spices 1/8 oz.	...	...	...	...	...	...
TOTAL	64.27	35.88	551.96	2782	...	...
Egg 2 oz.	7.58	5.94	...	84	...	+++++
Total	71.85	41.82	551.96	2866	...	...
Milk 4 oz.	3.76	4.08	5.44	72	...	+++++
Total	68.03	39.94	557.40	2854	...	...
Or both						
Milk 4 oz.						
& Egg 2 oz.	75.61	45.90	557.40	2983	...	...

In the above scale the quantity of rice and the total bulk of the diet is not too great. I think a coolie patient will be satisfied with this amount. Vegetables supplied should be both leafy and non-leafy, and non-leafy vegetables should amount to at least 4 oz. daily, as these are good sources of vitamins. In this chart egg or milk has been added, in order to increase the amounts of protein and fat, but egg contains more protein and fat than does milk. On the other hand milk contains all the varieties of vitamins. One egg or 4 oz. of milk will evolve almost the same amount of calories. By addition of milk or egg also we shall be able to supply some amount of animal protein which is essential. If possible then, both egg and milk may be added and the total calories will still be within reasonable bounds. Accessory substances and mineral salts in the proposed scale will satisfy requirements according to the data given beforehand.

The nutritive value of the diet can be improved by the use of whole rice. Regarding milled-rice, par-boiled rice is superior in nutritive value to milled raw rice. The reason is that during the process of par-boiling the endosperm of the grain swells and imbeds some of the bran constituents such as the anti-neuritic vitamins and proteins and mineral salts, so that these constituents are generally preserved in the grain even after par-boiling. (Sreenivasan, I.M.J. Dec. 1938).

Amongst pulses 'Mossur' contains the highest amount of essential food factors, next

comes 'Arhar'. Coolies generally prefer a mixture of 'Mossur' and 'Arhar'.

Vegetables supplied should be both leafy and non-leafy. The following are generally available in gardens:—

Potato, carrot, radish, sweet potato, brinjal, tomato, cucumber, lady's finger, cabbage, cauliflower, lettuce (salad), green peas, spinach (palak), soya beans, drumstick leaves, red pumpkin leaves etc.

Although the market rate is high, yet the average cost of the proposed scale will not exceed -/2/7 which is a moderate rate. If both milk and egg be supplied, the average cost will be about -/3/1, which is also moderate.

NOTES ON COOKING

We now pass on to consider in what ways these different articles of food can best be made to yield the full amount of nutrition they are capable of affording. Rice is usually washed in cold water before being cooked. Boiling is the common method of cooking when the rice grains swell and become soft. There are then strained and the water thrown away. By this process some of the mineral salts and proteins are lost. The most economical and best method of cooking rice is by steaming, as then the proteins and salts are not thrown out. Dal should be prepared in the ordinary way; the only point is that it must be boiled till no trace of the grain is left. Steaming is the best process for preparing vegetables; onion, spices and mustard oil are added as flavouring agents but highly spiced curry is not easily digestible. 1/8 chatack of spices are sufficient for a patient. Vitamin A is not much affected although heating in open pans to 200°C may considerably diminish but not totally destroy it. B₁ is not much affected. C is destroyed somewhat but still remains to a considerable extent in animal and vegetable foodstuffs, cooked by Indian method. An interesting fact is that the addition of common salt during cooking reduces the destruction of vitamin C.

Needless to say, the diet scale suggested is for an adult patient and must be modified in the case of children.

ACKNOWLEDGMENTS

My thanks are due to my chief Dr. K. P. Hare to whom I am much indebted for encouragement and valuable help in the preparation of this paper.

I also wish to thank Dr. S. C. Dutta of Itakhooli T. E. for necessary help.

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Management of Marasmic Babies in Tea Garden Practice*

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The high death rate amongst children is a problem to every tea garden doctor. Of the various causes responsible for this, marasmus plays not an insignificant part. These marasmic babies may or may not be premature and it is not always possible to find any apparent cause of marasmus. To discuss the causes is, however, beyond the scope of this paper. In this short note an attempt has been made to briefly deal with the management of such babies, the saving of whose lives means considerable reduction in death rate. The management resolves itself into two parts viz., (1) the care of the mother and (2) the care of the child.

Care of the mother:—Any constitutional defect in the mother such as anaemia, malnutrition, malaria, syphilis etc., must be treated. Constipation should be avoided. Special attention should be given to her diet. Milk, fresh vegetables, fresh fruits, fresh meat and fish as well as some amount of animal fat should form an essential part of her diet. Alcohol is not essentially necessary for an Indian mother as some people think. A nursing mother frequently feels thirsty. For relief of thirst, rice gruel, barley water and milk and water are recommended as they are not only nutritious but milk-promoting. If we can bring the mother's milk to requisite quality and quantity, our task is almost done, as this is the most ideal nutrition we can give to a baby.

Care of the child:—The following points must be remembered in dealing with a marasmic baby whether premature or full term:—

- (1) Its body temperature is generally lower than normal.
- (2) Its system is ill-developed, especially the digestive system and not competent to discharge its function fully and properly.
- (3) Its vitality is low and it is more prone to infection.
- (4) Its nutrition requirement is higher than that of a normal child.

*Read at the meeting of the Tingri Valley Branch, A. I. M. L. A. held on 7-4-1940.

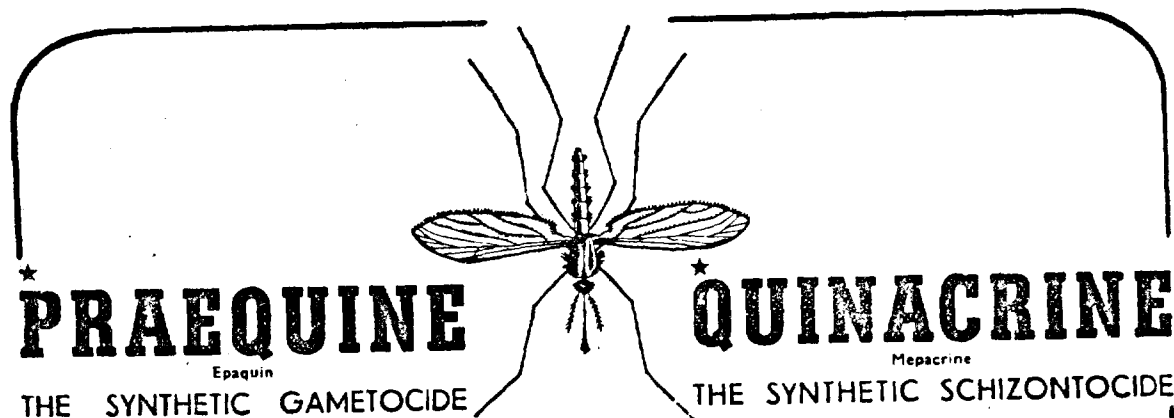
(5) The breast milk of the mother, which is the ideal food for it, is very often deficient either in quality or in quantity or in both and so naturally it has got to depend on supplementary artificial feeding.

Therefore in order to nurse a marasmic baby successfully, we must overcome all the above difficulties.

General procedure:—The baby should be given warm baths. Olive oil or cod-liver oil should be rubbed all over its body preferably in the slanting rays of the sun at least twice daily, and then it should be wrapped in warm flannel or a piece of lint. This should be done with care avoiding too much handling as its heart and lungs would be very weak. Draughts should be avoided and in cold weather hot water bottles should be placed at the feet and sides. Of course the heat requirement will vary according to weather condition, and modification is to be made accordingly. The infant should not be kept lying on one side too long. The position should be changed every two or three hours so that both the lungs may have an equal chance of expansion. Persons suffering from respiratory catarrh, sore throat or pyorrhoea should not go near the baby's cot and none should be allowed to breathe over it.

Method of feeding:—This is the most important part of the management and requires utmost care. In case of a very feeble infant who is unable to suck milk, it should be fed by means of a pipette. If mother's milk is not failing, milk may be extracted by a breast-pump and given to the child in this manner. When the child grows a little and shows ability to suck, the mother may lie down by its side and let it suck the breast. If mother's milk fails, it may be taught to suck milk in a feeding bottle. The use of feeding bottle is, of course, beset with some danger unless scrupulous cleanliness is maintained. When the baby grows further and becomes a little stronger, it should be lifted and supported in semi-erect posture (as in arms) during feeding. The feeding should be given at definite intervals and progress or otherwise should be ascertained by taking weekly weight. The amount of artificial feeding should be gradually increased and regulated partly by the weight of the child and partly by its digestive capacity. Simple water should be given to the child as drink in between prescribed feeds. Over-feeding and under-feeding are both injurious. There is a criterion of determining this. Over-feeding will produce restlessness,

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abdominal distension, vomiting, diarrhoea and a blue discolouration round the lips. Under-feeding will cause pinched face, abdominal retraction, constipation rather than diarrhoea, blue discolouration of the lips, face or whole body and the baby will be constantly wailing. The degree of dilution of artificial feeding vary according to the age and weight of the child. This can be found in a tabulated form in any standard text-book on management of children and is not discussed here to gain economy of time and space.

Choice of food. :—It must be remembered that different children react differently to various kinds of food and it is rather risky to be dogmatic about it. The following are however recommended :—

(1) Diluted cow's milk to which milk sugar has been added.

(2) Lactic acid milk or Lacidac, one-half strength to each ounce of which fifteen grains of milk sugar has been added.

(3) Peptonised milk, half-strength to each ounce of which two drops of lactic acid B. P. and thirty grains of milk sugar have been added. This is most easily digested, though a little difficult of preparation.

(4) When nothing can be digested by the child, simple skimmed milk with sugar may be tried.

(5) In an anæmic baby, Hæmolac manufactured by Messrs. Cow & Gate Company is valuable.

(6) Radiostoleum and fruit juice (preferably orange juice) must be given in addition to other foods.

COMMENTS

It is regrettable that in a Tea Garden Hospital co-operation from the child's mother is most often wanting but for which, the lives of many more babies could have been saved. In spite of this handicap, the amount of success accrued on adoption of the above line of management has not been meagre in the experience of the writer.

ACKNOWLEDGMENT

I am indebted to my chief Dr. K. P. Hare for his valuable help in the preparation of this paper and kind permission to publish it.

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Strange Ways of Poisoning

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PHARMACOLOGIC AND TOXICOLOGIC FACTS IN HISTORY

During the treason trials in Russia in the last few years, it was charged that some of the accused had killed some men by poisoned gloves.

This allegation will be heard by most people nowadays with scepticism, but history as well as toxicology show that such poisonings are not impossible. Through the skin certain poisons as well as medicines can be introduced into the body. The gloves might have been saturated with arsenic, or some aconite extract. After they had been worn for some time, the poison which had entered the blood circulation would become effective. A smaller part might enter the body through the mouth, which the hand wearing the poisoned glove touched now and then.

Nowadays, no deadly poison—least of all arsenic—can be concealed from a scientific test. But, before chemical analysis was invented, the art of mixing poisons was a secret and a dreaded one, like its partner "witchcraft". When prominent people died suddenly, one or the other thought was always in men's minds. Some of these deaths were probably due to streptococcal infection, or ptomaines, or other natural causes; others, perhaps, concealed mysterious crimes and, since kings had their food first "tasted" for them, other means of bringing about death were sought. Here are some picturesque legends. Most of them, however, have been verified by L. Lewin and other famous pharmacologists and toxicologists.

The young German Emperor Otto III was perhaps murdered that way. His Roman Governor, Johannes Crescentius, had rebelled against him; Otto marched into Rome again and, on the seizure of the city, Crescentius was mutilated, blinded, and beheaded. Twelve of his fellow-conspirators were crucified by his side. Later, his wife Stephania was able to win Otto's confidence as his medical adviser—while other reports say that she had become intimate with him. Anyway, she used her relation with him to poison him; and that was done, it was said, by means of arsenic-poisoned gloves.

It was too common in those days to poison people by drugging food or drinks. Both,

therefore, were examined by experts in suspicious cases; and that is why medieval poisoners turned their attention toward strange ways of poisoning which were not so efficient, but raised less suspicion. Conan II, Duke of Brittany, is supposed to have been murdered by poisoned gloves and in the same way the Queen of Navarre, the enemy of Catherine de Medici.

Much easier to understand is death by poisoned shirts, because thus a much bigger part of the body surface is exposed to the poison. The so-called "Nessus' shirt" has acquired classical fame; it belonged to Hercules, a hero of Greek myth, and had been poisoned by the centaur Nessus' blood. When Hercules put it on, it became fatal to him. Apparently, the poison had irritated and inflamed the skin to a very high degree, producing the same stinging effect as nettles, only to a very higher degree.

The same technique was known to Medea, Jason's wife, in the classical myth of the Argonauts who sailed to Colchis to recover the Golden Fleece. Medea soaked the wedding dress of Glauce, her rival, with a dangerous poison, which inflamed the entire skin and caused Glauce's death.

In the Middle Ages, shirts were prepared by soaking them in a strong solution of arsenic, or corrosive sublimate or cantharides ("Spanish Fly"); thus they were supposed to produce a violent dermatitis with ulcerations. Even in wigs, poisonous materials were found which acted on the skin of the head.

The parts of the body which were in closest touch with the poisoned shirts, showed inflammation and ulcers. Some persons, and even physicians who did not know about the poisoning, diagnosed the ulcers as due to syphilis. They prescribed mercury or other remedies in powerful doses, in order to treat the supposed syphilis—with the effect of killing the patient in the end in this way.

If a poison is brought in contact with the skin, there is no danger of poisoning as long as protection is given by the injured skin. And, even if skin disease follows the application of the poison to the skin, it may heal again without a general poisoning of the body. But there are ways to bring poison from the skin into the whole body. Some poisons destroy the protective layers of the skin, the tissues and even part of the blood vessels, —in short, they caused deep wounds, and that is a sure way to bring the poison into the blood circulation.

Or the skin has been damaged by poisons which cause corrosions and inflammations, and thus it is permeable to poisons that would not penetrate the undamaged skin. We all remember the period when carbolic acid was used in high concentration as an antiseptic bandage for wounds; as a consequence of this exaggerated method of antiseptics, many persons lost their limbs, or even died as though they had taken the dangerous carbolic acid internally.

The method of poisoning the shirt is known in many countries. There is a legendary story in India of the Queen of Ganore, who is said to have killed Raja Bukht by impregnating his marriage robes with poison. Dr. Chevers, who relates the story, affirms that this form of poisoning is possible. "Anyone", he writes, "who has noticed how freely a robust person in India perspires through a thin garment can understand that if the cloth were thoroughly impregnated with the cantharidine of that very powerful vesicant, the Telini, the result would be as dangerous as that of an extensive burn." The deaths of several historical personages in India were thus caused.

Tissot states that John, King of Castille, owed his death to wearing a pair of boots which were supposed to have been impregnated with poison by a Turk. A modern instance of the poisoned boot came to light a few years ago in a case of death by the absorption of poisonous boot-blackening. The case has been reported by Thompson. The victim, a young man, had been to a dance and, shortly afterwards, became unconscious and died in four hours. For some time the cause of his death was complete mystery until, a few days later, a bottle of blacking was found in his room. With this it was discovered, he had blacked his shoes on the evening of his death. The coloring had penetrated his socks and stained his feet and ankles. On analysis, the solvent in the blacking was found to consist of nitrobenzene, an extremely poisonous liquid. This was no doubt rapidly absorbed by his feet when dancing, and so caused his death.

Poison can be received by the body through wounds. This way has been utilized frequently in former times, but the poisoners did not always succeed. A famous case was the attempted poisoning of Pope Leo X in 1517; he had exiled the Cardinal Petrucci and his brother from their native town, Siena. The cardinal had tried to take vengeance, and made a conspiracy with his friend, Vercelli, a clever and skilful physician, and an experienced surgeon, but a cruel and cunning man

too. Leo used to suffer from a fistula which had to be drained frequently; the conspirators attempted to replace Leo's physician by Vercelli, who was going to apply poisoned lint. There is no doubt that such a method would be successful if a strong poison were used. But Leo did not trust his new physician, recommended though he was, and the plot failed. The plot was discovered by letters written in a secret code, and the treacherous surgeon was torn by four horses,—a standard penalty for treason in those days.

Nowadays, a case has been reported of a patient suffering from a wound caused by a blistering plaster of cantharides; some ointment, containing arsenic, had been brought in contact with the wound. The application was followed at once by terrible pain in the wound; further more, there appeared a dry and chappy tongue, intolerable thirst, colics, cramplike contractions of the legs and the back, and a weak and irregular pulse. The patient died the very same day. Metals, such as lead or mercury, can poison in this way; but so do some alkaloids such as atropine.

Poisoned wounds were caused also, in warfare, by poisoned arrows and other weapons. In ancient Rome it was a practice, at one time, to dip needles into poison and wound the enemy by stealth with this prepared needle. Agathocles, who revived tyranny in Syracuse in 317 B.C., was accustomed to use a toothpick after every meal. His valet, bribed by Agathocles' enemies, prepared the toothpick's point with a dangerous poison. Agathocles injured his gums with this and, from this wound, his whole body was poisoned.

In Shakespeare's Hamlet the sleeping king had henbane (*hyoscyamus niger*) juice, "of midnight weeds collected", poured into his ear to make him die of poison.

"With juice of cursed hebenon in a vial,
And in the porches of my ears did pour
The leperous distilment; whose effect
Holds such an enmity with blood of man
That swift as quicksilver it courses through
The natural gates and alleys of the body,
And with a sudden vigour it doth possess
And curd, like eager droppings into milk,
The thin and wholesome blood".

Although this kind of poisoning could hardly lead to death, as a rule, it is very likely that absorption of toxic materials by the ear may lead to destruction of tissue and even bring about injuries of the brain.

The soporific influence of some poisons penetrates the whole body after they enter

into the mucous membranes of the nose. At the end of the eighteenth century poison-mixers in Paris (the so-called "endormeurs") understood how to make their victims accept the poisoned snuff they offered. After a few pinches of this snuff, the persons became sleepy and finally sank into deep sleep or even unconsciousness. In the Dutch East Indies it is said that a sleeping person has some powder from the seeds of a poisonous plant softly blown into his nose by means of a blow-pipe. After he has fallen in a dead like sleep, he is easily robbed.

