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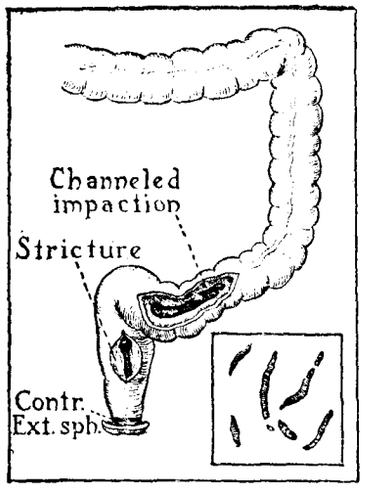

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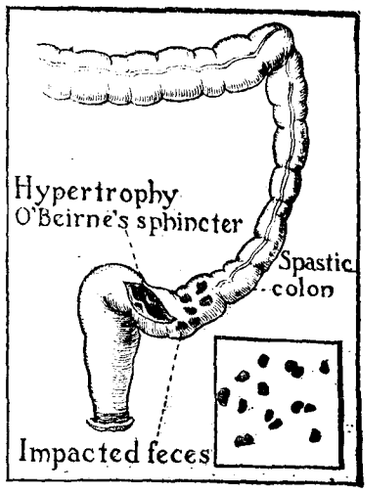

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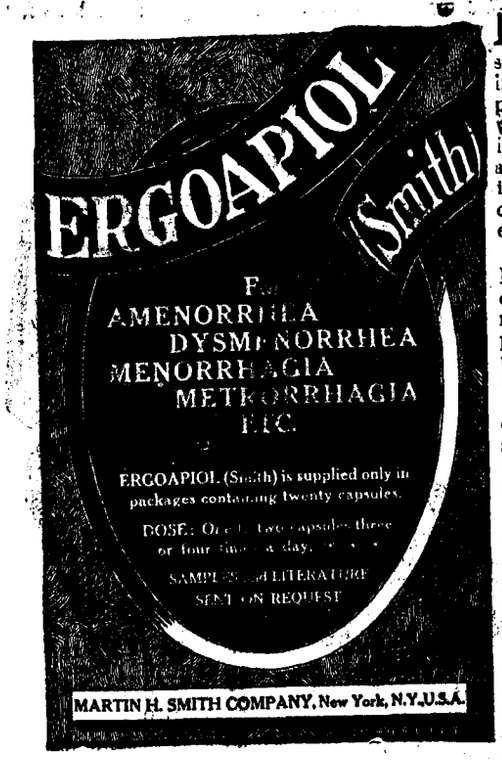

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ORIGINAL ARTICLES.

*IODINE THERAPY, WITH SPECIAL REFERENCE TO TR. IODINE AND LIQR. IODINE PERCHLOR IN DYSENTERY AND DIARRHŒA RESPECTIVELY

BY

P. N. SHAH, M.B., B.S., MEDICAL OFFICER, NAVSARI CIVIL HOSPITAL.

For the last three years, my attention has been drawn to the very cheap drug, viz., Iodine, in the treatment of dysentery, diarrhœa, septic fever, septic enlargement of glands, malaria, gonorrhœa and its complications, etc. I have been much impressed with the results. I have used the drug in the following cases.

Tr. Iodine in Dysentery.

I. I first tried Tr. Iodine on an extensive scale in dysentery. I began to administer ten minims of Tr. Iodine in a mixture form three times a day. Cases of dysentery improved markedly. Patients having about thirty motions or so showed decidedly very great improvement within forty-eight hours. The following is the routine mixture for dysentery which I have been using :—

Rx—Tr. Iodine (rectified) m x.
Glycerine *3* i.
Aqua ad. oz. i.
M. ft. T. D. S.

The same mixture has been used with marked benefit in diarrhœa, specially due to dysentery. I have treated about

* Specially contributed to "The Antiseptic."

two hundred cases in this way and I remember to have very few failures wherein I had to use Emetine Hydrochlor injections. In my hands, the percentage of failures is rarely more than two per cent.

Tr. Iodine in Malaria.

II. I tried Tr. Iodine in the above form in malaria and some cases did improve, but Quinine was to be resorted to as some of the cases could not improve and so I abandoned the use of Tr. Iodine in malaria.

Iodine solution in Gonorrhœa.

III. A military sepoy had acute gonorrhœa. He was given Tr. Iodine orally. He showed some improvement, but I thought he might improve fully under intravenous injections of Iodine solution, prepared as follows:—

Iodum	gr. vi.
Pot. Iodide	gr. vi.
Aqua distillata	oz. i.

The patient did improve, but did not get complete cure. Since then, I have not tried it in acute gonorrhœa.

IV. Though I did not get good results in acute gonorrhœa, I am more than satisfied with the results in its complications. I have tried successfully Iodine solution in about ten cases of

Iodine solution (A) in gonorrhœal epidydimitis.

gonorrhœal epidydimitis. I have been giving intravenous injections of thirty to forty minims of Iodine solution mentioned above, diluted with 10 c.c. of distilled water, on alternate days, without any external application.

Case No. 1. A patient was suffering from gonorrhœal affections of knee and ankle joints. He showed marked improve-

Iodine solution (B) in gonorrhœal arthritis.

ment with four intravenous injections of the Iodine solution, mentioned above. As Iodine solution cannot be pushed on as his veins were blocked after the injections, I had to resort to gonorrhœal phylocogen to complete the cure.

Case No. 2. A patient, named Ibrahim, unable to walk, was brought in a cart to the hospital with pain in the hip-joint and the calf muscles of one side. He was suffering from chronic gonorrhœa. He received four injections of the above solution and got cured,

Iodine solution in septic lung.

V. A military sepoy was suffering from fever and cough with fœtid expectoration. On auscultation of lungs, rals were heard all over the chest. At first, it was suspected that the patient might be suffering from galloping consumption. On examination of the sputum, no tubercle bacilli were found. He was given, with caution, about four injections of about ten minims of the Iodine solution every week. Each injection was followed by improvement, evidenced by the fall of the temperature to a lower level, and by diminution of the fœtid expectoration. It may be noted that in this case much small doses of the Iodine solution were given in intervals of a week with a view to avoid reactions as the man was very weak.

Iodine solution in Tuberculous glands.

VI. A patient was operated on for tuberculous glands in the axilla by a friend of mine. After the removal of the glands, other glands became inflamed and enlarged, and it was thought desirable that a second operation would be necessary. I simply enlarged the opening of sinus left after the first operation and gave four injections of the Iodine solution. The patient got well and was discharged cured.

Iodine solution in Tuberculosis of the lungs.

VII. I have treated half a dozen cases of tuberculosis of the lungs, but none of them got cured or improved.

Iodine solution in Pneumonia.

VIII. I have treated three or four cases of pneumonia with this solution, and in only one case, the temperature came to normal. As it was probably the sixth day of the fever, on the statement of the patient, I cannot, therefore, be certain whether the fall was due to crisis or to the Iodine solution.

Tr. Iodine in Typhoid fever.

IX. In one case of typhoid fever, I gave Tr. Iodine without any improvement.

Iodine solution in septic fever and in septic enlargement of glands.

X. *Case No. I.* A patient, named Dhana Bhawa was operated on by me for the removal of sequestrum from the left Tibia on the 22nd of December, 1924. On the 31st of December, he began to get fever, which went up to 103° on the next day, and the left femoral glands got enlarged and painful. On 2nd January 1925, 1½ c.c. of Iodine solution was injected. Temperature began to fall down, and so two more injections of 2 c.c. of the solution were given on the 4th and the 6th. The

patient's temperature became normal and glands subsided on the 7th.

Case No. II. A patient named Bahadher Bhura was operated for the removal of sequestra, after compound fracture of both bones of the right leg on 15th November 1924. He was improving, but be began to get fever from 5th December 1924, which rose to 105° on the 6th. On the 7th morning, when temperature was a little less, Iodine solution 1½ c.c. was injected. Again fever rose up to 104°. On the 8th, the maximum temperature was 103°; so 1½ c.c. of the Iodine solution was injected again on the 9th. On the 10th, maximum temperature was 100·5.° On the 11th, another injection was given, and subsequently the temperature became normal.

XI. Finally, I began to try Liqr. Iodine Perchloride in diarrhœa, specially of children, after the following case: —

Liqr. Iodine Perchlor in Diarrhœa.

My compounder's son, aged nine months, began to get small watery motions, nearly ninety per day, on his statement. I first gave the following powder on the evening of 24th December, 1925:—

Rx—Soda Bicarb		gr. ii
Hydrarg with creta		gr. ¼
Pulv. creta arom		gr. ii
Bismuth sub-nitras		gr. v
Mix. ft. pulv. one		
To be taken six times a day.		

He felt no relief and started vomiting also. So, pulv. creta arom with opio gr. i was substituted for pulv. creta arom, in the above prescription, on the evening of 25th. The child improved a little the same night, and the vomiting stopped altogether. But on the 26th and 27th, the child did not show any further improvement, and continued passing nearly fifty motions per day. On the 28th morning, I prescribed the following:—

Rx.—Ext. bellœ liq.		m iii
Tr. coto		m ii
Liqr. Iodin perchlor		m i
Pulv. creta arom with opio.		gr. i
Mucilage		Q s
Aqua chlorof.		ad. 3 i
Mix. ft. such four doses per day.		

The child began to improve and had only twenty motions within twenty-four hours. On the 29th, he passed five or six motions during the day. On the 30th, the child was alright and the father stopped the medicine.

Being struck with such good results in this case, after the addition of Liq. Iodine Perchlor, Tr. coto, and Ext. bellœ liqd. I was induced to try the following mixture in diarrhœa:—

Rx.—Liq. iodin perchlor		m x
Ext. bellœ liqd.		3 ss
Tr. coto		m x
Aqua	ad.	oz i

I was so much gratified with the results that I quote the following few cases treated with this mixture:—

Case No. 1. A child, aged 18 months, named Narottam, having 10 motions daily, was put on mixture Iodine perchlor with coto (dr. i. ss. T. D. S.). On the next day the motions were reduced to 5 and got well within 5 days.

Case No. 2. A child, aged 5 months, had 6 motions per day. On the administration of the mixture on 20th January 1926, the motions were reduced to 4 within 24 hours and the treatment was stopped on the 22nd, *i.e.*, the child got well within 2 days.

Having tried this mixture in a certain number of cases, I began to try Liq. iodine perchlor m x singly, 3 times a day. As I had noticed that Tr. Iodine was almost a specific in dysenteric diarrhœa, and was useful in diarrhœa too, as stated above, I thought that in Mist. Iodine perchlor with coto, Liqr. Iodine perchlor was the most potent drug, and so I began to use Liq. Iodine perchlor m x T.D.S. and I was equally satisfied with it.

Case No. 1. A Parsi lady, aged seventeen, was suffering from diarrhœa. She used to get twelve motions per day. She was given the following mixture which I call Mist. Iodine perchlor:—

Rx.—Liq. Iodine perchlor		m x
Aqua	ad.	oz i
M. ft. Mist T.D.S.		

Within 24 hours, the motions were reduced to six and she stopped treatment after two days.

Case No. 2. A child, aged 18 months, had about 6 motions per day. He got well within 48 hours with the above mixture.