Even letters, books, coins, knives and forks were treated with poisonous substances which poisoned the unsuspecting receiver or user. The person who wanted to poison his enemy in this unusual way had figured that, very likely, he would wet his fingers when turning the pages of the book, and thus the poison smeared on them would stick to his fingers and enter his mouth. But this is no reliable way to poison one's enemies, even if it is told in the Arabian Nights.

We shall never know exactly whether Pope Clemens VII's death was due to the fumes of a torch or to the poison which was mixed with the torch purposely. The method was to prepare a torch or candle so that it would give off a certain amount of arseniuretted hydrogen while being burnt in a confined space. It was frequently tried, in the victims' bedroom. Such candles burnt every night for hours, and the fumes containing arsenic caused chronic poisoning.

At the beginning of the eleventh century the Arabian physician Avicenna became a victim of a certain medicine. He had acquired dysentery in Persia and took enemas using long pepper. As a result he suffered a severe injury of the intestines. To cure it he took the antidote Mithridate, but his assistant had added too much poppy juice to this medicine and Avicenna died of opium poisoning.

Medicinal enemas were used to bring about intentional poisonings. The Roman Emperor Claudius was, according to Suetonius, poisoned by his wife Agrippina through a poisoned enema. Also Conrad, of the German imperial family of Hohenstaufen, is supposed to have been murdered in this way.

These deaths from poisons lose some of their mystery when we realize that the blood can carry the poison from the mucous membranes of the intestines through the entire body and thus bring about the most devastating effects. The intestines absorb poison very thoroughly, in fact.

Medico-Legal Notes

(The following notes on medico-legal cases of interest are extracted from the 'Chemical Examiner's Report, Madras, for the year 1939. —Ed. I. M. J.)

Four hundred and fifty-eight cases of human poisoning were examined as against 467 in the previous year and poison was detected in 54.6 per cent of the cases. Some of the cases described below show how an ignorant or a mistaken use of certain drugs, some of which are regarded as medicinal, ended in disastrous results and they should serve as a warning to the general public.

(1) *Mercury*:—A Sadhu (religious mendicant) had been in the habit of sucking alum to quench his thirst probably to impress spectators. One day he took by mistake from his bag a crystal of perchloride of mercury and sucked it thinking it to be alum. He was removed to a hospital in a collapsed condition and died there. We detected about one and four-fifths grain of corrosive sublimate in his viscera.

(2) A woman who was living alone cooked food in the evening. She then left home and returned late that night. She tasted a morsel of the food and found it to be of a peculiar taste, her tongue feeling dry and stiff. She recovered after a number of motions. The food was sent to us and we detected about nineteen grains of corrosive sublimate in it, far more than enough to have killed her if she had consumed the whole of the food.

(3) A young man had never married as he thought he could not afford to marry but this did not prevent his association with women. He first seduced a niece of an old man and then he seduced another niece of the same man. As the young man was a bully and difficult to tackle, the old man decided to lower the young man's vitality and cure him of his misplaced lust. In the opinion of the old man, who happened to be a quack, corrosive sublimate does not kill but only depresses. So one evening, the old man borrowed some money from the young man and bought toddy with the borrowed money. He mixed some corrosive sublimate in the toddy and offered the toddy to the young man to drink. After the young man drank the toddy, the old man dashed the pot to pieces on the ground. The young man was taken extremely ill but recovered after treatment in a hospital. The pieces of broken mud pot were sent to us and we detected minute quantities of mercury in them.

The old man was arrested and tried. The judge observed that it was only a matter of academic importance whether the accused was charged for attempted murder or for causing hurt, and sentenced the old man to five years' rigorous imprisonment for attempted murder.

(4) *Turpentine*:—A young man committed suicide with a poison. The post-mortem signs revealed rigor mortis passed away except in the lower limbs, discharge of mucus and partly digested rice from left nostril and nails bluish. The lungs showed intense congestion and the large vessels and the heart contained dark fluid blood. The liver and kidneys were intensely congested. The stomach showed congestion of the mucous membrane with deeply injected patches. The intestines were congested. The bladder contained one ounce of turbid urine. The brain was oedematous with the membranes injected. About three ounces of turpentine were recovered by distillation from the viscera.

(5) *Denatured Spirit*:—A woman went to the bazaar and asked for "omam water" (caraway water) a popular carminative for children. The bazaar man by mistake handed to her denatured spirit instead. The mother not knowing the difference between the two administered the liquid to the child. The child developed tremors and became unconscious. The child was removed to a hospital and died twelve hours later. The stomach washings and the viscera were sent to us and we detected pyridine in the stomach washings and in the viscera, though we did not detect alcohol in them. Pyridine is the denaturant added to spirit here to make it unsuitable for drinking.

(6) *Holarrhena antidysenterica* Wall.:—This plant commonly known as "kurchi" or "conessi" is a small deciduous tree with white flowers growing throughout the forests of India. Recent clinical experiences with the plant have led to its adoption as a valuable antidysenteric. The alkaloids from this plant are known to be poisonous.

Two children were administered the bark of this plant as a purgative with fatal results to both the children. The post mortem examination of each revealed cardiac failure, the heart being distended with dark fluid blood, the other viscera being normal. A specimen of the plant was sent to us along with the viscera of the two children. We identified the plant to be *holarrhena antidysenterica* and we obtained from the plant an alkaloidal extract which killed frogs with paralysis and which gave (1) with sulphomolybdic acid a dark green colour, (2) with sulpho-vanadic acid a greenish brown colour turning to purple at the edges and (3) with formaldehyde sulphuric acid (Marquis Reagent) a reddish brown colour turning blue at the edges. An alkaloidal extract giving the above chemical tests was also obtained from the viscera of each of the children.

(7) *Madar juice*:—A widow who had become illicitly pregnant was found dead in her house. The post mortem examination revealed pregnancy of four months duration and the vagina was found plugged with a cotton rag. The viscera and the rag were sent to us. We did not detect poison in the viscera but we detected madar juice in the rag.

(8) *Datura*:—A woman suffering from leprosy committed suicide by poison. We detected a mydriatic alkaloid in the viscera and in the urine. Microscopic examination of the contents of the stomach revealed particles of datura leaf.

(9) A boy was admitted into a hospital with symptoms which were then diagnosed as due to hydrophobia. He however recovered the next day and his urine which was sent to us disclosed a mydriatic alkaloid.

(10) While a young husband and wife were travelling through a forest a Sadhu met them and gave them some paste to eat stating that it would help them to travel without fatigue. The husband ate a large portion and the wife a small portion. The husband lost consciousness and regained it only the next morning when he found some bamboo cutters standing by him. He narrated his story to them and they discovered at some distance the corpse of the wife with signs of throttling. The viscera were sent to us and we detected a mydriatic alkaloid in them. Microscopic examination of the contents of the stomach revealed particles of datura seed. The remnants of the paste administered to the victims were sent to us and we detected a mydriatic alkaloid in them. Microscopic examination of the paste revealed particles of datura seed.

(11) A man who had six previous convictions to his credit was arrested on suspicion and a packet of powder which was found in his pocket was sent to us by the police. We found the powder to consist of partly crushed datura seed.

(12) *Oleander*:—A young man accepted a bet from his friends who stated that he would die if he ate yellow oleander kernels. He ate the kernels from three fruits. Vomiting fortunately came to his rescue and he was admitted to a hospital in a collapsed condition. There his stomach was washed out and he recovered. The young man thus apparently won his bet—though by a very narrow margin.

(13) *No poison*:—The body of a girl aged ten years was found hanging in a village. As suicide by hanging is rare at such a tender age, the viscera were sent to us for examination for poison. We did not detect poison in the viscera.

(14) Hysteria is often mistaken by the ignorant in this country as possession by the devil. A hysterical young girl of twenty was diagnosed to be suffering from possession by the devil and her brother who was a magician offered to drive the devil out. She was given a bath and then taken before an idol. She was beaten black and blue over her head and back with the incantation "Go away, Devil." She collapsed under the beating and gave up the ghost. The viscera were sent to us to see if there was poisoning but we did not detect any poison in the viscera.

The following blood cases are selected as of interest:—

(15) A man murdered his brother-in-law against whom he had old enmity by getting the victim

drunk and throwing a large stone over his head, while unconscious. The suspected stone was sent to us. We detected blood on the stone and we also found pieces of dark grey hair sticking to the stone. We found those pieces of hair to be human hair possessing the characteristics of scalp hair and showing evidence of crushing at one end of each of the pieces. The blood on the stone was found to be human blood by the Imperial Serologist, Calcutta. The accused at first confessed to the commission of the crime as stated above but later retracted his confession. It was however elicited that the above stone had been concealed by the accused at a particular spot and was traced by the police as a result of the original confession. The accused was convicted of murder and sentenced to transportation for life.

(16) In the course of a quarrel in a field a man hit a young man and his mother on the head with stones. The dead bodies were recovered by the Police the next day.

The medical officer stated that the death was due to coma as a result of compression of the brain and he also stated that the injuries could have been caused by stones.

The stones suspected to have been used in the commission of the offence and the earth from the scene of the offence were sent to us and we detected blood on each of these two items. The blood on the stones was found to be of human origin by the Imperial Serologist who reported that the blood on the earth was disintegrated and its origin could not be determined. The defence stated that the deaths were due to lightning, though there was no evidence of any stroke of lightning that day and the injuries on the bodies did not conform to those caused by lightning. The Judge stated that "on account of the infliction of the injuries by the stones the deceased were incapacitated to move about and while so, they might have been attacked by any wild animal and sentenced the accused to three years rigorous imprisonment for causing grievous hurt under each count, the sentences to run concurrently."

(17) *Tattoo Marks*:—In a murder case the accused was alleged to have cut the body of the deceased into several pieces and buried them in different places in a river bed. Some of these portions were recovered by the police and on one of these pieces there were letters which appeared like tattoo marks corresponding to the name of the deceased. The portion of the skin with the suspected tattoo marks was sent to us to decide whether these were tattoo marks or merely writing in ink. The writing was not affected by water, acetic acid, oxalic acid, ammonia, bleaching powder or potassium cyanide. A cross section of the skin showed dense fibrous tissue with superficial intracellular dark brown amorphous pigment. We therefore concluded that the letters on the skin were tattoo marks and not surface writing.

(18) A village officer was ordered to hold elections for a panchayat board. It was suspected that he had not held the elections but reported falsely that he had done so on 28th September 1938 (Wednesday). This officer had issued a notice to the public that the election would be held on a particular date and day of the week and this notice was alleged to have been tampered with subsequently by altering the date and day of the week. It was suspected that the date as originally written was 5th November 1938 and that this had been altered to 28th September 1938 by over-writing. Similarly the day of the week which was supposed to have been written as சனிக்கிழமை (saturday) was alleged to have been altered to "புதன்கிழமை" (Wednesday) by over-writing. The document containing the writing was sent to us with the portions suspected to have been over-written marked in two places. On examination of the document the two marked portions were in deeper shade of ink than the remainder of the paper. This was shown not only in ordinary light but also under ultra-violet light. Microscopic examination revealed the date 28th September 1938 overlapping the original 5th November 1938, 8 overlapping 5, 9 overlapping 11 and 38 being written on again. The figure 2 was over-written over a dash of the original writing. The letters "புதன்கிழமை" overlapped the letters "சனிக்கிழமை," "4" having been prefixed, "த" being written "ச" "ன்" on "னி" and the remaining letters having been over-written again. It is also obvious that "த" finds no place in "புதன்கிழமை" whereas it occurs in "சனிக்கிழமை" as ordinarily written. There was therefore no doubt that the date 5th November 1938 had been altered to 28th September 1938 and that the word "சனிக்கிழமை" had been altered to "புதன்கிழமை" with resulting inaccuracy in spelling.

(19) *Re-used stamps*:—We often receive partially erased and re-used postage stamps for identification of the erased postal impressions. We have found that cellophane paper is very useful in finding out whether the erased impression is that of a suspected postal impression. The postal impression is imprinted on bits of cellophane paper and these can be superimposed on the suspected stamps. A complete coincidence of the circles and of the letters and other marks that are left unerased with those on the cellophane paper or otherwise is a very useful aid in drawing conclusions.

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**A Comparative Study of Different Systems of
Medical Relief—Foreign & Indian***

• Dr. A. Viswanatham

Medical Relief in India

I have given you a bird's eye-view of the state of and the organisations for medical relief in three great countries, and you may have noted already that notwithstanding the distinctly different ideologies pursued by each of them the quantitative and qualitative measure of medical relief is satisfactory from the point of view of the citizen's ordinary medical needs. Let me now review the conditions of medical relief in our own country. I am not one of those who believe that the existing organisations for Public Health and Medical Relief are on a wrong basis. If only the imperial interests and policy are withdrawn, the existing organisations could be expanded and augmented effectively. The foundations are, it appears to me, alright but we are yet to find an architect who can complete the superstructure. Our present architects are drawn from the imperial stock and they are spending more money on a costly personnel than on the execution of plans. I will substantiate this by concrete figures. During the year 1937, the total expenditure under Public Health was 186 lakhs of rupees. Out of this, 64 lakhs were spent on establishment as against 19 lakhs spent in connection with the control of epidemic diseases. Similar is the case with the medical department. The average per capita expenditure is 2 annas but 50% of this goes towards maintaining a top-heavy administration. I do not at all grudge the big salaries that are being given to the officers in the Indian Medical Service and

the provincial Civil Surgeons. But my grudge is that this top-heavy personnel is too much of a burden to our country where the average income is not more than four annas per year per head, where trade is almost in others' hands, and where the profit by railways and the savings of the imperial officers are a perpetual drain on our country's finance. Comparing the hospitals in Europe and India, Major Bardhan of the Indian Medical Service correctly said at Calcutta during November 1939:

"I come back with a greater feeling of humility at the inadequacy of our hospital service in India, both in quality and quantity. Recent medical statistics will brand the Indian administration as being the least efficient or the least equitable in the matter of safe-guarding public health. A civilised Government in India spends hardly two annas per capita per annum for medical relief and over 50 per cent of this paltry sum goes to pay the cost of a top-heavy medical administration. There are only 8000 maternity beds in hospitals throughout the whole of India with its population of 350 millions: every year, over one and a half lakhs of expectant mothers die of childbirth, out of which 80 per cent of the cases are preventable deaths. An equal number if not more, die every year of tuberculosis; and over one million and a half die of malaria, kalazar, cholera and plague. Our national conscience and the conscience of our administrators should be roused by a study of these staggering figures which disclose a harrowing tale; and before we can dream of ideal hospitals, such as are the pride of modern civilisation, we should have more and better hospitals in India, and more money from public funds must be diverted to the needs of medical relief and sanitation and for medical research."

*This concludes the series of lectures delivered by the Author at the Stanley Medical College Association, Madras.

This is not an overdrawn picture. India's population is increasing rapidly and Prof. Radhakamal Mukherjee has calculated that it would increase to more than 400 millions in this year. The total number of qualified medical practitioners today is not more than 42,000 which gives us a ratio roughly of one doctor to 10,000 of the population. Even this is vicariously distributed among the population. Thus for example, the Madras Province has about 6000 practitioners. Out of them nearly one thousand are in the City alone. The rest are distributed in other towns of the province. Very few are in the villages, although the best part of our population are essentially villagers. Practically, it would therefore be not wholly incorrect to say that 50 lakhs of villages which bear the brunt of taxation out of which Governments are run, hospitals are built, services are paid, engineering and educational work are undertaken are without amenities of medical relief. Is it any wonder that 3.6 lakhs of people die of malaria alone, a figure, according to Health Commissioner's report for 1937-38, which is a gross under-estimate; 5 lakhs out of epidemic diseases; 2 lakhs out of child birth; 4 lakhs out of respiratory disease, and so on, making up an average total mortality of nearly 6½ millions per annum. In England and Wales the death rate per *mille* is 12, in Japan 17 while in India it is 24.

What is the extant, and what are the channels of medical relief in India? Leaving aside relief given by practitioners of Indigenous Medicine of which we can form no exact estimate, though it is said to be considerable, the existing organisations of medical relief are composed of State, Municipal, Missionary and Private hospitals and of an incomplete and sparsely distributed subsidized rural medical service, supplemented by private practitioners mostly in the already served urban areas. The total number of hospitals of all description in British India are roughly 6500. Of these nearly 800 are first-class hospitals with a total bed accommodation of about 80,000; nearly 2,200 are second and third-class hospitals with a total bed accommodation of not more than fifteen thousand beds; and nearly 3500 cater as out-patient dispensaries. It is officially computed that these institutions serve 35 million of our population, although, in my opinion, this is an over-estimate for the very simple and well-known reason that this figure cannot but include a greater part of what we call "repeat cases". What is the total medical personnel of all these institutions numbering nearly 6500? Approximately, but generously computed, it comes to about 6300. Thus by the rule of averages, we have less than one doctor for each dispensary or hospital, and yet 50% of expenditure is consumed by them. Out of this personnel, nearly 320 belong to the Indian Medical Service costing roughly 4 lakhs and 20 thousand rupees per annum; nearly 1,150 belong to Provincial Medical Service costing roughly 3 lakhs and 45 thousand rupees; and nearly 4830 belong to Subordinate Medical Service costing roughly 4

lakhs of rupees. In the subsidized Rural Medical Service, according to official figures, there are about 600 rural practitioners, of whom our province claims about 420, Sind 40, U. P. 28, Assam 27 and so on in descending order. Their remuneration, as a rule, includes cost of equipment also, and is roughly 600 rupees per annum per head. I have not been able to collect figures for Indian States, but the position there is not likely to be better than on our side, and my frequent travels have indicated, except in Mysore State, a poor state of medical relief in these areas, though I must admit that today all the capitals of Indian States possess first-class hospitals with more than 200 or 300 beds each. I visited the Gwalior Hospital last month, and I found both the attendance of the patients and the work of the doctors were very satisfactory, as good as any general hospital in British India. Yet it is on the whole true, and acknowledged to be true by the Government, that the medical relief now available is but sparse and does cover only a fringe of the population.