Case No. 3. A Hindu child, aged 15 months, had 30 motions per day for the last 10 days. On 29th January 1926, I administered :—

Mist. Iodine perchlor dr. i. ss.
M. ft. Mist. T.D.S.

On the next day, the child had only seven motions. On the 31st, he had only 2 motions and the treatment was stopped on the 3rd February 1926.

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*LEUCODERMA

BY

G. RAGHUNATHA RAO, D.T.M., CALCUTTA.

Leucoderma has been known as "White Leprosy", from time immemorial, in India. As far as our knowledge of skin diseases is concerned, no satisfactory connection has been found between Leprosy and Leucoderma. They are quite different conditions. It will be an interesting speculation as to why it came to be called "White Leprosy". Probably, as patches of depigmentation are found in both diseases they came to be regarded as two varieties of the same disease. In nerve leprosy, patches of depigmentation are a very prominent feature except for the presence of "anæsthesia" in these patches and certain other minor differences. The patches in both these diseases cannot be differentiated easily. Probably, it is this that is responsible for the misleading name. Even to-day, the laity actually shudder at the sight of a leucodermic and readily identify him with a "Leper". Ignorance of the truth is responsible for this. Leucoderma is only a pigmentary defect of the skin, due to the imperfect metabolism of the pigment producing amino-acids.

It is well to recall here the physiological fact that proteins break up into amino acids as a result of digestion. These amino acids are utilised by the different tissues according to their needs. Some of these amino acids produce the pigments in the skin—characteristic of the race. For the proper production of the pigments, there must be a proper utilisation of the amino acids. In Leucoderma—due to some cause—which is not yet known, there is a deficiency in the proper utilisation of the necessary amino acids.

Now let us see if these pigments are controlled by any other factor. The pigment is regulated by (i) *Adrenals* and

* Specially contributed to "The Antiseptic."

(ii) Gonads. As evidence of the former, we have the "Hyperpigmentation of the skin"—in Addison's disease and as evidence of the latter, the production of "Chloasma Uterinum".

Probably in Leucoderma, these glands also play their own part but what share each of these has to its credit has not yet been determined satisfactorily.

Histology tells us that the pigment is found in the "Basal layer", just beneath the prickle cell layer and also in certain cells called "Melanoblasts" lying below the "Basal layer".

Regarding the exact origin of the pigment there are different views :—

(i) The English authorities are of the opinion that the pigment is produced by the epithelial cells of the basal layer and hence it is of epiblastic origin.

(ii) Major Acton is of the opinion that the pigment is formed by the "Melanoblastic" cells—which are called "Melanoblasts".

Block has shown that "Melanin" is a protein product which has its precursor in a substance which he designates as "D.O.P.A." = an amino acid.

Further research is necessary to prove the exact origin of the pigment.

Etiology.—It may occur at any age from as early as 2—3 years up to 60 or 70 years. As to racial prevalence Leucoderma, being a pigmentary defect, is generally seen in pigmented races —the white or the European races, being practically exempt. But it also occurs in Europeans; only it is not recognised in them as easily as in the pigmented races. In India, it is met with both in Hindus and Mahomedans. It is not infectious or contagious. It is not transmitted by heredity, though popular view is to the contrary.

Symptoms.—It generally begins as a small dot or spot, white in colour, generally on the face, the lips being the chosen site. On the lips, the spot is not seen for a long time until several spots coalesce and form a prominent patch of discolouration on the usually red-lip. The first spot is called the "Herald Spot". It is followed by other similar spots. The chief point is that these spots occur symmetrically.

Parts of the body affected :—

(i) The palms and soles.

(ii) Muco-cutaneous junctions—*e.g.*, Lips, Eyes, the junction of the skin and the conjunctivæ, genitals etc.
(iii) The trunk, specially the waist.
(iv) Generalised all over the body. It may be associated with syphilis, or any other skin conditions.

Diagnosis.—Usually easy in the pigmented races. Absence of anæsthesia will distinguish it from Leprosy. Further, it is to be noted that the depigmentation in Leprosy is "Atrophic" and is associated with scarring of the skin. On careful examination, the margins of the depigmented patches in Leprosy will be found to be slightly raised, and more or less sharply defined features which are usually absent in "Leucoderma".

Sometimes the secondary rash of syphilis while disappearing, may leave behind light and dark areas of pigmentation but the history and the co-existence of dark spots may clear up the diagnosis. But sometimes it is very difficult to distinguish, as often Syphilis may co-exist with Leucoderma. In this connection I may remark that it is worthwhile to observe in what percentage of cases, syphilis has anything to do with Leucoderma. Also, if congenital syphilis predisposes the individual to Leucoderma, in the adult life. Much work is needed along these lines.

Prognosis.—The disease causes only a mechanical disfigurement and there is not the slightest constitutional disturbance produced. It is very chronic, persisting for years. If it is in a concealed situation, say, trunk covered by clothing, it matters little. But if it occurs in exposed parts, lips, face, eyes, etc., it causes considerable anxiety to the individual and even leads to a "Social Ostracism", the individual being shunned by his friends as a "Leper".

Treatment.—As amino acids are necessary for the production of the pigment, and as the amino acids are derived from proteins, it stands to reason that a high protein diet is necessary. How to supply the required proteins? In vegetarians, especially, this is a problem that has to be considered. The only source of proteins in the vegetarian diets are the several kinds of pulses, dals, seeds of pods-bearing plants. Hence, the following may be taken every day in the diet—peas, beans, black gram, Bengal gram=கடலை, etc. The last named கடலை is known to have the highest protein content amongst all the pods, so, it may be soaked over-night, and just when the grains

shoot out the Embryos—usually in a day or two—the germinated grains may be eaten either fresh or slightly fried. This is generally done in South India during the "Thula month"—துலாமாஸ when after an early bath in the river, "Germinated gram-pan, flowers and fruits are distributed by the married women to their friends, the germinated grains being fried in ghee or oil and eaten in the evenings. I remember while I was young, my mother used to give me the fried germinated grains very often during the month of துலா. This is a particularly beneficial practice and I recommend it to every one whether Leucodermic or healthy, in the former, as it is necessary and, in the latter, as the germinated grains furnish a good amount of vitamines.

In the majority of the cases of Leucoderma usually, there will be some intestinal defects. Major Acton finds that 30 to 35% of cases happen to be chronic carriers of amœbic or bacillary dysentery. In such cases the appropriate treatment for these infections is quite essential—the intestinal antiseptics such as Hydr. Perchlor in mixture. It has been found that in these cases the adrenalin content is high and the blood sugar low.

Local irritation also has to be applied to stimulate the melanoblasts and other cells concerned in the production of the pigment. Amongst the several irritant oils, it has been found by Major Acton that the oil of "Psoralia Corylifolia" is the best. The oil is applied, painted over the patch or the seeds may be powdered and mixed with plain water so as to form a paste and the paste may be applied over the patch. The seeds have been found to be very satisfactory and cure the condition in a fairly large proportion of the cases.

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*AFTER-TREATMENT OF SMITH'S CATARACT EXTRACTION

BY

RAM KISHEN HANDA, B.SC. (HONS.), M.B., B.S., SIR GANGA RAM FREE HOSPITAL, LAHORE.

After the extraction of cataract by Smith's method *i.e*, intra-capsular method, both eyes are bandaged so that movements of the unoperated eye may not produce concomitant movements in the operated eye. The patient is then removed to a flat bed. It is strictly enjoined on him not to get up in bed even for the purpose of passing urine or defecating. Even turning on side is not allowed to him. Perfect rest is thus secured to prevent sub-retinal hæmorrhage which is otherwise very likely to occur in the operated eye because of its tension being considerably lowered by the extraction of lens. 12 hours after the operation, the patient may be allowed to turn on the side of the sound eye, for by this time the choroidal blood vessels have adapted themselves to the new circumstances. During this while fluid diet alone such as milk is permitted to the patient to keep the bowels constipated. It is safer to insist on perfect rest, but rigidity may be relaxed the next day. I have seldom noticed bad results due to movements on the part of illiterate and less intelligent patients who cannot follow rigidly the doctor's instructions. A large percentage of old men, in whom the cataract generally occurs, are the victims of chronic Bronchitis. They cough horribly. To prevent too much strain on the eye pulv. ipecac co is administered to them for a day or so. In a few cases under my care vomiting occurred a couple of hours after the operation. In spite of all this no complication or bad result was seen.

After the second day the diet is gradually brought to the normal. Movements too are gradually allowed. In uncomplicated cases the bandage is removed on the 7th day of operation. If the wound has joined and the anterior chamber is found to be of normal depth, a green shade may be given to the patient. On the 9th or 10th day the patient may be discharged. It may be mentioned that we must not expect a white scar tissue in the place of the corneal wound by this time. To a superficial observer the wound may even look unhealed. A careful examination, however, will reveal fine streaks of connective tissue passing between the edges of the wound. If the patient is seen after a month or so a white linear scar with smooth and even

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surface is seen in the place of the wound. Slight congestion of the conjunctiva and some lacrimation continue for a week or so after the patient is discharged. When they have disappeared and the eye is quite clean, glasses generally +10 D Sph. may be prescribed.

Above-mentioned is the after-treatment of uncomplicated cases of cataract extraction. In certain cases during the operation a bead or two of the vitreous escape. Since the tension is very much lowered in such cases and also to prevent more escape of the vitreous, rest in bed is more rigidly enjoined on the patient and is continued for a longer period say for 4 or 5 days. In such cases œdema of the upper lid is almost always observed. This is of very little consequence. Escape of vitreous in small quantity is not followed by any bad result; in moderate quantity detachment of the retina is generally noticed, and in large quantity, of course, the expulsive hæmorrhage on the table. Œdema of lid keeps up lacrimation and the congestion of conjunctiva for a long time. Hence, after the first dressing which, in this case, is generally done on the 5th day after operation, the bandage is opened daily, the eye is cleaned with a swab, and protogol sol. (5%) and atropine sol. (½%) is dropped in. On the 7th day it is advisable not to tie the bandage at all. Only a flat piece of guaze may be hung in front of the eye. This ensures escape of the lacrimal discharge when the patient winks. Sometimes, a little vitreous sticks between the edges of the corneal wound. This prevents the two margins of the corneal wound from coming in apposition and retards its healing. This vitreous now becomes less fluid and more consistent. It should be removed under cocaine anæsthesia with a pair of forceps (scissors) to expedite the healing of the wound. After sometime in cases in which it is not removed connective tissue fibres grow through it and the wound heals. The scar in this case is always wider and hence, impairment of vision follows.

Sometimes, it so happens that during the extraction of cataract the capsule of the lens bursts. The after-treatment in this case is not much altered from the general outline mentioned above. The cortical matter gets absorbed completely in certain cases and partially in others. In such cases it is advisable to keep the pupil well-dilated by daily or every other day instillation of atropine solution (½%). This is to prevent the iris from becoming adherent to the capsule or the cortical

matter. We then keep on watching the absorption of cortical matter. The absorption may be hastened by descisions after a month or so.

Another after-complication is the prolapse of iris. This too prevents the proper healing of the wound, and must be snipped of under cocaine anæsthesia on the 5th or 6th day. The prolapse of iris occurs when the corneal wound is bigger and only very little of the iris is cut during the operation.