The problem of Public Health in India, notwithstanding brilliant achievements during a short period of 40 years of its inception, is much less solved than the problem of medical relief. The importance of the problem of Public Health in India will be evident even to casual students of statistics, because major part of the heavy toll of mortality is due to epidemic diseases which could be prevented by public health measures, as is happily the case in the countries of Europe and America. It is indeed a complex problem made up of many factors, natural and accidental, geographical, historical and economic. Realising this as I do, yet I cannot but refrain from pointing out two great drawbacks in the existing order of Public Health: one is the lack of initiative on the ground that education of the masses must precede public health measures; the other is the too meagre and haphazard stress given to health subjects in the medical curriculum of both the medical colleges and schools of our country. The result of the first has been the postponement of even essential public health undertakings, and the result of the second has been that the medical men who come out of the colleges and schools are not anxious to seek a public health career, and do not possess that quantum of knowledge in public health as to inspire them to co-operate with the Government in their public health enterprise. You might have already noted that the success of Soviet Medicine was due to the stress given to Public health subjects in the Soviet medical curriculum. Thus in Russia, out of 25000 students in their medical schools for 1938, 3200 qualified in Public Health alone, 4000 in pediatrics and the rest in general medicine and surgery. In our country medical men with public health qualification can be counted on one's finger ends. This, to my mind, appears to be one of the subtle and intrinsic causes of the stagnation of the public health work in India. As for the education of the masses, from

the point of view of being an essential pre-requisite for public health reforms, I am one of those who believe, and believe sincerely, that our masses are not so uneducated as we presume them to be. They may not know the three Rs, ape European habits like us, or talk in the language of sophistry, but since they can enjoy and learn from the reading of the Mahabharata and the Ramayana, the Koran and the Bible it would not but be right to presume that they will respond magnificently to all public health measures provided they are applied by persuasion and not by coercion. The Madras Public Health Act of 1939, the credit for which entirely goes to the ex-Minister of Health, Dr. T. S. S. Rajan, is an example of right endeavour. I take it that the basis for this Act is the right presumption that our people are ready to appreciate public health measures, because its warp is educative in design and its woof is statutory in effect, a commingling of educative effort and minimum legal coercion. Since public health measures are by themselves mostly educative in nature, it would be a wrong attitude to take, as the successive Health Commissioners of India do, that the successful advancement of public health measures depends essentially on the educational progress of the masses. The real hitch in the wheel of progress, in my view, is want of finance and not so much the lack of education. The Government is unable to find the money and therefore shifts the blame on the masses, and there is no money available because of the colossal drain by way of heavy army expenditure, foreign trade, top-heavy administration, and of a score of similar items.

None the less, the structure of Public Health department in our country, as is the case with the medical department, is sound at the bottom. Till the year 1919 the Public Health department was entirely under the control of the Government of India and there was not a marked demarcation between Public Health and medical departments. The Civil Surgeons of the districts were made to work as part-time Health Officers, and the Surgeons-General were in charge of the Public Health of the province. Very few cities, then, had Health Officers of their own. Between the years 1910 and 1920, the period between Minto-Morley and Montague-Chelmsford reforms, some progress was made, particularly in the field of creating the various Pasteur Institutes of India and the founding of Indian Research Fund Association. After Montague-Chelmsford reforms, Public Health, with certain reservations, was transferred from the Central Government to the Provincial Governments, and these reservations were: international health affairs, wider aspects of epidemiology, statistics, emigration and immigration, pilgrim traffic out of India, port-quarantine and medical research.

While this transference enabled the Provincial Governments to undertake public health measures a ministry of health was not provided for, which would have given the necessary impetus to quick

progress. Yet it was during this period that the basic structure of the public health department was built. It became full-fledged and whole-time under the provincial Directors of Public Health with a fairly efficient District Health Staff, and the municipalities were compelled by statutes to have a trained health officer with the necessary staff. Thus we have today in British India under the Provincial Health Departments roughly 293 health officers with D. P. H. qualification, 323 with L. P. H. qualifications and 2235 health inspectors, excluding the officers employed by municipalities. The Government of India Act 1935 had created further transference of Public Health work and powers to the provincial Governments with the establishment of a ministry of health this time. The provinces have now derived the power of taxation, though the more profitable sources of taxation such as incomes, customs, public transport like railways and shipping are still in the hands of Central Government. The fact that the provincial governments are now elected under a very wide franchise is certain to induce these Governments to confer health benefits on the people, just as Lloyd George was forced to introduce National Health Insurance in the year 1911. During the last three years, there had been many beneficent activities undertaken by the provincial ministries of health, and their handicap has been not the want of response from the people but the lack of finance. Perhaps for this reason, the ministries of health are unable by themselves to initiate campaigns against such social scourges as venereal disease, leprosy, tuberculosis, etc., and they could do no more than engage themselves in routine epidemic work, and give such help to voluntary organisations as is possible under the circumstances. The link between the provincial Governments, the Indian States, and the Central Government from the point of view of co-ordination of health legislation has been forged by the establishment of the Central Advisory Board of Health in June, 1937. At present, it is only an Advisory Body, meeting annually at important provincial centres. It is probably the fore-runner of the future Federal Department of Health to be worked under a Federal Health Minister.

Thus you will find that the development of Public Health department has been on the whole on sound lines. It has been instrumental in delivering an amazing quality and quantity of public health research with the inevitable gap between academic output and actual application. It has developed a nexus of organisation which is capable of further development and extension into rural areas what is now confined to urban areas today. What work it has achieved and with what results are faithfully chronicled in the monumental reports of the Public Health Commissioners of India. Yet the department has but touched the fringe of the problem, because it has not yet penetrated the villages which make up the population of India. This is hampered on two counts: want of finance

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due to reasons already mentioned, and the waiting policy of the Provincial Governments. The future developments depend entirely on the necessary finance and the degree and extent of responsibility which the Provincial Governments choose to undertake.

I will now turn to the two other important basic aspects of medical relief, viz., medical research and medical education. Medical research in India on an organised scale may be said to have begun with the first epidemic of plague at Bombay in 1896 when the need for co-ordinated efforts was felt instead of reliance on individual initiative and consequent limited laboratory resource. Haffkine Institute was founded at Bombay in 1899, Pasteur Institute at Kasauli in 1900, King Institute at Guindy in 1903, Pasteur Institute at Coonoor in 1907 and at Shillong in 1917. These institutions were primarily concerned with the manufacture and distribution of plague and anti-rabitic serum, lymph and cholera vaccine, but they soon undertook researches on general subjects also. Still later, the Central Research Institute was established at Kasauli in 1906, the Indian Research Fund Association in 1911, the School of Tropical Medicine at Calcutta in 1920, and the All-India Institute of Hygiene and Public Health in 1932. The last two institutions, besides doing research work, give also advanced post-graduate education in Tropical Medicine and Public Health. The Central Government maintains what is called the Medical Research Department, the linear descendant of the Bacteriological Department of the earlier days, and it has a cadre of 26 whole-time medical research officers. Fourteen appointments are reserved for Indian Medical Service and twelve are open to both I. M. S. and Provincial Medical Service. It is from this cadre are selected the directors and assistant directors of the various research institutes in India. The Indian Research Fund Association has got a status of a Local Fund, registered under the Societies Act, XXI of 1860 with a governing body composed of Secretary to the Education Department, Director-General of Indian Medical Service, Public Health Commissioner of India, Directors of Hygiene Institute and Tropical School of Medicine, Calcutta, Director of Central Research Institute, Kasauli, one member elected by the Council of the Indian Science Congress, two members from the Central Legislative Assembly and one from the Council of State, and three from Medical Faculties of the Provincial Universities with the Hon'ble Member for Education with the Government of India as its president. This Governing Body appoints the Scientific Advisory Board which in turn appoints Advisory Committee to report on major subjects of research interest. This Fund maintains the Malaria Institute of India, Kasauli, and the Nutrition Research Laboratories at Coonoor, and conducts the Indian Journal of Medical Research. It has got an accumulated capital of 52 lakhs, and gets an annual recurring grant of about 5 lakhs from

the Government of India. It distributes grants and research work among the various research institutes including the research departments of the Medical Colleges.

Such are the existing organisations for Medical Research in India. The quality and output of applied and academic research is indeed great. But, as in medical and public health departments so in research department, the cost of the personnel is greater than the cost of the work undertaken. In fact, the Indianisation of these departments has been a painfully slow process—a factor which is in no small way responsible for the unpopularity of the research department in India.

I do not think I need dwell long on medical education in India. We have today 12 medical colleges, including the two at Mysore and Hyderabad, and 26 medical schools excluding those that were recently abolished in Madras. The Agra Medical School is about to be abolished, and the curriculum at the Amritsar Medical School is now made to conform to the standard laid down by the Indian Medical Council, without the School being affiliated to the Lahore University. The output of medical licentiates and graduates in India is in the ratio of 2 : 1. There is a general consensus of opinion that medical education in India should be uniform and in charge of the provincial universities. While almost all the licentiates are of one mind in this matter, it was a painful revelation to me when member after member rose at the Government of India Medical School Education Conference held at Delhi during 1938 defending the dual system of medical education and tinkering with the problem of medical school. They showed more anxiety to respect the standard laid down by the Indian Medical Council and to reach it, not through the Universities, but by augmenting the existing State Medical Faculties, and the Examination Boards which confer the licentiate medical diplomas of India than agree to the general proposition I laid down for the acceptance of that Conference that medical education in India should be under no other body than the Provincial Universities of India. During voting time, I pressed for a division so that the country might know that it was not the licentiates who were against University medical education but somebody else who were interested in keeping up the differences in the ranks of the profession. The result of the poll showed that only 6 members were on my side, and the rest of the great majority were against me. Out of the six, three were licentiates including myself, and the other three were Prof. Vyas of Lucknow University, Lt.-Col. Amar Chand of the Lahore University and the Principal of the Lady Hardinge Medical College, Delhi. The one argument against my proposition was that the Provincial Governments would not be able to find the necessary finance to convert the schools into university colleges. I replied that while this was true in regard to provinces like Bihar and Orissa, Sind and Assam it was not so with the major provinces like the Punjab, Bombay and Bengal, and that, at

any rate, so long as the Central Government held in its hands the control and guidance of medical education by virtue of the Indian Medical Council Act it was its statutory duty to help the provinces with the necessary finance in order that they might standardise medical school education under their charge. None in that Conference refuted this interpretation of mine of the constitutional implications of the Indian Medical Council Act, but very few relished it. I am therefore justified in telling you that there are still influential persons who are yet unprepared to have medical education entirely under the charge of the provincial universities, and I am equally justified in telling that unless we attain only one type of medical education effective medical relief will be marred by the heterogeneity of personnel and unseemly and avoidable quarrels among them, as has been the case during the last one hundred and odd years.

The annual output of qualified medical men—both graduates and licentiates—works out roughly to 800 graduates and 1500 licentiates. Thus we get nearly 2300 fresh additions to the profession every year. In Great Britain the corresponding figure for the year 1937 is 2200. Compared to the extent and population of these two countries, it would be obvious that the annual output of medical men is far too below the required optimum ratio to our huge population. Let me bring home this point in a more telling manner. The population and extent of Great Britain is roughly the same as our province. But in Great Britain we have 62,000 practitioners while our province has got only 6000 and odd practitioners. What is the implication of this huge difference in terms of medical relief? It means that when time comes for the Government to extend medical relief through Health Insurance and extension of State Medicine it will be handicapped by the want of necessary personnel. This aspect of the question of medical relief is worthy of attention.

CONCLUSION

Friends, I have given you a cursory and rapid review of the different systems of medical relief as faithfully and truly as I could portray them. You might have already marked the differences between the Indian and the foreign systems of medical relief. But Indian conditions are such that mere imitation of foreign systems would not produce the desired results. I would therefore not plead today either to follow Britain, Germany or Russia in a blindly exclusive manner. Neither could we begin anew by wantonly destroying what history has evolved in our country. The wisest course would be to develop the existing organisations for medical relief and supplement them by additional institutions of proved value. The necessary pre-requisite to progress in medical relief, as in many other national problems, is the achievement of the freedom of our country without which we cannot think of plans, like Health Insurance and further extension of State-Medicine, both of which require a bold initiative from the

Government. It is therefore difficult to plan and to envisage the future of medical relief in our country. I would however be untrue if I do not acknowledge that the system of medical relief as established by the British Government in India is essentially sound and simple, and being so it is capable of infinite expansion provided the necessary finances are available. Its only defect is costly personnel. If finances could be found, and top-heavy administration avoided; if we could get a Government willing to share the full burden and responsibility of medical relief without complacently leaving it to voluntary efforts and voluntary organisations; if our country could produce enough number of medical men corresponding to our huge population within a measurable distance of time, we can easily have at least a lakh of hospitals in our country owned and managed by the State, supplemented by schemes of Municipal and Industrial Health Insurance for urban population, and of village co-operative medical societies for our agricultural population. And this depends on the nature of the Government we are going to get in future and the degree of response and responsibility it may choose to exercise in the matter of medical relief and public health measures. It is for you, the future leaders of the profession, to think hard and conceive of methods, to take the public and the Government along with you, in the common task of providing at least the minimum needs of medical relief to everyone of our country men. If only you can systematically and continuously study the environment as you carefully study and practise your profession, you will get the necessary urge, inspiration and strength to suggest plans of medical relief for the acceptance by the people and the Government.

(Concluded)

LOWERING OF INSURANCE FEES

Dr. K. C. Misra, Bhabua, Shahabad writes :

It has come to my knowledge that some of the Insurance Companies are paying only Rs. 5/- for examination of cases when, as a matter of fact, the legal fee for the same, as allowed by majority of companies, is Rs. 6/- or Rs. 8/- per case upto Rs. 2000. Therefore I would request my fellow practitioners to charge not less than Rs. 6/- for each case. If the Companies do not pay their scheduled fees, the examination of cases of such companies should not be made as this would lead to illegal lowering of the fee day by day. In the interest of us all I make this appeal, and hope that the medical licentiates who do insurance work will kindly respond to it.

Quackery in India

• B. S. Raizada, New Delhi

Perhaps there is no other country known in the civilized world where quackery is more rampant than is India. According to Abraham Flexner, from the earliest times Medicine has been a curious blend of superstition, empiricism and that kind of sagacious observation, which is the stuff out of which ultimately science is made. Though increasingly alert and determined efforts have endeavoured to expel superstition, to narrow the range of empiricism, and to enlarge, refine, and systematise the scope of observation, yet this country still remains the hot bed of quackery. Medicine is a very ancient art in India and it is most inappropriate to label the indigenous systems of Medicine—Ayurvedic and Unani—as quackery, though for want of State patronage and sufficient observation, they have deteriorated and could not keep pace with the modern progress and discoveries. These were the systems which kept India's health above board and still the majority of the teeming population of this sub-continent, especially in rural areas, clings to these ancient systems with religious fervour. Religion is the beginning and the end of Indian life and that is why the village priest has been the giver of all wisdom and the purveyor of all health. Thousands resort to quacks or go without medicine, but they would not submit, on religious, sentimental and economic grounds, to the Western system of Medicine, especially when the only medical aid available in rural areas is through indigenous systems. This state of affairs has been exploited to advantage by quacks who conveniently pass for Hakims and Vaidis. If instruction in these systems is developed on modern lines and practice regulated, not only qualified and efficient medical aid suited to India's peculiar conditions would be made available to the suffering millions, but the influx of quacks would be effectively checked. It is gratifying to note that now sympathy of the various Provincial Governments is slowly but steadily moving in this direction. The Bombay Government was the first to sponsor a Bill which was subsequently passed into the Bombay Medical Practitioners Act of 1938. In pursuance of this Act a Board of Indian Systems of Medicine has been formed to control indigenous medical practice in the Bombay Presidency. The United Provinces followed suit and the Punjab is to have a similar Board shortly. Three years ago steps were taken by the Government of Bengal to institute a State Faculty of Ayurvedic Medicine and are now contemplating the establishment of a Faculty of Homeopathic and Unani systems of medicine.

With the advent of British rule, the Western system of medicine was introduced in India and it steadily developed into the State or the accepted

system of medicine in this country. In spite of ceaseless efforts it remained confined to big towns and the real India is still unprovided with qualified and scientific medical relief. The poverty of India's millions is appalling and so people cannot possibly afford highly expensive treatment which the modern systems provide and this factor has been a serious handicap in bringing better medical aid within the easy reach of the vast majority of India's population. It is no wonder, therefore, if people are compelled to resort to quacks who cater for cheap concoctions and drugs, amulets and charms.

In order to regulate and distinguish qualified from the unqualified medical practitioners, medical registers are maintained by the Provincial Medical Councils. The proverbially low percentage of literacy of the masses, however, does not allow a correct appreciation and understanding of the situation. Moreover, medical practice and systems of medicine are unrestricted in India and it is the qualified practitioner who generally suffers on account of the various ethical restrictions and professional obligations. He has certain privileges, but his rival unqualified practitioner has no scruples against exploiting the ignorant and credulous mind, not to say of any legal restrictions on such a procedure. Thus unqualified practice ruthlessly thrives at the expense of the scientifically qualified system. The struggle between the qualified and the unqualified is not extinct in European countries, but the illiteracy and economic condition of the Indian masses make the problem most baffling and complicated.

If quackery has to be rooted out from India unqualified practice has first to be restricted and then banned ultimately. In most of the countries and States unqualified persons are entirely prohibited from practising. To mention only the most important ones, they are—Alberta, Argentina, Arizona, Belgium, Brazil, Cyprus, Czechoslovakia, Egypt, Estonia, Fiji, Finland, France, Hungary, Iraq, Italy, Japan, Malta, Manitoba, Mauritius, Netherlands, Newfoundland, Nova Scotia, Iran, Phillipine Islands, Portugal, Prince Edward Island, Quebec, Roumania, Russia, South Africa, Spain, Syria, Turkey, Tasmania, West Australia and Yukon. Efforts may be made to have similar suitable legislation in India and public opinion be cultivated in favour of qualified practice of whatever system it may be. Superstition which breeds quackery can only be eradicated by educating public opinion and bringing the scientific and qualified medical relief within easy reach. The hospitals and dispensaries in rural areas are neither sufficient in number nor well-distributed nor well-equipped nor easily accessible to villages. These areas have no charm for young doctors. Consequently the villager's allegiance to quackery remains perpetually strong.

The quacks are, therefore, to be replaced by qualified doctors. A larger number of free and cheap dispensaries should be opened. The public

charity has so far been concentrating in towns, while the villages are left uncared for.