And last of all, the cases that go septic, *i.e.*, in which the panophthalmitis occurs. It may be noted that in a small percentage of cases the infection spreads so rapidly, that nothing short of evisceration is possible. In the majority of cases, however, the infection progresses slowly. Much can be done in such cases not only to prevent the necessity of evisceration which, of course, is an undesirable, bad, cosmotic result, but also to leave some vision for the unfortunate patient. The safest course is to keep on enquiring from the patient if he feels any pain in the eye. This is, I think, the earliest symptom of beginning panophthalmitis. The moment he gives slightest indication of it, the bandage should be opened and the eye carefully examined. If the eye is clean, there is no discharge on the pad, none in the conjunctival sac, no marked infection of the conjunctiva, no haziness of the cornea, no exudate in the anterior chamber, no œdema of the lid, well and good, the eye should be rebandaged. If, on the other hand, any one of the above signs is present, particularly if some discharge is seen sticking to the corneal wound or some exudate observed in the anterior chamber, measures should at once be taken to check the spread of infection. We, in our hospital, never take any risk. We always open the bandage on the 3rd day of operation and examine the eye to be sure that nothing is wrong there. Subsequent opening of the bandage depends upon the condition of the eye. We do not open it for another 3 or 4 days if the eye is clean, the patient does not complain of any pain, or if the wound is found to have not joined. This latter is indicated by the facts that there is seen a free flow of the aqueous humour from the wound, the cornea shakes and the anterior chamber is not formed. The antiseptic measures that we take in the presence of the slightest suspicion of the infection are as follows:—The eye is left open to ensure the escape of discharge. A piece of plain sterile guaze is hung in front of the eye to protect it from dust and glare. If there is much discharge the eye is

washed every 2 hours; less frequently, if there is little discharge. For washing we use solution of Hydrargyri Perchloride (1 in 5000) for the first one or two days, and replace it by simple, plain, sterile water if the discharge is found to decrease, and the condition of the eye indicates that the progress of sepsis has been checked. The plain water is replaced because of the reason that the mercury lotion, sometimes, itself keeps up the discharge and conjunctival infection. After washing the eye we flush it with protogol solution (5%) and put in a drop or two of atropine solution (½%). This latter keeps the pupil well-dilated and the iris does not get bunged up with the organised discharge in a manner to produce a small useless pupil later on. It may be mentioned here that the progress of sepsis is indicated by increase in the amount of discharge, increase in the œdema of the lid, creeping of discharge into the ante-chamber, increase in the severity of the pain, development of chemosis of the conjunctiva, and haziness of the cornea, and of interstitial keratitis. This latter gives to the cornea an opaque yellowish white look.

Apart from mere washing of the eye, we give sub-conjunctival injections of solution of Hydrargyri oxicyanide in distilled water (1 in 500). 4 or 5 minims of this solution are injected under the conjunctiva after having cocainised the eye. A couple of injections are repeated at an interval of 24 hours. Then they are given on alternate days. The repetition is particularly safe when the chemosis has lessened or disappeared. The injections are, however, painful. The injections produce local increase of the leucocyts which alone can combat the infecting organisms.

Along with the above we give 30 to 40 grains of Hexamine by mouth in 24 hours in 3 or 4 doses, and this is kept up till the infection stops.

A word by way of remark. I have seldom found the above treatment failing to do much good to the patient. Often, some vision is left, which, in certain suitable cases, is improved by a little interference later e.g., iridectomy or making of the pupil with a Zieglers' knife.

If the above measures fail and the panophthalmitis does occur in spite of all efforts on our part, nothing short of evisceration is the best recourse. Enucleation should not be performed to guard against the development of fatal meningitis.

CASES AND COMMENTS.

BLACK-WATER FEVER

BY

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Black-water fever or Hæmo-globinuric fever is a kind of acute pernicious fever which occurs especially in tropical Africa, in tropical America, in Italy, Greece, Sicily and in some parts of India.

SYMPTOMS:—Fever, (which may be low or high, remittent or intermittent, and with or without rigor). Headache, pain in the back, over the kidneys, in the stomach, in the limbs, over the liver and spleen and in the bladder, may or may not be present.

Nausea, retching and vomiting is nearly always present. Tongue is coated; there is thirst, sometimes constipation or diarrhœa, and hiccough may or may not be present. *Jaundice is always present.*

The Urine is dark.—It may be black, brown, red or yellowish red. Such colour of urine may appear after the onset of fever. The urine, in many cases, becomes thicker than normal and it may be scanty. If the urine is allowed to stand, it deposits very thick sediment of red or brown colour. Retention or suppression of urine is, in some cases, found.

The stool is sometimes dark and stained with hæmoglobin.

The liver and spleen are enlarged and tender.

The patient may be delirious, unconscious, or semi-unconscious.

Anæmia develops in a day or two and œdema of feet occurs.

The Hæmo-globinuria, (i.e., urine containing hæmoglobin or colouring matter of the blood) may occur with each rise of temperature or it may appear once or twice only.

PROGNOSIS—*is good*, if the diagnosis, treatment and nursing are quite alright from the onset of the disease.

TREATMENT:—(1) *Perfect rest in bed.* (2) *Good nursing.* (3) *Plenty of fluid to drink*, (soda water, barley water, arrow root water, cold or lukewarm water or tea, whey, ice, lemon decoction, plain water, etc.), frequently (every 15 or 20 minutes), but not much at a time. If sufficient liquid is not retained

in the stomach on account of vomiting or if the patient cannot take the fluid due to unconsciousness, normal salt solution should be given per rectum or subcutaneously. The heart's action should be supported, if necessary, by hypodermic injection of Digitaline 1/100 gr. with or without strychnia/1/100 gr.

SPECIAL TREATMENT:—(i) "Hearsay's" mixture or "Stearn's" mixture (Liqr Hydrargyri-perchloride—m xxx, sodii-bi-carb—gr x, aqua add oz i every 2 hours for 1st one or two days; then every 4 hours after the urine has cleared up.

(ii). Acid citric—gr. xx, aqua ad oz i, every 2 hours, has cured several cases. It should be continued for 3 or 4 days after the urine has cleared up and the fever is off.

(iii). Adrenaline chloride solution 1 in 1000 in 15 m. doses every 4 hours is said to be good.

(iv). Sodii-bi-carb—gr. x, aqua ad oz i, every 2 hours in mild cases; sodii-bicarb 3 ss to 3 i aqua ad oz. i every hour or two (in severe cases) until the urine has cleared up. *Only sodii-bicarb cured several cases, without any help of other medicines.*

(v). Vitex Peduncularis (wall) infusion (1 oz. leaf to 2 pints of boiling water), given as tea as often as possible is said to be beneficial, and so is,

(vi). L'aflia Theoforms (Benner).

(vii). Cinchona febrifuge—gr. xx, acid citric,—3 i, aqua ad oz ii, mft 2 doses, twice daily, when the fever is off and the urine has cleared up (for a week or more).

Quinine sulph, instead of Cinchona, must not be given. After the cure of B. W. F. a tonic with cinchona arsenic and iron and a "change" is necessary. Quinine is indivisible in cases where the disease had begun after its use. *Quininne Tannate* is the most suitable drug. If *Quinine* is indicated it *should be given after the blood has been alkalised by sodii-bi-carb* and not before it, and the *Quinine* is to be *dissoived in organic acid* such as citric or tartaric acid and never in mineral acids.

A good Tonic after B.W.F.—

Dicoction of Alstonia Scolaris (Dita Bark).

Combined with Tinospora-Cordifolia (equal parts) 1 in 20, 1 oz. dose, for an adult, T.D.S.

It acts well in Chronic Malarial Fever.

(Syn. of Alstonia Scholaris (Dita Bark)—Chhatim chhal (Bengal and Assam), Aelilappalai (Tamil), Edakularilichetti (Telugu), Hale (Canarese), Elilampala (Malayalam), syn. of Tinospora cordifolia—Gulanch or Garuchi (Bengal), Shakunilat

(Assam), Sindilkodi (Tamil), Tippatigah (Telugu), Amrita-balli (Canarese), Amrutavalli (Malayalam).

WHY CÆSAREAN SECTION IS RARE IN INDIA?

BY

M. A. KRISHNA IYER, L.M.P.

One of the diseases for which mal-nutrition is responsible is rickets. Though very common in England and other places in the continent, it is comparatively rare in India (South India). The prevalence of the disease is to such an extent great in England that it is popularly known as 'English disease'. Though the disease itself beginning in infancy is responsible for a certain percentage of mortality, it is the permanent deformity of bones that is left in a patient that calls for many a serious surgical operation in later life.

Though the disease is not uncommon among the child population in South India, the permanent marks of the disease especially in women and subsequent complications arising out of them are comparatively rare. The very few number of Caesarean sections that is done in these parts can be said to be a sufficient proof of the statement. Though I could not give a definite and accurate statement of figures of cases of Cæsarean sections conducted in principal medical institutions in South India, as far as one could know, it may not be more than (most probably less than) five per cent of the medical men practising in these parts, either Government or private, who had had a case of the sort in their practice.

It may be that a few cases of labour might have ended fatally, having had no chance for detection of the real state of affairs, for, management of labour by medical men has not become universal in the interior parts of the different districts. Again, a few might have ended in fætal death, for want of facilities in a late stage of labour, to perform the major surgical operation, for, it is an undisputed point, that even among the so-called civilized classes the routine of examining the pregnant woman is a quite unknown phenomenon.

Leaving aside the above circumstances, one could say that Cæsarean section is rather a rarity in these parts as compared with the figures of those of other parts of the world.

When considering the above question and taking for granted that the statement is more or less a fact, there naturally

arises a question as to why, it should be rare in these parts. The answer is that the bony part of the mother's passage is almost always up to the correct measurement. The disease or diseases affecting the bones, chiefly the pelvic bones in women, are rather rare. And of the diseases that play an important part in the condition, I think ricket may top the list as it is an almost settled fact that rickety pelvis is one of the most important conditions that calls for a Cæsarean section.

Here naturally follows another question, why should rickety pelvis be rare in these parts? The answer naturally devolves round food or in other words, nutritional disorder. It is not possible, in this connection, to give a complete and detailed explanation to the etiology of the disease. Various and divergent are the views of eminent medical men regarding the subject. Though a lot of discussion centres round one view or other, the widely-accepted view as to the cause is, "Nutritional disorder". It may be deficiency in the fat or deficiency in protein or it may be excess in carbohydrates. Whatever it is, these are the children that are fed with artificial food that are most affected by the disease. Feeding with preserved and canned foods is rather rare among Indians. Further, if we consider the question of vitamins, deficiency of which may contribute a share to the etiology of the disease, we may, almost with certainty, say that an average Indian's diet (at least in South India) contains many substances which are taken raw, that contain the complex substances, vitamines A, B, & C. But here, one must admit, that with the spread of the civilization, many an evil custom and practice condemned by medical men even in Western countries are being brought to practice. So, if the defects due to the advance of the evil of civilization are not checked at the proper time, it will not be very late when India also may contribute an equal percentage of rickety patients and prove false, the statement of Dr. Frederic Langmead that, in India, the infants escape the malady and consequently, Cæsarean section would be one of the common surgical operations in midwifery practice.