The young doctors should be induced to settle in villages where they may not be in opulence, but they may be able to justify the high calling of their noble profession. They will not only mitigate unemployment in the profession, but relieve the villager from the firm grip of quacks. The provincial governments have taken up rural medical relief schemes and some honorarium is given to such doctors. In Russia rural areas have become more popular. A young graduate is bound to go to these areas for the first year or for three years as the case may be on a reasonable remuneration and concessions according to station are given. Thereafter he can establish himself wherever he likes. It would perhaps stimulate greater interest in India if a certain period of medical work in rural areas is made a necessary preliminary to service and practice in towns. Thus qualified medical help will be made more extensive and its advantages appreciated by the masses, so that their co-operation to any legislation against quackery will be spontaneous.

Since there is no legal restriction on medical practice even unqualified foreigners flock in and set up lucrative practice. Unlike qualified practitioners, they are free to advertise and do all sorts of things to lure patients. This not only affects qualified practice, and makes the competition all the more keen, but gives strong fillip to quackery. Overcrowding and competition, especially with uncontrolled quacks, are bound to lower the standard of efficiency and ethics.

Times are changing with rapidity never before reached in the history of the world and older ideas and conceptions are being replaced by newer ones. The medical profession should be no exception. It is high time that concerted action is taken to stamp out quackery from this land, which instead of alleviating human sufferings inflicts myriads more.

Medical Education of the Future

Sir John Parsons, F.R.C.S., F.R.S.

(Abstracted from *Lancet*, March 2, 1940)

At present the medical curriculum tries to cater to both general practitioners and specialists. The curriculum should be strictly designed to turn out the best type of general practitioner. Many will say that it is impossible to prune the curriculum without disastrous results. This is a fallacy which depends largely on the old fashioned idea that it is impossible to teach applied science scientifically except on an elaborate basis of pure science; yet there are thousands of physicists and engineers who can use the calculus practically without any profound knowledge of pure mathematics, and thousands of people who make good use of instruments the working of which they do not understand.

The fundamental principle which must permeate the whole curriculum is that every subject shall be taught with the ultimate aim of producing a first class general practitioner kept steadily in view. The anatomy and physiology syllabuses should therefore be drastically revised, not by anatomists and physiologists, but by surgeons, physicians and general practitioners who are conversant with the requirements of clinical medicine. It is probable that in these subjects new and carefully expurgated text books would be helpful. The same remarks apply to bacteriology and to a less extent to other subjects. It is, however, in the practical laboratory classes that the most time could probably be saved. This suggestion applies least to anatomy, though even there dissections need not be as minute as is customary and more use might be made of specimens specially prepared to demonstrate anatomic relations of most importance to the general practitioner. More time can be saved in the practical classes on physiology, histology and bacteriology. No general practitioner and very few consultants cut their own sections, make their own cultures or do their own Wassermann tests and there is no good reason why the student should waste his time doing what he cannot do efficiently. The same principle applies to clinical laboratory investigations. The student should be compelled in the first instance to examine patients and make tentative diagnoses without the aid of elaborate clinical laboratory and other tests. Having done so he should learn what further specialist examinations and what special laboratory investigations are indicated for the more complete elucidation of the cases.

GENERAL PRACTITIONERS SHOULD TEACH STUDENTS

The clinical teaching of undergraduate students should be entirely in the hands of those members of the visiting staff who are in active private practice. They at least have some knowledge of how to deal with patients other than the ordinary hospital patient. Even their experience is not ideal for the purpose and it would be an excellent innovation if good general practitioners could be attached to the staff to instruct the students in the routine of general practice and the manifold vagaries of private patients. Only those who have had a few years' experience of general practice can appreciate the inestimable advantage of dealing with patients as a consultant; and only they can realize the *faux pas* which the best of consultants can make in the presence of private patients.

A DEPLORABLE MISTAKE

It was a deplorable mistake by the board of education to put the control of undergraduate teaching in the hands of whole-time units. These should be confined to research work and post-graduate teaching. The unit system is admirable in its proper sphere. It accounted more than anything else for the success of the Johns Hopkins Hospital in Baltimore some years ago, but carried to excess, as it was in that hospital, it inevitably

broke down and had to be modified. In my opinion the whole-time professor should be entirely a research worker and postgraduate teacher. He will therefore belong to the type of man, like the physiologist or other pure science professor, who through love of research is willing to live on a moderate income. It can only rarely be the case that such a man will devote himself to surgery or obstetrics. Hence these should be part-time professors, and the only whole-time ones should be those of medicine and such branches of medicine as attract the same type of man as the physiologist.

The control of medical education should be in the hands of a specially selected council. The qualifying examinations should be confined to the essential requirements of sound general practice, for which purpose it should number among its members general practitioners of wide experience. For the higher postgraduate examinations, committees should be appointed to report to and confer with the council.

SERVICE NOTES

Punjab (P. S. M. S.)—March to May 1940*

Dr. Mohammad Yaqub, granted 30 days extension of leave.
 „ Akhtar Mahmood, General duty, Civil Hospital, Amritsar, temporary S. A. S.
 „ Mohammad Tufail, General duty, Civil Hospital, Amritsar, temporary S. A. S.
 „ Mohammad Sharif Khan, General duty, Civil Dispy., Lahore to Haveli Project, Canal Dispy., Jhang.
 „ Bashir Ahmad Qureshi, General duty, Civil Hospital, Jhelum to Choa Saiden Shah Dispy., Jhelum Dist.
 „ Ved Vias Bedi on expiry of leave to General duty, Civil Hospital, Ludhiana.
 Vid Vias Bedi Ludhiana to Kila Sobha Singh Dispy., Sialkot Dt.
 „ Dayal Singh, General duty, Civil Hospital, Hissar to General duty, Civil Hospital, Karnal.
 „ Abdul Rashid, General duty, Civil Hospital, Gujranwala to Canal Dispy., Kalaski, Gujranwala Dist.
 „ Amar Nath Dua, Canal Dispy., Kalaski, Gujranwala Dist. to Thikriwala Dispy., Lyallpore Dist.
 „ Hori Ram Singh Chandra dismissed from 4th March 1940.
 „ Aziz Bakhsh Mianwal, from leave to Garhshankar Dispy., Hoshiarpur Dist.
 „ Mukund Lal Maria, Garhshankar Dispy., to Sub-Jail Hospital, Kasur.
 „ Sohan Singh, Sub-Jail Hospital, Kasur to Karriawala Dispy., Dist. Gujrat.
 „ Mehr Singh Chawla, Borstal Institution Hospital, Lahore, to Taran Taran Dispy., Amritsar Dist.
 „ Wahid Bakhsh, died while incharge of Vehoa Dispy., D. G. Khan Dist.
 „ Partap Singh, from leave to General duty, Civil Hospital, Montgomery.
 „ Labhu Ram Paul, from leave to General duty, Civil Dispy., Lahore.
 „ Mohammad Shafi, Civil Hospital, Montgomery to Vehoa Dispy., D. G. Khan Dist.

* Received for Publication only on July 28th.

Dr. Mohammad Bashir, Central Jail Hospital, Lahore to Sample Dispy., Rohtak Dist.
 „ Mohammad Tufail, Civil Hospital, Amritsar to Civil Hospital, Batala, Gurdaspur Dist.
 „ Gurbachan Singh Pabla, Civil Hospital, Rupar, Ambala Dist. to Civil Hospital, Ambala.
 „ Ali Mohammad, Civil Hospital, Lyallpur to Civil Hospital, Isakhel, Miahwali Dist.
 „ Devi Dyal Kapur, from leave to Jalalpur Pirwala Dispy., Dist. Multan.
 „ Iabal Singh, Haveli Project Canal Dispy., to Civil Hospital, Jhang.
 „ Gurdial Singh, Jalalpur Pirwala Dispy., to Civil Hospital, Multan.
 „ Gurbachan Singh, from famine duty to Civil Hospital, Rohtak.
 „ Bishan Chand, Civil Hospital, Muzaffargarh, to Civil Hospital, Leiah, Muzaffargarh Dist.
 „ Munshi Singh, Lodhran Dispy., Multan Dist. to Civil Hospital, Multan.
 „ Fazal Azim, granted 2 months extension of leave.
 „ Khushi Mohammad, granted 1 month's leave.
 „ Inderjit Mehta from leave to Shujabad Dispy., Multan Dist.
 „ Mool Chand Ghei, Shujabad Dispy., to Civil Hospital, Multan.
 „ Gurbakh Rai Soni, Civil Hospital, Rupar to Civil Hospital, Ambala.
 „ Gurcharan Singh Pabla, Civil Hospital, Rohtak to Mand Kaula Dispy., Gurgaon Dist.
 „ Rahmat Ullah, granted leave for 30 days.
 „ Diwan Chand Mahendroo, granted for 1 month and 13 days.
 „ Amanat Ali Mufti, Mayo Hospital, Lahore, to S/C Mathra Das Hospital, Moga, Ferozepore Dist.
 „ Wahid Bakhsh, Vehoa Dispy., D. G. Khan Dist. died on 23-3-40.
 „ Partap Singh, from leave to Civil Hospital, Montgomery.
 „ Chuni Lal Sharma, Civil Dispy., Lahore, to Sultanpur, Shahpur Dist.
 „ Abbas Aulad Hussain, Civil Hospital, Gurdaspur Dt. to Sutlej Valley Project Canal Dispy., Ferozepore.
 „ Fakhur-ud-din Khalid, Civil Hospital, Hissar, to Civil Hospital, Fatehabad, Dist. Hissar.
 „ Fadir Chand Sabharwal, Thikriwala Dispy., to Borstal Institution Hospital, Lahore.
 „ Ram Narain Virmani, Lodhran Dispy., to Kot Adu Dispy., Muzaffargarh.
 „ Amanat Ali Mufti, Mayo Hospital, Lahore to S/C Mathra Das Hospital, Moga, Ferozepore.
 „ Mohammad Yaqub, from leave to Dajal Dispy., D. G. Khan Dist.
 „ Kesar Singh, Hansi Dispy., to Civil Hospital, Sheikhupura.
 „ Thakar Das, retired on 1-4-40.
 „ Ramazan Ali, Zira Dispy., Ferozepore Dist. to General duty, Civil Hospital, Ludhiana.
 „ Abdur Rashid Khan, Mayo Hospital, Lahore, to Central Jail Hospital, Lahore.
 „ Harbhagwan Das, retired on 11-4-40.
 „ Chuni Lal Sharma, Civil Dispy., Lahore, to Canal Dispy., Sultanpur Dt.
 „ Jagan Nath Gosain, from leave to Civil Hospital, Sheikhupura.
 „ Jagan Nath Gosain, Sheikhupura to Phuklien Dispy., Sialkot Dist.
 „ Sohan Singh, Sub-Jail Hospital, Kasur to Kharianwala Dispy., Gujrat Dt.
 „ Abbas Aulad Hussain, Batala to Canal Colony Dispy., Ferozepore Dist.

Dr. Gurbakhsh Rai, Ambala to Civil Dispy., Rewari Gurgaon Dt.
 „ Ram Chand Dhupar from leave to Civil Hospital, Campbellpur.
 „ Partap Singh, Civil Hospital, Montgomery, to Pindigheb Dispy., Attock Dt.
 „ Rahmat Ullah, from leave to Civil Hospital, Amritsar.
 „ Mool Chand Ghei, Civil Hospital, Multan, to Civil Hospital, Shorkot, Dt. Jhang.
 „ Lal Din, Moghalpura, to Shakargarh Dispy., Gurdaspur Dist.
 „ Abad Ullah, granted 14 days leave preparatory to retirement.
 „ Mohammad Abdullah, Civil Hospital, Multan to Borstal Institution Hospital, Lahore.
 „ Bakhshish Singh Dhillon, M.B. B.S. Civil Hospital, Ferozepore, engaged as a temporary S. A. S.
 „ Iqbal Hussain, Jullundur, to Jagraon, Ludhiana Dt.
 „ Abdul Ghafur, Rohtak to Civil Hospital, Amritsar.
 „ Harcharan Singh, from Famine Relief Work to Civil Hospital, Rohtak.
 „ Umar-ud-din, Mandkaura to Khudian, Ferozepore Dt.
 „ Bahadur Chand Setia, Gojra to Kahrur, Multan Dt.
 „ Purshotam Singh, Civil Hospital, Jhelum, temporary S. A. S.
 „ Mohammad Akram Khan, Civil Hospital, Jullundur, temporary S. A. S.
 „ Diwan Chand Mahandroo, Jhang to Jail and Police Hospital, Jhelum.
 „ Rattan Chand, from famine duty to Civil Hospital, Montgomery.
 „ Nawab Ali Qureshi, Hoshiarpur to Nurpur Dispy., Hoshiarpur Dt.
 „ Bashir Ahmad Qureshi, Choa Sadan Shah Dispy., Jhelum Dt. to Seasonal Dispensaries, Murree.
 „ Jai Gopal Behl, Borstal Institution Hospital, Lahore to Khangamh Dogran Dispy., Sheikhupura Dist.
 „ Chakar Dhari Mehta, Civil Hospital, Gujrat to Police and Sub-Jail Hospital, Gujrat.
 „ Maqbool Hussain, granted leave for 21 days.
 „ Arur Chand Bhasin, Civil Hospital, Gujranwala to City Branch Dispy., Gujranwala.
 „ Jeswant Rai, retired on 15-4-40.
 „ Mulk Raj, granted 4 months' leave.
 „ Iqbal Singh, Civil Hospital, Jhang, to Jail, and Police Hospitals, Jhang.
 „ Dina Nath, Chadda, Mayo Hospital, Lahore, to Punjab Mental Hospital, Lahore.
 „ Abdur Rashid Khan, Mayo Hospital, Lahore, to Central Jail, Lahore.
 „ Nand Lal Sharma, Raiwind Dispy., Lahore Dt. to Mayo Hospital, Lahore.
 „ Mohammed Ayyub Khan, from leave to Kadirabad Dispy., Gujrat Dist.
 „ Sita Ram Mohan, Civil Hospital, Gujrat to Canal Dispy., Chikori, Gujrat Dt.
 „ Gobind Ram, Jail and Police Hospital, Jhelum to Najafgarh Dispy., Delhi Province.
 „ Fakhur-ud-din Khalid, Fatehabad to Suniana, Hissar Dt.
 „ Ali Mohammad, Isakhel to Gojra.
 „ Abdul Ghafur, Rohtak to Civil Hospital, Amritsar.
 „ Girdhari Lal Bawa, Civil Hospital, Amritsar, temporary S. A. S.
 „ Rattan Chand, Montgomery to Sidhnai, Multan Dt.
 „ Ram Gopal Bhatla, to Bhalwal Dispy., Shahpur Dist.
 „ Ugger Sain, Lahore to City Branch Dispy., Gujranwala.

Dr. Niaz Ahmad Harry, Gurgaon to Manjhauli Dispy., Dt. Gurgaon.
 „ Kesho Ram Nanda, Najafgarh Dispy., to Shri Narain, Delhi.
 „ Des Raj, Rohtak to Anandpur Dispy., Hoshiarpur.
 „ Abdur Razan Faruqi, Lalgarh, D. G. Khan Dt. to Sitapur, Muzaffargarh Dist.
 „ Imdad Ali, Dajal, D. G. Khan Dt. to Daska Dispy., Sialkot Dist.
 „ Fazal Din, from leave to Police and Jail Hospital, D. G. Khan.
 „ Sher Mohammad Akhtar, Police and Sub-Jail Hospital, D. G. Khan to Civil Hospital, D. G. Khan.
 „ Sohan Lal Chopra, Sitapur to Muzaffargarh.
 „ Munshi Singh, Multan to Manawala, Sheikhupura Dt.
 „ Ghulzar Ahmad, Civil Hospital, Ludhiana temporary S. A. S.
 „ Shiam Sunder, Civil Hospital, Hissar, temporary S. A. S.
 „ Sham Lal Bawa, from Delhi Prov. to Civil Hospital, Ambala.
 „ Hans Raj Sethi, granted 4 months leave.
 „ Chand Narain, invalided out of service from 3-5-40.
 „ Ram Chand Dhupar, Campbellpur to Sakesar.
 „ Faqir Chand Sethi, granted 1 month's leave.
 „ Zamir Hassan Kashmiri, Civil Hospital, Montgomery, temporary S. A. S.
 „ Parmanand Khanna, from Delhi Province to City Dispy., Ludhiana.
 „ Karam Singh, Multan City Dispy., to General duty, Multan Civil Hospital.
 „ Harcharan Singh, Rohtak to Bhatinda.
 „ Mohammad Yunis, Ferozepore Jhirka to Lahore.
 „ Tirath Ram Asra, from leave to Canal Dispy., Mohlan.
 „ Bal Mokand, Lahore, to Sillanwali, Shahpur Dt.
 „ Swami Saran Mehta, Civil Hospital, Ferozepore to Dt., Jail Hospital, Ferozepore.
 „ Mohammad Akram Khan, Jullundur to Ambala.
 „ Kidar Nath Datt, Sialkot to Lahore.
 „ Sham Sher Singh, Manawala to Civil Hospital, Sheikhupura.
 „ Amir Chand Soneja, granted leave for 30 days from 4-5-40.
 „ Suraj Kaul Bakhshi, Mayo Hospital, Lahore, proceeded to England on deputation for further training as anaesthetist.
 „ Ram Nath Sood, Hissar to Gurgaon.
 „ Kanshi Ram, Barwala, Hissar Dt. to Civil Hospital Rohtak.
 „ Umrao Singh, Narot Dispy., granted 3 months leave.
 „ Diwan Chand from leave to Narot Dispy., Gurdaspur Dt.
 „ Mohd Akram Khan, Civil Hospital, Ambala to Sadhaura Dispy., Ambala Dt.
 „ Harbhagwan to Civil Hospital, Ambala.
 „ Sher Mohd. Akhtar, Civil Hospital, D. G. Khan to Fazilpur Canal Dispy.
 „ Mohd. Hussain, Chikori Gujrat Dt. to Gojra.
 „ Bishan Chand Bhatia, Leiah Civil Hospital, to Rangpur Dispy., Muzaffargarh Dt.
 „ Hans Raj, Balachaur, granted 4 months leave.
 „ Phan Raj from leave to Nurpur, Hoshiarpur Dt.
 „ Maqsood Hussain, Lahore to Amritsar, temporary S. A. S.
 „ Zamir Hussain Kashmiri, Civil Hospital, Montgomery to Gamber, Montgomery Dist., temporary S. A. S.
 „ Akhtar Mahmood (temporary) Amritsar to Ferozepore.
 „ Harcharan Singh, Rohtak to Bhatinda.

Dr. Maqbul Hussain, from leave to Police and Sub-Jail Hospitals, Gujrat.
 „ Parshotam Singh, (temporary) Jhelum to Rawalpindi.
 „ Shiam Sunder (temporary) Hissar to Gurgaon.
 „ Mohd. Akram Khan, Jullundur to Ambala. (temporary S. A. S.)
 „ Imad Hussain, Amritsar, granted leave for 30 days.
 „ Swami Saran Mehta, Ferozepore to Gagret.
 „ Bakshish Singh (temporary) Civil Hospital to Dist. Jail Hospital, Ferozepore.
 „ Inayat Ullah Khan, Sillanwali to Lahore.
 „ Ram Gopal Bhatla, Bhalwal to Delhi.
 „ Bhim Sain Sahni, Narila Dispy. to Sadar Bazar Male Dispy., Delhi.
 „ Abdul Ghani, Kunjpura, Karnal to General duty, Delhi Province.
 „ Niaz Ahmad Harry, Civil Hospital, Gurgaon to Manjhauli Dispy., Gurgaon Dt. (temporary S. A. S.)
 „ Nawab Ali Qureshi, Burpur to Balachaur Dispy., Hoshiarpur Dt.

Bengal (P. S. M. S.)—15. to 30th April, 1940

Dr. Benoy Bhusan Chakraverty, Police Hospital, Jessore, to Jhendiah Dispy., from 16-8-39 to 2-10-39.
 „ Saroj Bandhab Ghosh, held charge of Feni Sub-dyn. and Dispy. from 1-1-40 to 22-8-40.
 „ Shyama Charan Pal, Campbell Hospital, Calcutta, to Sadar Hospital, Bankura.
 „ Sarada Prasanna Mazumdar, Bankura to Campbell Hospital, Calcutta.

ASSOCIATION NOTES

[The proceedings printed below refer only to the Committees and Branches of the A. I. M. L. A. unless otherwise stated.]

Resolutions passed by the Standing Committee of the A. I. M. L. A. at its meeting held on the 15th and 16th July, 1940, at Bombay.

• Resolution No. 1. Regarding the question of recruitment of medical licentiates for emergency military medical service this meeting of the Standing Committee of the All-India Medical Licentiates' Association resolves as follows:

(1) That the status and emoluments offered to the medical licentiates have been reported upon by the regional Branches of the Association as utterly unattractive and unacceptable and even fall far short of the terms offered during the last war of 1914-18.

(2) That in view of such an opinion from the Branches this Committee considers that the present terms of recruitment are so meagre and unsatisfactory as would not evoke any response from the Medical licentiates inasmuch as their present educational standards are more or less equivalent to the medical graduates who are offered the King's Commission in the I. M. S., with fair emoluments, and as their practice will be left unsecured and unprotected during their absence on military duty.

(3) This Committee therefore urges upon the Government the necessity of instituting Military Assistant Surgeon Branch of the Indian Section of the Indian Army for the purpose of allotting it to medical licentiate recruits under 10 years of service or practice on a graded scale of pay of Rs. 250-15-450, leading to the conferment of King's Commission.

(4) In the case of licentiates of the standing of 10 years and over in the medical register, in service or in private practice, who may be called for military duty, they may be

directly recruited to the temporary I. M. S. cadre (emergency Branch) with King's Commission in consideration of the experience they have already acquired.

(5) The Committee considers that, if the Government accepts the above suggestions, it would enable the Association to recruit the needed medical personnel with greater ease and effect than would be possible otherwise."

Resolution No. 2. "Reference item No. 2 in the Agenda of the Standing Committee meeting held on the 15th July 1940, it is hereby resolved that Circular No. 35 dated 17-9-1939 be cancelled."

Resolution No. 3. "Regarding item No. 3 it is hereby resolved by unanimous consent of the house that it be removed from the agenda of the meeting under reference."

Resolution No. 4. "Regarding item No. 4 it is hereby resolved that the Secretary of the Rules Sub-Committee be requested to send at the earliest period all the suggestions and amendments in respect of the Rules and Regulation of the Association, which were so far unpublished in the Journal, to the Journal for publication in its issue of September 15, 1940."

Resolution No. 5. "Reference item No. 5, resolved that this Committee sanctions the expenditure of its meeting held in Bombay on the 15th and 16th July 1940."

Resolution No. 6. (1) "The Standing Committee of the All-India Medical Licentiates' Association reiterates and reminds the Family Fund that the latter is owned by the Mother Association and that any decision on the subject of changing the purpose of the Family Fund or for any such purpose should be communicated to the All-India Medical Licentiates' Association for its ratification.

(2) Considered the resolution of the last General Body Meeting of the Family Fund, this Committee hereby resolves to ratify the same, and to communicate this ratification to the Working Committee of the Family Fund."

Resolution No. 7. "Item No. 7 on the agenda was approved."

Resolution No. 8. "Item No. 8 on the Agenda be deleted."

Resolution No. 9. (1) Considered the subject of execution of the decree against Dr. S. P. Sen Gupta; it is hereby resolved that the Legal Adviser of the Association may be empowered to hand over the work of execution of the decree to a recognised attorney in Bengal on a commission not exceeding 10% on the actual amount recovered; and any necessary advance or payment to the attorney for this purpose may be given to him with the sanction of the Finance Committee.

(2) Audit report was read and recorded with explanations of the office-bearers concerned.

(3) The Standing Committee confirms the resolutions of the Property Committee regarding the purchase of G. P. Notes by the President and Treasurer through the Post Office and Punjab National Bank respectively."

Resolution No. 10. "In view of the remarks made by the Government of U. P. with reference to the deputation which waited on them, the Standing Committee resolves that a deputation consisting of (1) Dr. D. V. Venkappa, (2) Dr. Kunj Behari Lal Verma, (3) Dr. A. D. Mukherjee, (4) Dr. Ram Narain Lal (Rai Sahib), (5) Dr. U. B. Narayana Rao (and to co-opt Dr. Manohar Lal Kapur and other local members of our Association in Punjab if necessary) to wait on the President and the Members of the Indian Medical Council during its next session which is likely to be held in October at Delhi; that the members of the deputation be directed to urge on the President and the members of the Indian Medical Council to suggest to the Government of India to amend the Indian Medical Council Act so as to include medical licentiates within the purview of the Indian Medical Council Act and to rectify the other defects in the existing Act; and that the cost of the deputation by way of T. A. be sanctioned."

Resolution No. 11. "The Standing Committee requests R. B. Dr. Hari Ram to kindly expedite the transfer of G. P. Notes from the Punjab National Bank to the present President of the Association."

Copy of resolution No. 3 of 1940 passed by the members of the Standing Committee (by correspondence), vide Circular No. 12, dated 22-5-40.

"Resolved that a sum of Rs. 45-12-0 be sanctioned for the bill of Omera Gold Medal through the Provincial Secretary U. P. and to acknowledge receipt in payment of the same through him."

Votes for:—	12	
Against:—	3	(Sd.) D. V. VENKAPPA,
Total	15	President A. I. M. L. A.

Tinsukia (Assam): Ordinary meeting held on 19-5-40 with Dr. D. C. Chakravarty in the chair. 9 members were present.

The grievance of Assam Tea Garden A. M. Os. was fully discussed and the Joint General Secretary was given to understand that this Branch will reconsider the matter in the next meeting.

Monthly accounts for the months of February, March and April 1940 were passed for payment.

Saran (Bihar): Monthly meeting held on 5-6-40 with Dr. N. Ray in the chair. 6 members were present.

Resolved that the annual subscription for the Indian Medical Journal be not lessened to Rs. 3.

Muzaffarpur (Bihar): Meeting on 17-6-40 with Dr. N. N. Gupta in the chair. 5 doctors were present.

Office-bearers for 1940: Dr. N. N. Gupta—President, B. C. Sarkar—Secretary, H. V. Ansari—Jt. Secretary.

Resolved that the Secretary is requested to make arrangements for getting more members for the Association.

Nadia (Bengal): Monthly meeting held on 9-6-40 with Dr. K. R. Roy in the chair. 8 members were present.

Minutes of the last meeting read and confirmed.

Branch accounts were examined and passed.

Several clinical discussion on Filaria and other worm infections took place.

Burdwan (Bengal): Meeting held on 7-7-40 with Dr. S. C. Maitra in the chair. 5 members were present.

Read and confirmed the proceedings of the last meeting held on 8-3-40.

Considered the Prov. Secretary's letter No. 102/40C of 3-7-40:

(1) Unanimously resolved that the Secretary be requested to inform the Prov. Secretary that an attempt was made by the above Branch to approach the medical licentiates of this district for recruitment to the emergency branch of the Indian Medical Department. Advertisements were made in the local vernacular weekly papers to this effect. Enquiries also came, but they were not willing to accept the offer on conditions prescribed by the Government.

Further resolved that this Branch is of definite opinion that the terms and conditions of the services should be made more liberal and attractive as the medical licentiates could not be attracted to military service even though they are under the stress of acute unemployment.

(2) A sum not exceeding Rs. 5,000 be invested in the interest free loan and a sum not exceeding Rs. 10,000 be invested for the purchase of war loan at the prevailing rate of interest. This Branch is further of opinion that the Finance Committee should have final opinion in the matter of disbursements.

(3) Re. Family Fund, this branch is definitely of opinion that the project of launching an insurance company out of the existing Family Fund be finally dropped and the money be distributed equitably amongst the subscribers.

(4) Secretary of the Branch and Dr. Satya Charan Maitra were unanimously elected as representatives to the Prov. Standing Committee.

Monthly accounts from March to June 1940 amounting to Rs. 2-3-6 were passed.

Jambusar (Bombay): Meeting held on 19-5-40 with Dr. B. G. Dangerwala in the chair.

It was resolved to start a Branch here and 11 members joined it.

Drs. J. M. Shah and S. N. Nanavati were elected as Chairman and Hony. Secretary for the current year.

Punjab Prov. Branch. Working Committee meeting held on 30-6-40.

Resolved that with a view to form a defence committee for safeguarding the interests of the members in the event of their being involved in a departmental or judicial enquiry in the discharge of their professional duties, the Prov. Secretary be requested to collect the necessary data from various sources within two months and circulate amongst the members of the Working Committee for information and opinion.

Nainital (U. P.): Meeting held on 25-5-40 with Dr. I. N. Gangola in the chair. 10 members were present.

Office-bearers for 1940: Dr. Indra Lal Gangola—President, Dr. Shri Nath Singh—Secretary.

Resolved that the medical licentiates who are not members of the Association be requested to become members of this Association.

Resolved that the Provincial Secretary, U. P. Branch, A. I. M. L. A., be requested to obtain the copy of a G. O. if any, re-the debarring of the P. S. M. S. officers who have got only five years to retire from the service from promotion to the P. M. S.

2. Meeting held on 20-6-40, 5 members were present.

Proceedings of the last meeting were read and confirmed.

After a careful consideration of the Agra Medical College Scheme, this Branch resolved. (1) that all licentiates below the age of 40 years be permitted to join the Agra Medical College in the fifth year and be allowed to sit for the final M. B. B. S. examination. (2) that those licentiates who are over 40 years of age be allowed to join the College for one year as above for training, at the end of which they should be granted the requisite Honorary M. B. B. S. degree on similar lines as are prevalent in the Western countries.

Also resolved that all licentiates who volunteer for military service be granted the emergency King's Commission and this Branch appeals to the General Secretary that this vital question be taken up for immediate action.

Jullundur (Punjab): Meeting held on 7-7-40. 6 members were present.

Proceedings of the previous meeting were read and confirmed.

Resolved that the Provincial Secretary, Punjab Branch, through the General Secretary, be requested to arrange for a deputation, to wait upon the I. G. C. H., Punjab and the Honourable Minister for Education, Punjab to explain to him in detail the grievances of rural medical officers in the Punjab, the touring scheme and the transfer of some dispensaries to Health department apart from the already existing grievances of this class.

Dr. Dal Singh explained in detail the proceedings of the Working Committee meeting of the Punjab Branch which took place at Lahore at Dr. Megh Raj Chada's residence on 30-6-40.

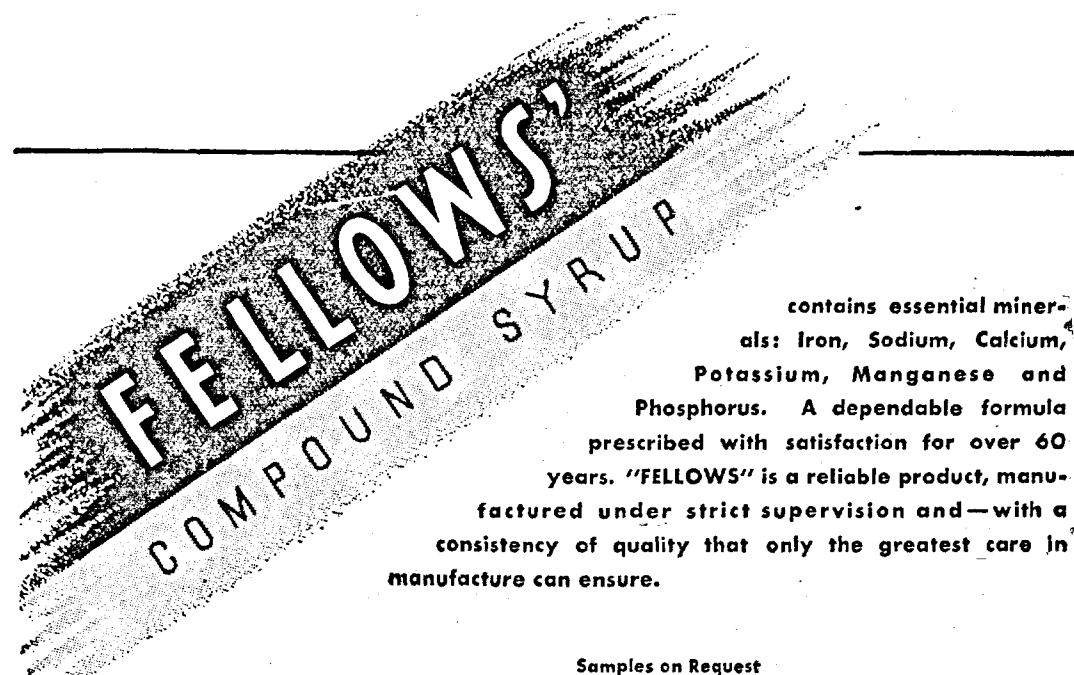
Resolved that the Joint Provincial Secretary be requested to issue an appeal to each and every rural medical officer in Punjab to become members of the Association.

Jorhat (Assam). A meeting of the Jorhat branch, A. I. M. L. A. held in the premises of B. B. Civil Hospital at 7-30 P. M. on Wednesday, the 3rd July, 1940.

Dr. A. Hakim was in the chair.

1. Read and confirmed the minutes of the last meeting.

2. Read the letter from the Registrar, Assam Medical Council No. 294 M. C. dated 12th May, 1940, and the Secretary is requested to send a copy of this to each member of Jorhat Branch for information.



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THE Indian Medical Journal SPECIAL CONCESSION TO NEW MEMBERS

The Association has decided to observe the ensuing September as Dr. S. L. Sharma's Memorial Month in token of his great services to the medical licentiates. Those who enlist themselves as members with effect from this month would be allowed to do so at the concession rate of Rs. 4/- per annum, without the usual admission fee of Rs. 2/-.

Vol. 34 || MADRAS : Aug., 1940 || No. 8

The Care of Convalescence

The care of convalescence is a part of medical science, but very few of our medical men are well trained and equipped to deal adequately and efficiently with the subtle and complex problems of convalescence.

For a long time, we did not respond to the call of preventive medicine. But the avenging hand of time and the none too rosy prospects of curative medicine compelled us to devote greater attention to prevention than cure, not because curative medicine is not needed or less beneficial but because preventive medicine offered the greatest good for the greatest number. So it is now with the care of convalescence.

Each of these aspects of medicine has its own place and importance. Preventive medicine is intended to protect society. Curative medicine is intended to deal with the patient.

The care of convalescence is intended to deal with the person and to restore him to normal health after he ceases to be a patient. It is no use to neglect the one at the cost of another, and unless we realise the significance and importance of these three important phases of medicine its development is bound to be lopsided, and its benefits less comprehensive.

That convalescent care is a much too neglected phase of the treatment of the patient needs no proof. Little or nothing is taught about it in the medical schools and colleges. No hospitals in India, not even the big city hospitals, have got a convalescent ward, and the rush for admission into these hospitals is so great that premature discharge of patients is the rule rather than an exception. The primary interest of the practitioner is his patient in illness, and not in convalescence. Changes of air, rest, tonic and diet are the usual regimen prescribed during convalescence without any detailed and careful study of the recovered patient and his environment. Pepper¹ thinks that this careless and contumely attitude is due, first, to an over-emphasis on the psychological aspects of convalescence; second, to a natural falling off of the interest once the patient has recovered from illness; third, to the grouping together under one term, convalescence, of a great variety of different states arising from different diseases, emotional shocks or surgical operations.

In America they have 8000 convalescent beds, which Woodruff² considers as too small a provision. In our country, neither the patient, nor his doctor, nor his hospital is worried about the nature and the successful termination of his convalescence. It is no wonder therefore that if once our patient has recovered from serious illness his convalescence is so ill-cared for that he becomes a subject to frequent attacks of one kind of illness or other, not to say of the economic loss and family unhappiness.

There is yet another loss in the neglect of convalescence. We lose the opportunity of studying it as a special and important branch of medical science, and we therefore make no contributions towards organised convalescent care, towards developing standards of convalescent treatment with reference to the patient's previous disease and his present environment, and towards the evolution of

1. Physiology and psychology of convalescence. *Bulletin of the N. Y. Academy of Med.* Feb. 1940, p. 98.

2. Present-day concepts of convalescent care *Jr. A. M. A.* Feb. 10, 1940, p. 461.

proper concepts of convalescence. The neglect of this study is a great academic loss, and the profession thus misses many an opportunity to carry the knowledge of medicine to its logical conclusion.

The easy going complacency towards convalescent care is due to the unthinking attitude that it is a single entity, due to a common cause and amenable to a common standard of management. This concept is absurd, since experience has shown that each disease results in a type of convalescence which requires special study and appropriate attention. What is more, different individuals recovering from some illness would present different problems of convalescence, since they may differ in age, in the severity and duration of the disease undergone, in their nutritional histories and in the nature of their employment and environment.