PRICKLY HEAT

BY

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Prickly heat is an eruption of the skin characterised by discrete but closely-set pappules and vesicles appearing at the mouths of the sweat ducts in the skin. These pappules and vesicles vary in size from a pin-point to a pinhead and cause intense itching and burning and are due to profuse perspiration. The eruption first begins as mere points of redness near the pores of the skin. After a day or two, they develop into small vesicles containing clear fluid which, in course of time, turns turbid and purulent. Finally, the vesicles dry up and fall from the skin as white scales. The eruption at first causes a pricking sensation and later on, intense itching. Prickly heat affects, generally, the parts of the body that are covered by clothing, and occasionally, on the face and hands.

Etiology:—Prickly heat occurs in the tropics during all seasons while in the temperate zone, during warm weather. The immediate causes are, excessive functioning of the sweat glands brought on by exposure to severe heat or violent exercise. Too heavy or too light clothing may aid in its development. Children, fatty persons, fair persons and persons of a nervous temperament are generally affected and in these the pappular variety is often seen. The vesicular form is seen in weak and anæmic persons and ill-fed and unhealthy children. The chief cause is, I think, the stagnation of the sweat on the skin without its getting absorbed by the clothes and the stagnating fluid irritating the skin and producing a mild inflammation.

Treatment:—The treatment for prickly heat is mainly prophylactic. Too heavy clothing, which does not absorb the perspiration as it forms, should be rigidly avoided especially in summer. Very thin underwear cannot absorb perspiration satisfactorily and hence, should be discouraged. The clothing especially, the one next to the skin, should be of cellular cotton fabric and must be changed frequently at least once a day and should be well-washed. General cleanliness and bathing are also prophylactic measures. The curative part of the treatment consists in the removal of the cause, though some popular and useful remedies may be mentioned here. The most popular and well-known remedy for prickly heat is the application of a thin paste of sandal with rose-water. A weak solution of ammonia, half an ounce to a quart of water is reputed to allay the itching. Sponging the eruptions with lime-water has some effect on children. Anointing the body lightly with oil before the bath has also been recommended. As excessive sweating is liable to cause eczema, intertrigo, dusting or drying powders are to be used for the Axillæ and other skin folds.

OCCUPATIONS AND THE SO-CALLED RHEUMATIC PAINS

BY

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The word rheumatism like malaria, has been much abused. The term occupies a large space in Dispensary Reports and goodly proportion of the patients, who come to physicians' offices complaining of pains of various kinds are supposed to be sufferers from it. As a matter of fact, careful analysis of most of these cases will show that the symptoms can be explained much better on other grounds than those of rheumatism. Rheumatism is a large mantle, that, like charity, may be made to cover a multitude of sins—diagnostic sins. It is rather easy to say the word rheumatism, then it is rather satisfactory to the patient. The joint troubles, atrophic and hypertrophic, so commonly labelled rheumatism, are not generally rheumatic and the so-called muscular rheumatism becomes a diminishing quantity when patients are examined with due reference to their occupations.

Keen observation and careful examination of many of the so-called cases of rheumatism take us to their occupation.

Certain sets of muscles are used much more than others in the course of one's daily work whatever it may be, and after a time, a sense of discomfort occurs in these muscles.

Attention is drawn to the condition and the fear of rheumatism comes in to make discomfort greater. It becomes so much emphasized as to be described as painful.

In some cases, then, there follows the limitations of movement with pain on motion, though it is not always present.

A good many people know or think they know, that their father or mother suffered from vague pains that were called rheumatic in the past and so they think that they have inherited them. What foolish nonsense it would be, if a father lost a finger and we should expect that the children born after this accident should not have the full quota of fingers?

Rheumatism is an acquired disease, usually due to a combination of exposures to a particular microbe, which, probably, is not single but multiple and to inclemencies of the weather.

That anything acquired in this way should be transmitted to the next generation would amuse a serious Biologist.

Safe, it is always, to begin with the occupation of the patients. Most of the cases of lumbago are seen in two classes of people viz., tailors, who bend much over their work, people doing heavy lifting with much stooping involved. Both of these classes of workmen, however, constantly use their lumbar muscles. In some of them, this use by an individual idiosyncrasy becomes an over-use and they are not able to stand and consequently suffer.

In those, suffering from sciatica, nearly the same thing is found. The majority of sufferers in this are shovellers and machine workers who stand much on their feet without active exercise. In a certain number of cases, there is often something more than a neurosis, there is an actual neuritis. The reason for the development of this is that over-work required of a particular nerve seems to lessen its resistive vitality.

Certain toxic substances are also responsible for this. The presence of alcohol in the blood seems to lead to development of a toxic neuritis much more readily in nerves that are exhausted by hard work than in others. It must not be forgotten that the vaso-motor mechanism throughout the body is not entirely reflex, though it is involuntary.

It does not always require sensory irritations at the *periphery* of the body to produce actions of the vaso-motor system. The mind has a large power of control or rather mental states affect very powerfully the vaso-motor condition at the surface and *beneath* it. We shiver not from cold alone but also from fear. It is easy to understand, then, that the attitude of mind of the patient towards a feeling of discomfort in a particular part of the body, the basis of which may be a vaso-motor disturbance is likely to emphasize that disturbance. If the patient keeps

thinking constantly of the part of the body and bothers about it then the vaso-motor tone and reaction are likely to be interfered with. This is what actually occurs, so that slight discomfort becomes emphasized into unbearable pains, though this is no new pathological condition developed but only a functional disturbance. These vaso-motor disturbances furnish the time-honoured custom of giving salicylates or coal tar products which will relieve pain in certain acute stages, but as a rule, do no good. We know too little about these coal tar products to permit their use on this principle and as regards salicylates they are too irritating to the stomach and kidneys to be used to any extent.

Many sufferers of vague pains, if keenly observed and carefully examined, are found to have "PYORRHŒA." At any rate, one is guided more by patients' main complaints like pains in joint or joints and prescribes salicylates with no effect. The reason for tho unsuccessful treatment in pains like these is due to either our ignorance of the underlying cause or negligence in careful examination of patients.