It is thus obvious that convalescence is an individual problem and does not easily permit of broad generalisations.

The field of convalescence is practically unexplored. It is time that greater attention is paid to it for the sake of the patient and of the wholesome development of medicine.

While we urge the practitioners to devote attention to convalescence, we would strongly suggest at the same time opening of convalescent wards in at least the teaching hospitals. That would be a modest beginning, and further developments may be left to the future. It is amazing how we in India allow ourselves to be trammelled by indifference and even laziness in matters vital to the even progress of medical science. It is stultifying to shine in borrowed feathers.

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CURRENT COMMENTS

Sterilization of Syringes and Needles

We revert again to this trite subject because of its general importance, and equally of its general neglect. We wrote in these columns³ pointing out the errors and dangers of the current methods of sterilizing the injection outfit in general practice, and how the structure of the practitioner's make-beliefs fell to pieces by the investigation of Briggs and his colleagues who erected a strong case against alcohol as disinfectant⁴. Our contemporary the *Indian Medical Gazette* expresses the same opinion in its May editorial, and Briggs has contributed again an exhaustive article on sterilization of syringes and needles⁵.

We are glad to note that he confirms our view that, in the absence of lack of facilities for autoclaving, sterilization by heat for over 15 minutes in a water bath is the only feasible method. He suggests further that two separate outfits should be kept: one for injection of therapeutic drugs, and the other for drawing pathological fluids for bacteriological examination. This is indeed a sound suggestion, and we hope that the practitioners would not mind a little loss of time entailed in meticulous methods of sterilization rather than to increase anxiety to themselves and risk unsafety to their patients by adopting a rough and ready method of sterilizing their syringes and needles. It is no good to fly in the face of scientific verdicts, and part with reason and reality in the name of convenience and expediency.

Sulphanilamides per Rectum

Marino and his colleagues⁶ suggest rectal administration of sulphanilamides in such cases where oral administration is impossible owing to vomiting or nausea. Their investigations reveal that the drug is well absorbed from the rectum and does by no means injure the mucus membrane of the normal rectum and colon. They have successfully employed the rectal administration in the treatment of the ano-rectal and glandular manifestations of venereal lympho-granuloma. They are also continuing their studies on the effectiveness of sulphanilamide administered rectally in bacillary dysentery. It is probably too early to comment on the work of Marino, particularly

3. June 1939, p. 236.

4. *Br. Med. Jr.*, Jan. 20, 1940, p. 79.

5. *Br. Med. Jr.* April 6, 1940, p. 582

6. *Med. Times*, March 1940, p. 110.

in the absence of definite knowledge as to the mode of action of sulphanilamide. We know it has been successfully used locally in certain eye diseases, notably trachoma; but we know also that it has no local effect on the urethral mucus membrane affected by gonorrhoea. Besides, the drug is so toxic that we cannot afford to risk adopting a method by which it is difficult to regulate the dose inasmuch as absorption from mucous membrane is a variable factor.

Common Mistakes of Surgery in India?

Palit's book, by virtue of its ambiguous caption, may give the impression that we on this side are prone to the commission of mistakes which our compeers in the West avoid with scrupulous care. Mistakes of surgery as well as of medicine are in no way peculiar to our country. What Palit aims is to unmask the common mistakes and to show that they are chiefly due to the fact that *teaching of clinical and practical surgery in many of our medical colleges and schools is often neglected and leaves much to be desired*. This is a serious indictment of our system of medical education, which owing to its foreign control and influence, aims at apishness without reference to environment and accomplishes nothing more than helping to cross the hurdle of an examination based on extra-Indian textbooks and experiences. With such an inheritance of teaching, our mistakes in surgical and medical practice are bound to be common and frequent, and the profession would therefore heartily welcome Palit's contribution to mend matters a little and thus rouse the educational authorities to do a little more of real and practical teaching than preach a mere sermon at the bed-side. He points out to both mistakes in belief and mistakes in practice. His book covers a wide range of surgery, including anaesthesia and gynecology. As an example of the former he points out that it has been wrongly taught for many years that ether anaesthesia cannot be safely used in India.

Thus he has stepped into the breach voluntarily, and has dared to perform the unpleasant and unenviable task of exposing the common mistakes in surgical practice, mostly due to defective teaching and partly to unthinking attitude of the practitioners. We admire the brevity of the book and boldness of expression and we have no doubt that it will be read with great interest and no little profit.

7. By A. N. Palit, First Edition, 1940. The Book Company Ltd., Calcutta, Price Rs. 5.

The Out-door Department

The Government of Bengal have decided that the out-door departments of all State Hospitals in its Province should remain closed except for very urgent cases, on 58 days in a year inclusive of all Government holidays. This is good so far as it goes, but we wonder whether the time has not come in our country to close the O. P. D. altogether. Before the war, the opinion in Great Britain was that the O. P. D. robbed the field of work which legitimately belonged to the general practitioners. If in a country where 19,000 doctors find a secure income under the Health Insurance Scheme, where there are private Health Insurance Companies which afford a decent income to many practitioners, where employment in Research and Public Health work is available, and from where not an inconsiderable number are drawn for Colonial Service, the out-patient department is considered as an encroachment on the legitimate avenues of work of the general practitioners, there is little or no reason to continue to nurse the O. P. D. in our country where our practitioners have nothing to choose except a grim struggle for existence. They have no health insurance to take advantage of. They have no other organisation, private or State-aided, to help them to practise their profession and earn their honest wages. Under these circumstances, the O. P. D. has been found to denude the practitioners of all reasonable chances of practice among a population which is not indigent but which has learnt the trick of getting free treatment from Government hospitals. We recognize the need for O.P.D. in so far as it is necessary as a feeder for the indoor. But this can as well be done by the general practitioners who would be quite willing to undertake the responsible task of recommending cases fit for institutional treatment. As it is, the O. P. D. does neither fully serve the patient nor the hospital, and its disadvantages are greater than its advantages. It is a costly appendage. It has become a hot-bed of nepotism. Although it was originally intended as a centre for free treatment of the poor, it has yet actually become an institution for the benefit of the middle and the rich classes of the community. The practitioners are thus pilfered and pilloried, of course without intention and without realising the serious consequences of such lopsided arrangements of medical relief. The Government knows this evil but is unable to extricate itself from the barren and negative policy of inaction, and to apply the available remedies to rectify the congenital deformities

Our Amercian Letter

(From our own correspondent)

FIVE-DAY TREATMENT FOR SYPHILIS

A new Five-Day Treatment for Syphilis has been discussed at a conference of 200 public health officials and syphilis specialists in New York's Mount Sinai Hospital. The committee which has supervised the work under the chairmanship of Dr. Ch. C. Lieb, Professor of Pharmacology at Columbia University, summed up the findings as follows: "It is the opinion of the committee that the results warrant employment of this therapeutic technique in other well-organized hospitals."

The new treatment in which the administration of a massive dose of the curative drug is made possible by a technique called "the continuous slow intravenous drip" was initiated in 1933 by Drs. H. Th. Hyman, L. Chargin and W. Leifer. They reported that 85 per cent of the patients had shown no recurrence after a single five-day treatment. Of the remainder some responded after a second treatment three months later. Although the new method requires treatment in a hospital by competent experts, its advantage is that it reduces the period of treatment from an average of 18 months to 5 days. It takes the infected out of contact with other people and returns the majority to their homes free of the menace of transmitting the infection to others.

The experimenters at first used neoarsphenamine, No. 914 in the Ehrlich series; but it was decided that the toxicity of this arsenical compound was still too great for safety. The group then reverted to arsenoxide, one of the earliest preparations employed by Ehrlich. He had discarded that drug because in his time it could

in organizations for medical relief and medical administration. The continuance of the O.P.D. in the present form is therefore an anachronism, and the purpose for which it is intended is certainly capable of being achieved by a more equitable arrangement than is obviously the case at present. In the absence of organized efforts to help the practitioners, the least that could be done for the benefit of the harassed profession is the abolition of the O. P. D., or at any rate restricting it to the exclusive use of really indigent people. The position of the general practitioner is too miserable for words except in the case of effortful individualities who have been able to overcome the obstacles partly by overwhelming merit and partly by sheer luck. But the rank and file needs immediate relief from the Government and the public. That this could be done to the mutual advantage of all concerned is not open to dispute or doubt, and that there are many ways of doing this is equally obvious to those who have studied the modern method of organizations for an effective and comprehensive medical relief.

not be produced commercially in stable form. Such production has now been accomplished under the trade name of "mapharsen". With the use of this product, several hundreds of patients were treated without any harm. Their age ranged from 13 to 56. Half of the numbers were whites, there were several Chinese and the remainder were negros.

As practised at Mount Sinai Hospital, the needle is inserted in a vein of the forearm at 8 A.M. the first day. The drip is adjusted so that the diluted sugary solution of mapharsen flows into the blood at the slow rate of approximately three cubic centimeters a minute. After 8 or 10 hours the day's entire dose is used up, the needle is removed and the patient may get out of bed. Next morning the procedure begins again, using a vein in the other arm. During the five days that this continues, the patient's blood is frequently analysed.

These analyses have shown that by the fourth and fifth day the concentration of arsenic in the blood rises to about one part in three million. It is this concentration that kills the spirochaetes.

By this continuous intravenous drip about ten quarts of the curative solution, containing dissolved in it about one gram of the powerful arsenoxide drug, is passed into the patient's blood during the five-day treatment. Nothing nearly approaching that quantity of drug can safely be administered at one time by the usual method of injection. Some patients, said Dr. Hyman, need a second five-day treatment after several months. The entire course costs only \$ 82 a patient, as contrasted with an average of \$ 300 for the standard 18 months of arsphenamine injections.

FATAL EXPLOSION OF ANÆSTHETIC GAS

An explosion of cyclopropane gas, a commonly used anæsthetic, in the rubber pressure bag of an anæsthetic unit caused the death a few hours later of a patient who had entered the hospital for a minor gynecological operation. Explosions of anæsthetic gas have been extremely rare in the modern practice of medicine. The explosion was probably due to a static park in the closed anæsthetic circuit which had exploded the highly inflammable but medically safe and efficient anæsthetic. The detonation burst the rubber pressure bag into fragments and broke the glass cover of a dial on the anæsthetic unit. Nobody seemed to be injured, however, and the surgeon went ahead with the operation and completed it within ten minutes.

About an hour and a half later, however, the patient showed signs of shock and died immediately. The autopsy revealed that the patient's trachea was ruptured, and the bronchi also had burst. The explosion apparently had forced the anæsthetic into the trachea with such force as to cause the rupture. The anæsthetizing unit had passed rigid tests by the Society of Anæsthetists and by the fire underwriters' organization.

COMPARATIVE COSTS OF DRUG THERAPY OF EPILEPSY

For patients who must use a drug for an indefinite number of years and whose earning capacity is seriously impaired, the cost of treatment is an important consideration. William G. Lennox, Department of Neurology, Harvard Medical School, Boston, in a report on the modern drug therapy of epilepsy, gives a survey on the comparative costs. The poor patient who must buy on a hand to mouth basis pays per tablet ten times as much for a few tablets as he would pay for 1,000. A given amount of phenobarbital costs five times more in quarter grain than in 1½ grain tablets. The drug therapy of epilepsy need not be expensive—less than \$ 3 a year,

Phenobarbital is cheaper than bromides, and tablets are much cheaper than solutions. Striking is the three-fold premium paid yearly for the trade name Luminal. The following table shows, according to Lennox, the comparative yearly cost of drugs used for epilepsy.

Preparation	Quantity bought	Daily Dose	Cost per Year
Phenobarbital, 1½ grain tablets	100	0.75	1½
Sodium bromide, 10 grain tablets	1000	2.00	45
Luminal, 1½ grain tablets	50	1.25	1½
Sodium bromide solution	6 oz.	0.80	45
Dilantin sodium, 0.1 Gm. capsules	100	2.00	0.3
Phenobarbital elixir	16 oz.	1.50	1½
An "epilepsy cure" (including cathartic and other important ingredients)	4 wks. supply	Unknown	50.00

Phenobarbital (plus other unimportant drugs) sold by a mail order drug concern costs 18 times as much as undisguised phenobarbital. More than any other group of patients, those with epilepsy are subject to a barrage of form letters from proprietary drug companies which promise to cure the disease or refund the money. 38 of these cures have been analysed; the principal drug is bromide or phenobarbital, usually the latter.

OPIUM AND WAR

According to official reports, opium and its derivatives are now available in the United States in quantities sufficient to meet legitimate medicinal requirements for about three years. Disturbed conditions in Europe and the Orient afford, therefore, no justification for purchasing and hoarding supplies of these drugs, either by physicians, hospitals, wholesale druggists or pharmacists. Narcotic peddlers, however, who cater unlawfully to addicts, seem to feel already the pinch of restricted transoceanic commerce, according to the Journal of the American Medical Association. The importation of opium by international smugglers has diminished along with the number of vessels engaged in transoceanic commerce. The increasing difficulty of obtaining narcotics to satisfy the demands of addicts probably accounts for the increase in the number of thefts of narcotics from physicians' offices and from pharmacies. Access to such drugs should, therefore, be limited to the smallest possible number of persons. Pharmacists, physicians and institutions who may legitimately possess narcotic drugs should take extra precautions to prevent their being stolen.

Our Canadian Letter

(From Our Own Correspondent)

COMBATING WAR MORTALITY BY PREVENTIVE MEDICINE

New methods in dealing with war casualties which are expected greatly to reduce both the mortality rate and necessity for amputations, are to be adopted by the Canadian Army Medical Service as the result of consultations between the service and a group of outstanding specialists. The objective of preventive medicine will be to act against wound infections before they have a chance to develop.

Every Canadian soldier wounded in battle, henceforth will receive an injection of sulfanilamide with the least possible delay. Immediate use of this compound and early surgery to close wounds is expected to reduce the menace of gas gangrene and the high ratio of ampu-

tations. Carrying it literally into the front line will be an innovation. The use of sulfanilamide compounds is credited with having reduced both spread of and mortality from spinal meningitis which took a heavy toll of life early in the World War. They have also produced important results on the field of venereal diseases, always a greater scourge in war than in peace. Sulfapyradine has sharply reduced the pneumonia mortality rate among the troops, in spite of the increased risks due to unprecedented weather conditions in England soon after they landed.

The scope of blood transfusions is being greatly extended. "Blood banks" have been established in England, and constant supplies of blood are being flown to France to meet all requirements. It had been planned to type the blood of every Canadian soldier and to stamp the type on his identification disk, but this has been given up because it is believed to be more practical to use the "universal donor type" blood which can be given to any one. Development of blood serum in Canada has been under direction of Prof. C. H. Best of the University of Toronto, Department of Physiology. The Canadian Red Cross has assisted in rounding up blood donors. The dry serum is being provided at almost negligible cost, as many patriotic Canadians are donating blood. To give a soldier one treatment would cost about 50 were it not for the generosity of these blood donors and of laboratory workers.

All Canadian troops have already been inoculated with tetanus toxoid. In the World War there was no such toxoid; soldiers received tetanus antitoxin after they were wounded. The Canadian medical profession and the army medical services are working in close co-operation. In this war no communities will be stripped of doctors, and no doctor will be named to important army posts on military qualifications alone. The Canadian Medical Association is approving all key appointments.

ELIMINATION OF SMALLPOX IN MONTREAL

Canada showed an increase of smallpox during the last few years; but even so, the case rate for Canada was only 1.1 per 100,000,—as compared with 11.6 for the United States. The experience of the city of Montreal is of interest as an outstanding example of the value of vaccination in the control of smallpox. According to Ad. Groulx, Dept. of Health, City of Montreal, not a single case of smallpox has been reported in that city for the past ten years. Also, since 1904 when all children were required to be vaccinated before entering school, there has been no serious outbreak of the disease. The last death reported was in 1918.

For many years after Jenner's method of vaccination was introduced in the province of Quebec in 1801, the public was slow to accept it and epidemics occurred which were of serious proportions and often of very high mortality. Between the years 1872 and 1889 outbreaks occurred with alarming mortality: as high as 478 deaths per 100,000 population. Also, in 1885 Montreal experienced the worst epidemic ever recorded in any Canadian city. There were 4771 cases reported, with 3164 deaths, giving a morbidity rate of 1888 per 100,000 population. By the close of that year the whole population had either been vaccinated or revaccinated. The new legislation provided that a child was not to be admitted to school nor a person employed in a commercial establishment unless he had produced a certificate of successful vaccination. The enforcement of the law requires the inspection of all pupils at the beginning of the school year and the exclusion of all unvaccinated children; the requirement of a vaccination certificate

from all those employed in industry, commerce and transportation, and also from teachers and all those whose occupation brings them in constant contact with the public. It is essential that vaccine virus be of proper quality and that it be distributed free to physicians for use in their practice. There must also be a continuous programme of public education presenting facts about vaccination.

LIFE INSURANCE IN WARTIME

Mr. Arthur D. Wood, President of the Sun Life Assurance Company of Canada, in an address to the annual convention of the Association of Life Insurance Presidents, explained why a war clause is necessary. The mortality table does not provide for the extra hazard of war or other unusual risks. In peace time, when the possibility of war is remote, the risk can be undertaken with safety because of the margins and contingency reserves. The main features of the Canadian War Clause are outlined as follows. Civilians are unaffected by it unless they travel beyond home areas which are defined as the territorial limits of Canada, the Continental United States, and Newfoundland.

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OPINIONS

I have carefully read this book and have no hesitation in strongly recommending it to all civil surgeons, assistant surgeons and assistant medical officers throughout the province. SD. N. M. WILSON, COL., I.M.S., Inspector General of Civil Hospitals, C. P.

Of special value to medical students and practitioners in India. SD. S. L. BHATIA, LT. COL., I.M.S., Dean, Grant Medical College, Bombay.

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INDIAN MEDICAL NEWS

(From our own correspondent)

RECRUITS AND TRACHOMA

The increase in the percentage of rejections at recruiting centres due to trachoma in the last two or three years has caused considerable concern to the Indian Soldiers' Board.

The number of rejections of candidates due to this eye disease in the Delhi area in 1937 was nine times greater than those rejected in the previous year. The figure for 1938, though less than that of 1937, was seven times the figure for 1936.

The matter was taken up with the Public Health Commissioner with the Government of India, who pointed out the figures for general population could not suggest any abnormal increase in the number of cases treated for trachoma in the Punjab and Delhi areas.

The increase in the number of promising young men rejected because of trachoma, however, suggests a marked increase of the disease in the recruitable male population in the Delhi recruiting area.

The percentage of rejections at all recruiting centres in India from all causes rose from 35.73 in 1937 to 43.5 in 1939. Rejections due to trachoma made up five per cent of this total.

Next to Delhi, Jullundur recorded the largest rejections on grounds of trachoma and Ajmer and Poona the smallest.

MALARIA INSTITUTE OF INDIA

The activities of the Malaria Institute of India are many and varied, states the annual report of the Institute for the year 1939. Its functions are to advise the Central Government and, where required, Provincial Governments and local bodies on all matters connected with malaria control, to carry out systematic research into the epidemiology and control of malaria and the bionomics of mosquitos, to train medical officers in malariology, to act as a central bureau for the issue of publications dealing with malaria and mosquitoes and generally to advise and assist malaria workers throughout India. Close contact is maintained with malaria workers in other countries, both by correspondence and by the exchange of publications.

Course in Malariology:—A six weeks' course in malariology for medical men is held annually at the field station, and many of the officers so trained are now doing valuable work in various parts of India. Nearly 300 students have undergone this training since the organisation was first formed in 1927.

There are now thirteen publications produced by officers of the Institute in the Government of India Health Bulletin series. In addition to providing information for malaria workers throughout India, these publications are particularly

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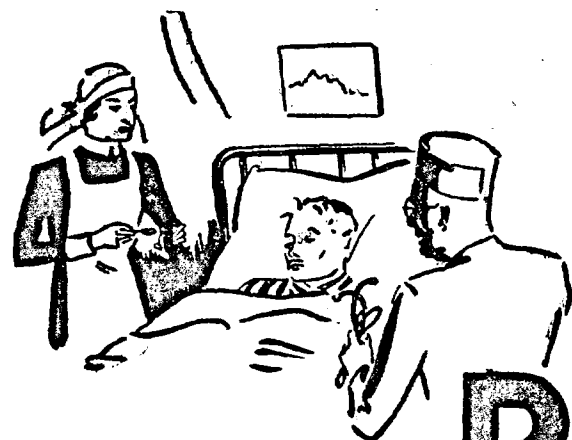


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valuable for teaching purposes, since they are kept continually up-to-date by the frequent issue of new editions.

An important function of the Institute is the testing of the various larvicides and insecticides which are used in malaria control work. Pyrethrum, which forms an essential ingredient of all insecticides, is now being grown successfully in this country, excellent results having been obtained with flowers grown in Kashmir, Kulu and the Nilgiri Hills. It is confidently expected that India will shortly be able to produce sufficient pyrethrum for her own needs and that an efficient insecticidal spray will eventually be made available at a comparatively low price. In this work, close contact has been maintained between the Malaria Institute and the Imperial Council of Agricultural Research.

Delhi Campaign:—The intensive anti-malaria campaign now in progress in Delhi urban area is being greatly facilitated by the recent transfer of the field station of the Institute from Karnal to Delhi.

The Delhi campaign is being carried out under the supervision and direction of the Malaria Institute. Three successive years of deficient rainfall render it impossible to assess the value of the results achieved with accuracy. Emphasis is laid on the fact that eradication of malaria from Delhi could only be achieved by converting the whole countryside into a barren desert but, states the report, it is confidently expected that as a result of this campaign the disease will no longer seriously affect the city's activities, as was formerly the case.

Field Research Units:—Officers of the Malaria Institute have been called upon to give advice regarding the rural anti-malaria schemes which have been initiated in various provinces as the result of a grant made by the Government of India. Field research units of the Institute have been working in the Wynaad, South India, and in the Terai district of the United Provinces in collaboration with two of the rural schemes. A third field research unit is carrying out investigations in Orissa in the vicinity of the Chilka Lake.

Laboratory researches include a number of important investigations on monkey malaria, of which several strains have been maintained. These have proved of great value for teaching purposes as well as affording abundant material for research work. Valuable results have also been achieved by the application of the precipitin test to mosquito blood meals. By this means it can be ascertained whether a particular species of mosquito feeds habitually on man or on cattle.

The report of the Entomologist contains an account of a number of investigations regarding the life history and habits of various species of mosquitoes. Many collections of mosquitoes and other insects were received for identification during the year from all parts of India.

MEDICAL RELIEF IN SIND

An Advisory Medical Board to advise them in matters of medical relief in the province is being set up by the Sind Government shortly.

The refusal of the Bombay Government to reserve more seats for Sind students in Grant Medical College has set the Sind Government to formulate a scheme of converting their Hyderabad Medical School into a full-fledged College. It may be mentioned that present arrangements by which seven students are admitted in Bombay College are due to be terminated shortly.

REFRESHER COURSE FOR DOCTORS IN MADRAS

The Government have sanctioned the Surgeon-General's proposal to start a Refresher Course in Medicine for registered medical practitioners.

The course will last for two months in the Medical Colleges at Madras and Vizagapatam and their attached hospitals. Candidates will be taught in two batches of 10 to 20 each every year, the first course being held from January 15 to March 15 and the second course from September 15 to November 15.

The programme of the course will include clinical lectures and demonstrations in the subjects of medicine, surgery, obstetrics and gynaecology with attendance at the medical and surgical wards and out-patient departments of the concerned hospitals.

INDIAN DOCTORS FOR ARMY

Recruitment of a large number of Indian doctors for the army expansion scheme is expected shortly. One hundred are to be recruited before the end of the month for Emergency Commissions of I. M. S. followed by another hundred in August. Fifty more Sub-Assistant Surgeons are to be appointed to I. M. D. during July 1940.

It is understood that Government have under consideration a scheme for improved terms of service for Sub-Assistant Surgeons I. M. D.*

Information available shows that so far 106 Emergency Commissions of I. M. S. have been granted in addition to 103 officers called to A. I. R. O. Forty I. M. S. officers in civil employ in the provinces have been called to military duty and eighteen retired I. M. S. officers have been re-engaged. Sub-Assistant Surgeons so far recruited for I. M. D. total 175 of whom 52 are from provincial services. It is stated that during the last war over 2,000 Indian doctors were granted war Commissions I. M. S.

*The following Press communique has been recently issued:

The Government of India have decided to improve the conditions of service in the emergency branch of the Indian Medical Department. Sub-Assistant Surgeons will in future be given on first appointment commissioned rank as jemadars, if they are licentiates, and as subedars, at the discretion of the selection board, if they are medical graduates, previously Sub-Assistant Surgeons were appointed to the warrant grade. In future, scales of pay will thus be automatically enhanced to Rs. 75-5-115 and Rs. 100-5-175 respectively. In addition an allowance of Rs. 50 per month will be admissible to Sub-Assistant Surgeons throughout the period of service in the emergency branch. Free conveyance is to be provided for journeys where applicants are required for interview before appointment.

Epitome of Indian Medical Literature

Ind. Med. Gazette, June 1940

Macrocytic anaemia in Punjabi man—Taylor and Manchanda—P. 321.

Gastric acidity in anaemia—McRoberts, Reddy and Subramaniam—324.

Abnormality of the supra-renal gland and Addison's disease—Tribedi and Dey—325.

Respiratory dyspnoea following barium meal—Chopra and Chakravarty—330.

The use of "Distibinyl" in the treatment of Chinese-kala-azar—Jung Sun—332.

Congenital cystic disease of the lungs—Carruthers—336.

Uterine Retroversion—Indications for operative correction—Edis Myers—339.

(1) Relation of liver to other diseases and their treatment with intravenous calcium—Bakhsh—344.

Prophylactic anti-rabic vaccine for animals—Webster and others—349.

Wherein lies the activity of sulphanilamide?—Basu—350.

(1) The importance of liver disorders, writes Bakhsh, as the cause of metabolic and gastro-intestinal disorders is becoming more evident. A large number of cases of indigestion, lack of appetite and irregular action of the bowels are due to deranged liver function. Some of these cases suffer from low grade pyrexia which may persist for many years, and offer considerable difficulty in diagnosis. If the liver is kept in mind it is easy to diagnose these cases, the criteria being enlargement and tenderness of the liver, when the ordinary causes of enlargement of this organ are excluded. There are probably other cases with similar symptoms but without an enlarged or tender liver but their diagnosis at present is difficult because, with the doubtful exception of the laevulose test, the liver function tests are not delicate enough to detect minor grades of liver disorders.

The treatment of gastro-intestinal disorders secondary to hepatic disease has been far from satisfactory in the past. This is partly due to lack of appreciation of minor grades of liver dysfunction as the cause of such disorders and partly because the average physician does not seem to be fully acquainted with the pharmacology of the liver.

Although the present series of cases are too few to form a definite conclusion about the efficacy of calcium in liver disorders, by the encouraging results reported in this paper it is hoped to stimulate further work in this direction.

Jour. of I. M. A., June 1940

Surgical treatment of pulmonary tuberculosis—K. S. Ray—405.

X-ray treatment in infections of tonsils and pharynx—Ghosh—413.

Modern treatment of compression fracture of the spinal column—Sanyal—420.

Pneumo-peritoneum in the treatment of pulmonary tuberculosis—Dongrey—421.

(2) Limitations of aldehyde test in the diagnosis of kala-azar—Laha—427.

(2) Diagnosis of a well-established case of kala-azar is very simple. The clinical picture is characteristic, the blood picture is suggestive, the positive-aldehyde test is said to be confirmatory, and the demonstration of the L. D. bodies in the spleen or sternum puncture materially settles the diagnosis beyond any criticism.

Out of all these various methods at our disposal for diagnosing a case of kala-azar we usually employ the aldehyde test of Napier to confirm our diagnosis as it is very simple in its technique and a positive-aldehyde test is taken as confirmatory.

None will question the value of the aldehyde test but it suffers from a fair number of limitations. They are: (1) the changes in the blood which are responsible for giving the aldehyde test as positive take place at a very slow speed. Aldehyde test is seldom positive before 4 months. It usually takes 6 months to be definitely positive. (2) Advanced tuberculosis and leprosy are mentioned to give the test as positive, although Napier opines that they seldom give definite positive results. (3) Schistosomiasis and trypanosomiasis may also give confusing results. (4) Chronic malaria sometimes gives positive aldehyde test. A boy aged 14 years was admitted in the hospital with the complaint of irregular fever since 1 year. He presented a clinical picture which was almost typical of kala-azar. The aldehyde test was positive after 24 hours. Before starting the treatment spleen puncture was done on him. The puncture material showed malignant tertian trophozoites. Repeated search was made for L. D. bodies but none could be found therein. He was treated with atebirin and discharged cured. (5) There are many cases of kala-azar where duration of illness is 6 months or over, where the clinical picture is characteristic and the spleen is grossly enlarged but still the aldehyde test is negative.

In the present article the author has tried to impress upon the last mentioned limitation of the aldehyde test in the diagnosis of kala-azar. He puts down the summary of 7 well-established cases of kala-azar where the aldehyde test was negative. In all these cases the duration was 6 months or over, and the spleen was grossly enlarged. They were stamped as genuine cases of kala-azar by showing L. D. bodies in their spleen puncture material. From the above case notes it is evident that there are cases of kala-azar where the aldehyde test is negative although it is expected to be definitely positive. Well-established clinical picture, splenomegaly, and above all a duration of 6 months or over do not necessarily give a positive aldehyde test.

The view held that a case of kala-azar having a duration of 6 months or over will give positive aldehyde test is not tenable.

1. Limitations of the aldehyde test have been mentioned.

2. Report of 7 well-established cases of kala-azar has been given where the aldehyde test was negative but the spleen puncture material showed L. D. bodies.

3. Cases of kala-azar with splenomegaly and a duration of 6 months or over do not necessarily give the aldehyde test as positive.

Antiseptic, June 1940

This is a special number dealing exhaustively with "Diabetes". Merchant gives a historical review of the development of the present knowledge of diabetes mellitus and concludes that although there has been valuable advances yet it has to be confessed that the present methods of diagnosis and particularly treatment at their best cannot be considered to be perfect and without fault or reproach. Chakravarty reviewing the genesis of diabetes writes that it is not by itself a clinical entity and cannot be accounted for by any particular pathology or a particular causative factor, but that it may be occasioned by a wide variety of different conditions. Mukherji advances a new view of diabetes by saying that hyper-alimentation, specially with rich protein and fat foods, introduces a large amount of organic acid bodies into the system and if continued for a long time brings about acidosis, and consequently predisposes to a condition of hyperglycosuria; that so long as insulin mechanism is intact diabetes does not supervene but when insulin fails due to the damaging effects of the acid bodies diabetes results. Narayana Murthy places a few of his clinical observations in respect of the nature of food, lack of exercise, obesity, climate, heredity, age, sex and occupations in relation to diabetes. Mankad describes the metabolism in diabetes. Dhar discusses differential diagnosis and stresses that tests for ketone bodies should never be omitted. Bose details the various laboratory tests and concludes that only a glucose tolerance test is a conclusive evidence in the diagnosis of the disease. A number of articles on the treatment of diabetes are also published. The surgical aspects of diabetes are also described and detailed.

Med. Bull., June 15th & July 6th, 1940

Abdominal tuberculosis—Deshmukh—405.

Haemorrhagic nephritis—Lilanwala—411.

Syphilitic encephalitis—Banerji—416.

Blood transfusion in surgery—Cooper—438.

On the estimation of circulatory efficiency—Patel—438.

Cal. Med. Jour., June 1940

A typical lesions of B. dysentery—Trbedi and Gupta—353.

Coronary thrombosis—Sen Gupta—359.

Cervical inflammation—De—369.

(3) Calcium therapy in tuberculosis—Sen Gupta—387.

(3) Sen Gupta states that the theory that hypocalcemia accompanies tuberculosis is lacking biochemical support. Nor is it possible to raise blood calcium or tissue calcium of men and animals by calcium administration and maintain it for any length of time, beyond the usual limits. There-

fore, there is little point in the argument that more calcium would be available in the blood for calcifying tuberculous lesions by giving additional calcium when calcium requirements are more than amply provided through food, particularly milk.

Cal. Med. Review, June 1940

If leprosy is preventable why not prevented? Sen—513.

Insomnia and its treatment—Basu—522.

Treatment of agranulocytosis—Dhar—531.

Med. Digest, June 1940

Modern treatment of malaria—Viswanathan—228.

Early diagnosis of pneumonia—Jyoti Dhar—235.

*Special Journals**Ind. Dental Jour., Vol. 15, No. 3.*

Use of 4% novocain solution in dentistry—Nathoo—41.

Buffered anaesthetics—Mewar—42.

The origin of dentistry in Calcutta—Chakravarty—47.

Leprosy in India

An epidemiological study of leprosy with special reference to the leprosy survey in Santalpur—Low and Santra—43.

Preservative effect of creosote on hydnocarpus oil—De—55.

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Abstracts from Foreign Literature

Recent Advances in the etiology and management of early hypertension. George K. Wharton, *University of Western Ontario Med. J.* 10: 47-58 Jan. 1940.

The most important factor in the control of blood pressure is the peripheral resistance which may be due either to a general vascular hypertonus or a result from vasomotor or endocrine influences. The systolic blood pressure is highly labile and may vary as much as 60 mm. Hg within 15 minutes. The diastolic pressure also is variable and it should be taken to the 5th phase to assure significant readings. The blood pressure cuff must not be applied too tightly or left in place too long, because resulting reflexes may raise the blood pressure. Examination of the eye-grounds is a valuable means in following effect of treatment and in the prognosis; changes in the retinal blood vessels parallel those of the kidneys and the brain. The cold test is considered a satisfactory index of vasomotor reactivity. It has been found positive in 98% of hypertensives. Since it is negative in chronic nephritis, it may be used to differentiate between chronic nephritis with hypertension and essential hypertension with renal damage.

Experimental denervation of both carotid sinuses, section of aortic nerves, increased intracranial pressure and resulting anæmia have been shown to cause a rise in blood pressure. Renal ischemia (Goldblatt clamp) is followed by hypertension, but if the pituitary gland is first removed, no changes in blood pressure result. Clinically, hypertension has been demonstrated in cases of diphtheria, poliomyelitis and encephalitis associated with brain-stem pathology. It is an outstanding symptom in Cushing's syndrome and has been noted in supra-renal tumors. Overactivity of the adrenal medullary cells, which is usually periodic, causes paroxysmal hypertension. The elevation of blood pressure during the menopause has been attributed to pituitary dysfunction; estrin therapy which relieves other menopausal symptoms will not affect the hypertension.

Psychotherapy plays an important role in the management of the hypertensive patient. The effect of drugs is often purely psychic. Thus only 6 out of 33 drugs usually advocated for the treatment of hypertension, proved slightly more effective than placebo.

Sedation, *e. g.*, luminal, is valuable and the drug should be given in relaxing doses throughout the day rather than as a soporific at night. If sodium or potassium thiocyanate therapy is employed, the blood level of the drugs should be watched, because thiocyanates may produce toxic manifestations or even cause death. About 60% of the patients show improvement on this therapy, if properly handled. The diet should be adequate to maintain normal weight and furnish about 1 g. protein per Kg. body weight.

Surgical procedures (rhizotomy, adrenalectomy and sympathectomy) cannot as yet be evaluated. Diathermy and deep x-ray therapy over the carotid sinus have been tried with good results. Little as yet has been done with endocrine therapy. Authors refer to 5 cases of mild hypertension with some evidence of thyroid hypofunction who responded to thyroid medication, especially as regards regulation of systolic pressure.

Dental problems associated with pregnancy. Charles P. Sheldon, *New England J. Med.*, 222: 260-263 Feb. 15, 1940.

Most observers do not believe that pregnancy increases the tendency to caries formation but since oral foci of infections may have been etiologic bearing on toxæmia, pyelitis and other complications and adequate dental care promotes the general health, oral hygiene during pregnancy should be considered a routine procedure.

Fetal tooth structures are present from the second month on and dietary and hygienic measures should be maintained throughout pregnancy. The diet should supply adequate amounts of vitamins C and D and a positive calcium-phosphorus balance should be maintained. One or two eggs for vitamin D and one quart of milk for calcium will suffice. If the expectant mother is unable to partake of these articles, cod-liver oil and calcium should be added. If the gums are spongy and bleed easily ascorbic acid should be prescribed. The effects of excess vitamin administration have not as yet been fully evaluated and neither vitamins nor mineral elements should be added to the diet unless the need is evident.

Dental care should include the treatment of pyorrhœa, filling of cavities, draining of abscesses, root extraction, etc. Dental surgery can be safely performed but the attending obstetrician should be consulted. As a rule, the time of the month when menses ordinarily occur should be exempted. Prolonged, exhausting operations are best avoided or carried out in several stages. Local anæsthesia is preferred for extraction.

Traumatic rupture of urethra. William J. Carson, *Am. J. Surg.*, 47: 323-333 Feb. 1940.

A case of traumatic rupture of the urethra in a man of 63, which was caused by his stepping on a loose manhole cover and the perineum striking the edge of it, is reported. There was marked infiltration of blood in the injured area, bleeding from the meatus urinarius and a large hæmatoma which extended from perineum to the apex of the freely movable prostate.

Suprapubic and perineal operations were performed revealing a fragmented recto-urethral apex of the prostate. After locating the prostatic urethra, a rubber catheter, passed into the bladder, was anchored to the edge of the membranous urethra and the torn puboprostatic ligament united (chromic catgut). The distal end of the catheter was then pushed over the end of the sound introduced after cutting the central tendon (Young

technique). The sound was withdrawn and an end to end anastomosis carried out. Extraperitoneal suprapubic cystotomy was done, and the bladder drained of blood clots. During the operative procedures, and following, glucose in saline was administered by the intravenous route and a blood transfusion was given post-operatively. Ten days after operation severe bleeding from the perineal wound occurred but was controlled by pressure. (Four drains had been removed on the 3rd post-operative day and the suprapubic tube on the 7th). All sutures and the catheter from the urethra were removed on the 15th post-operative day and negative suction applied to the suprapubic wound. Two days later the patient was voiding normally and the suprapubic wound healed in another 2 days. No stricture resulted and the patient is in excellent health 3½ years after the accident.

Heparin: its application. J. M. Janes, *University of Western Ontario Med. J.* 10: 65-68; Jan. 1940.

Heparin can be extracted from all vascular tissues; the commercial preparation is obtained from beef lung. It is very similar to chondroitin sulphuric acid in its chemical composition and is said to bring about retardation of blood clotting time and delayed agglutination of platelets by causing the formation of antithrombin from a component of the serum albumin fraction. Since heparin is rapidly destroyed in the blood stream it must be administered by intravenous drip if a lasting effect is desired.

Heparin finds its chief clinical employment in vascular surgery; following embolectomy it will prevent further thrombus formation. (It will not dissolve clots already formed.) It is useful after the repair of arterio-venous aneurysm or the restoration of continuity of severed blood vessels. In these cases 800 units may be given intravenously before the blood stream is allowed to traverse the restored pathway or the heparin may be administered by intravenous drip—15 units per cc. of saline, adjusted to from 16 to 28 drops per minute—for from 5 to 10 days. It may be used to prevent recurrence in pulmonary embolism and as a prophylactic after operations with high incidence of embolism. A coincident low protein diet is of advantage. Used as an adjunct to blood transfusions it may either be added in vitro or, in cases of direct transfusion, the donor may be heparinized prior to the procedure.

Heparin has been therapeutically employed in thrombophlebitis, often with dramatic effect in the more acute cases. As a rule, pain disappears within 24 hours and a 5 day treatment suffices. Since the lesions of osteomyelitis are thought to have a thrombotic basis, its use as an adjuvant to a chemotherapeutic agent has been advocated. It has been suggested in the treatment of coronary thrombosis, cerebrovascular thrombosis, etc., and author is at present successfully treating a case of thrombosis of the central retinal vein with heparin.

The medical and surgical treatment of severe bronchial asthma. Edmund L. Keeney, *Bull. Johns Hopkins Hospital*: 66: 34-51; Jan. 1940.

Epinephrine hydrochlorine 1:100 injected subcutaneously is rapidly absorbed and destroyed. The relief it affords is of brief duration and several injections repeated at 15 minute intervals are often required in severe asthmatic attacks. A more prolonged effect may be obtained from the intramuscular administration of a suspension of epinephrine in peanut oil preceded by an injection of the 1:1000 epinephrine in saline given for immediate relief. Barbiturates may be administered for sedative effect or, if required, Schlesinger's solution may be given by hypodermic injection. The cardio-vascular response to the epinephrine in oil lasts about 9 hours, but in the doses used the rise in systolic pressure does not reach 20 mm. Hg. Hypertension is no contraindication, in fact, the hormone may abort a threatened rise in blood pressure due to the asthmatic attack.

A patient in status asthmaticus is resistant to epinephrine; most likely, the bronchial obstruction by exudate and swelling of the mucosa is too severe to be overcome by the hormone's dilating effect. The intravenous administration of 100 cc. of 50% sucrose containing 0.5 cc. of 1:1000 epinephrine hydrochloride will afford relief in these cases for from 1 to 3 hours. (The hypertonic sucrose solution aids by deswelling the bronchial mucosa. If administered slowly no untoward reactions result. Persistent relief also has been reported in 31 out of 41 intravenous injections of aminophyllin—0.48 g. in 10 cc. physiologic saline in 16 patients.

Patients in status asthmaticus develop carbon dioxide retention and anoxia and since hyperpnea and blowing off of the excess CO₂ is not directly effected the respiratory distress becomes more and more marked. It may be combated by inhalations of a mixture of 20% oxygen and 80% helium. Cardiac action should be improved by digitalization. Sedation cannot be secured by barbiturates and opiates, which depress the respiratory center, and are contraindicated. Rectal instillation of from 60 to 100 cc. of equal parts of ether and olive oil is advocated but the use of avertin fluid is considered dangerous.

In severe chronic asthma epinephrine in oil, given by intramuscular injections, will afford more prolonged relief to patients who require frequent injections of the epinephrine 1:1000 solution. The benefit derived from intratracheal injections of iodized oil seems to be temporary and limited to a selected group of patients.

The different types of neurosurgical procedures advocated for the relief of asthma in medically intractable cases and the anatomy and physiology of the extrinsic nerve supply to the lungs are discussed.

The method is based on the observations made that the edema seemingly involves the subcutane-

ous tissue only—the lymphatics of the underlying muscles remaining normal—and that recurrence is less likely if primary postoperative healing does not occur but has to be secured by means of skin grafts or by granulation and creeping epithelization. The technique consists of excision of subcutaneous lymphedematous tissue subsequently to a subcutaneous transplantation of a split skin graft. The operation was performed on a 7 year old girl with congenital hemangiolymphangioma of the right forearm and dorsum of hand, multiple thrombosed veins in the middle and lower portions of the arm and masses of tumorous tissue over the shoulder and posterior portion of the chest wall. It was successfully carried out in 2 stages, 2 weeks apart, and followed by a plastic excision of the hemangiolymphangioma of arm and of back and excision of lymphedematous tissue over flexor surface of wrists, on a third visit. A Kondoleon operation, performed 5 months before, has produced no improvement except preventing further increase in size. The results are deemed most gratifying and seem to warrant further consideration of this procedure.

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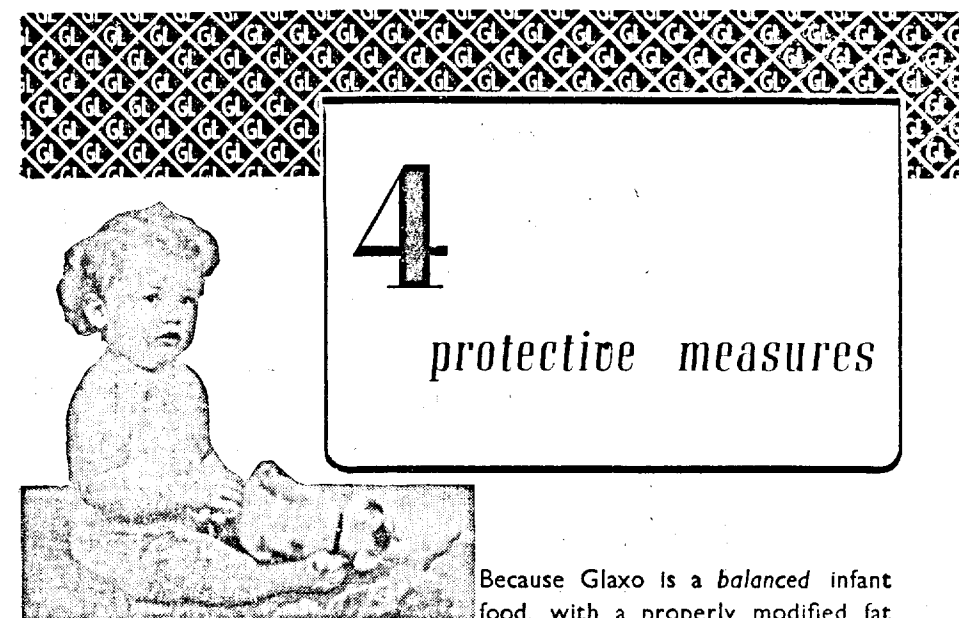
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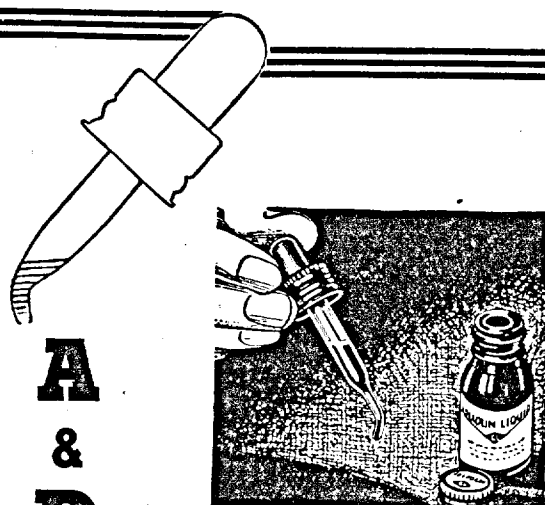
Because Glaxo contains 3 times the amount of iron as cow's milk the infant is offered a sound measure of protection against nutritional anaemia.

Because Glaxo has been rendered virtually sterile, risk of milk-borne infections is eliminated.

Glaxo
MILK FOOD

Glaxo Laboratories Ltd., Greenford, England.
Representatives in India: H. J. Foster & Co. Ltd.,
P.O. Boxes 202 Bombay; 2257 Calcutta; 108 Madras;
244 Lahore.

VITAMINS

A
&
DIN RATIONAL
CONCENTRATION

ADEXOLIN LIQUID contains in each cc. 12,000 international units of vitamin A and 2,000 of D. Each ADEXOLIN CAPSULE (3 m.) contains 6,000 international units of vitamin A and 1,000 of D. Thus 20 $\frac{1}{2}$ -minim drops of the Liquid are approximately equal to one Capsule. (Liquid available in 14 cc. phials and 2-oz. bottles. Capsules in boxes of 25, 50 and 100.)

PRODUCT OF THE
GLAXO LABORATORIES

ADEXOLIN

LIQUID AND CAPSULES

GLAXO LABORATORIES LTD., GREENFORD, MIDDLESEX, ENGLAND

Representatives in India: H. J. FOSTER & CO., LTD.,

P. O. BOX 202, BOMBAY.

P. O. BOX 108, MADRAS.

P. O. BOX 2257, CALCUTTA.

P. O. BOX 244, LAHORE.

Adexolin vitamins A and D concentrates are valuable in infancy to ensure normal growth and development, particularly of bones and teeth, and to raise resistance to infections.

To both children and adults, Adexolin is given for restoration of normal tone and resistance in debility, and for the prevention and treatment of infections, especially respiratory infections and febrile illnesses. Adexolin is also of special value in pregnancy for maintaining maternal reserves of vitamins A and D and to supply sufficient for the developing foetus.

PAIN

Safely

RELIEVED

Codopyrin combines acetylsalicylic acid, phenacetin and codeine phosphate. Both acetylsalicylic acid and phenacetin are potent analgesics and antipyretics. While codeine itself is of less value in these respects, nevertheless in combination with acetylsalicylic acid and phenacetin it provides (Hamill, 1939) "one of the best examples of synergism in this field, and one of the most potent and satisfactory analgesic remedies with negligible cerebral depression in ordinary doses." Codopyrin is the safe analgesic in neuralgia, fevers (to bring temperature to normal), dengue, influenza, rheumatism and dysmenorrhoea. It also has a marked sedative effect on the nervous system.

GLAXO LABORATORIES LTD., Greenford, Middlesex, England.

Representatives in India: H. J. FOSTER & CO., LIMITED.

P. O. Box 202, Bombay.

P. O. Box 2257, Calcutta.

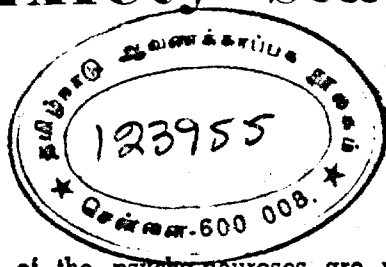
P. O. Box 108, Madras.

P. O. Box 244, Lahore.

Safe

CODOPYRIN

anxiety-states.....



The commonest of the psycho-neuroses are manifested in anxiety-states. Every physician has to cope with at least a tendency to these conditions in treating his convalescents. An alcoholic tonic is thus generally recognised as particularly suitable in convalescence.

Hall's Wine provides a gentle stimulus, and the fact that it is a medicated wine, prescribed by the doctor, gives the patient increased confidence.

The tonic elements in Hall's Wine increase its thermal energy value considerably above that of non-medicated wines and spirits. Hall's Wine improves the metabolism and thus increases the facility with which its iron is assimilated. It is thus a useful food, which rapidly increases the haemoglobin content of the blood.

Hall's Wine is compounded from the original formula of an English doctor and has been a stand-by of medical men for over fifty years.

For convalescents Hall's Wine may be prescribed with perfect confidence.

HALL'S WINE
Tonic Restorative



Distributors: J. HALLEY & CO., LTD.

P. O. Box 155, Calcutta. P. O. Box 84, Lahore. P. O. Box 34, Karachi. P. O. Box 466, Bombay.

IS NASTY MEDICINE NECESSARY?

Violent reaction to an unpalatable medicine is not confined to children; but certainly young patients have been the least tolerant of cod liver oil. This valuable tonic is often so nauseating to vegetarian adults as well as children that the dose is promptly vomited. And yet the fat content of cod liver oil is especially valuable in the East, where diets tend to deficiency in this direction.

The physician can be sure that Scott's Emulsion of cod liver oil will be tolerated—in fact it is often actively liked by children. Its fresh, creamy flavour bears no suspicion of its fishy origin to nauseate the vegetarian.

Scott's Emulsion has been the subject of independent research in England which has established that it is wholly assimilated within thirty minutes after ingestion—while digestion of the plain oil is uncompleted after seven hours. Scott's is accordingly a safe prescription whenever a deficient diet is suspected or where rapid tissue-building is desired. It may be given in early infancy, and to convalescents from almost any complaint.

Composition Data

Scott's Emulsion is based on a biologically standardised cod liver oil, the Vitamin A and D potency of which is fully preserved. The Emulsion also exhibits Calcium and Phosphorus in the form of the tonic Hypophosphites. (Note that both elements are directly utilised in the presence of Vitamin D.

Common Indications

Scott's Emulsion is successful in cases of: Anaemia; Amenorrhoea; Avitaminosis; Bronchitis; Catarrh, bronchial and gastric; Coughs, Colds and Croup; Chlorosis; Debility; Dentition; Eczema; Fevers (after); Influenza; Lupus; Marasmus; Nutritional disorders; Parturition (after); Osteomalacia; Pthisis; Psoriasis; Pyorrhoea Alveolaris; Scrofula; Rickets; Strumous conditions; Ulcers; Tuberculous complications; Whooping cough.

Literature with full citations of scientific work and publications on Scott's Emulsion will gladly be sent to any medical practitioner on application to Imperial Chemical Industries India Ltd., Calcutta, Bombay, Madras, Rangoon or Colombo.

GLYKERON

*Coughs, Bronchitis, Asthma,
Laryngitis and other Res-
piratory Affections*

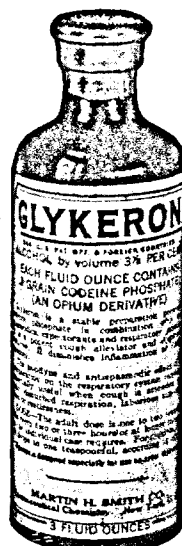
A Bronchial Sedative

Control the cough that weakens your patient.

GLYKERON quickly relieves this distressing symptom because it contains medically approved respiratory sedatives.

Your patients with respiratory affections do better when they sleep better—*without coughing.*

GLYKERON may be administered to diabetics freely as it contains no sugar or syrup and causes no disturbance of digestion.



Stimulating Expectorant

GLYKERON loosens the mucus in the bronchial passages and aids in its expulsion.

It lessens the hazard of complications by getting rid of germ-laden secretions.

Prescribe it for the symptom of cough. Very palatable.

GLYKERON supplied in 3 oz.
as well as 16 oz. bottles.

DOSAGE: Adults, one to two teaspoonfuls every two or three hours or at longer intervals as the individual case requires. Children, from ten drops to one teaspoonful according to age.

Literature on request

MARTIN H. SMITH COMPANY • NEW YORK

LEXIN THERAPY

OTHER USES OF LEXIN

Snake-bite: Lexin inhalation and injection.

Opium Poisoning: Lexin inhalation and intravenous injection 1 c.c. to 4 c.c. Repeat as required.

Influenza: Put a few drops on handkerchief and inhale deeply for a few minutes; repeat every now and then till relief.

Hysteria } Inhale as above; or put a drop or two into nostril; this breaks the fit.
Epilepsy }

Cholera: Inject 2 c.c. intramuscularly, repeat every hour if necessary. If no pulse inject 1 c.c. intravenous.

Collapse: Intravenous injection 1 c.c.

Trauma and } Intravenous injection 1 c.c.
Surgical Shock }

Bleeding from any orifice: Inject 2 c.c. intramuscular or 1 c.c. intravenous.

Asthma: In extreme dyspnoea—inject 2 c.c. intramuscular; after 1 hour 2 c.c. intravenous. Only one injection gave prompt relief and permanent cure in many cases.

Pains of Cancer: Inject 2 c.c. intravenous.

P. BANERJI, Mihijam, India.

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