What I want to emphasize in connection with this is that, we should never be guided mainly by patients' complaints as is generally done in relation with vague pain.

The object in forwarding this article is simply to point out firstly, how one is misguided in the correct diagnosis and secondly, the important relation of these rheumatic-like pains with occupation in life. In any case of vague pains, occupation should be made along with the examination of oral cavity. If these two factors have no bearing with the complaint you are free to proceed further.

Lastly, what should be the treatment of such pains?

Various are the drugs advocated and advertised it is left for us to make discriminate use of them after careful search of the cause.

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JULY, 1926.

MUSIC IN MENTAL DISEASES.

The pros and cons of the practical application of music in the treatment of the morally and mentally afflicted, form a subject of wide discussion at the present day. It is a theme which stimulates the public fancy. The general re-action to the attempts to utilize music as a means of improving the moral and mental status of those afflicted ones, so often pessimistically misnamed the criminal and the insane, is much more emotional than rational. The question is often asked, is music really a therapy? or is it merely a diversional pastime? If one takes the stand that the title 'therapy' may be given only to those methods which, each in themselves, are powerful enough to transform a sick man into a healthy one, independently of any other means of treatment or natural tendency toward cure, where would most of the therapies be? Are we not to regard as therapy every detail of treatment which stimulates the natural tendencies toward cure and intensifies and modifies the physiological and psychological functions of the individual to such an extent that his feeling tone improves and concentration and a wholesome display of energy take the place of listlessness—this regardless of whether the treatment takes the form of surgery, internal medicine, a bathing technique, a diet, a class in basket-making, the singing of songs, the listening to a band, the tossing of a ball, standing on one's head, or telling or laughing at a joke? Each of these, in its own way, may constitute a therapy, because, all help, in varying degrees, to turn a moribund man into a happy one, a sufferer into a pleasantly affected man, a bore into a social asset, a strongly pathalogical into a less pathalogical type. All these details are therapies, provided they are not regarded as self-sufficient but as assistants to the innate tendency towards cure, the natural curative factors, without which all man-invented therapies are helpless.

In all ages and in all climes, music has been regarded not merely as a means of recreation but also as medicine—a sort of rehabilitating and reconstructive tonic to man's jaded and faded nerves. If there is any external stimulant which arouses the emotions and thereby, the desire and potency to live, function, get busy and be happy, it is music, as every one not stone-deaf knows. Verily, music acts as a charm to the mentally-unsound and the morally-depraved and is a therapeutic agent of no mean value.

It cannot, however, be claimed for music that it is a cure-all or that a single cure or reformation can be credited to it as being all its own. Music merely brings love to the mental patients and arouses it in them in an impersonal and in an inexpensive way. Its moral and mental therapeutic power lies in its gifts for turning them from the unfriendly, sullen and resistive mental attitude toward the friendly, willing and assistive frame of mind, which is a pre-requisite for the morally and mentally efficient and co-operative citizen.

America heads the list, as in many other cases, in effecting a salutary reformation of its prisons and insane asylums in the direction above indicated, while the rest of the world, with all its boasted civilization and professed solicitude for human welfare, is still slumbering and steadfastly clinging to the old methods of callous indifference and ruthless revenge in the treatment of prisoners and lunatics. Three years ago, the Committee for the Study of Music in institutions with Mr. Willem Van de Wall, as Field Director, was formed in New York for the purpose of utilization of music in Prisons and Mental Hospitals as a line of treatment. The results accomplished by him were so remarkable that the work was extended to Pennsylvania, and Mr. Van de Wall has become a staff member of the Bureau of Mental Health, Department of Welfare, for the State and a field worker among the State Prisons. His experiences are recorded in an admirable little book published by the National Bureau for the advancement of music. It presents a number of actual cases which are typical of conditions. The sentiment expressed by one of the prisoners, after the close of a two hours' concert held for their benefit in a big jail for male convicts, is worthy of notice here. Addressing the prison official, who was taking the prisoners for the night count, he said "Hey, mister, don't you think we are musical fellows? You know we have just a few 'bad eggs' among us but most of us

are just darned fools, romantic chaps, who pay a heavy price for the nonsense stuff we pulled. But you know we have feelings too. The people on the outside forget that, and we forget it, too. But this music brought it out and back, at least to me. And that was all right. But, otherwise, life here is a lot of bunk ". This shows the wonderful transformation of the mentality of the criminal, which a two hours' music had wrought.

In the Mental Hospitals, several cases, otherwise recalcitrant, have been cured by the aid of music. Especially in the case of epileptics, the remedy was marvellous. " Epileptics, on the average, like music. As yet, no remedy has been found for this disease but it seems to be, to some extent, influenceable. And music helps certain epileptics to control themselves in a way, helps them to get busy, to forget to worry, and to do something worthwhile, instead of fretting, tearing things up and aggravating their conditions. Many epileptics have been geniuses. This shows that epilepsy does not imply imbecility. It is, therefore, a crime to allow epileptics to deteriorate. And they can learn music very readily as also other fine arts. There seems to be a connection between certain epileptic and artistic trends ". This was the finding, the result of close observation and treatment of epileptic patients by music, recently tried in the Mental Hospitals in America.

We are convinced that music would certainly prove to be one of the most potent methods of reclaiming these unfortunates and it behoves the Indian Government and the Indian public to take a lesson from America and introduce music in all Mental Hospitals and State Prisons, and thus replace an era of retaliation and revenge by one of love and sympathy towards the unhappy inmates of these horrid institutions.

A CORRECTION.

In the May '26 issue of the Antiseptic, page 281, line 14 under the heading ' Delhi Medical Association ' -Annual Dinner, instead of " A R. A. M. C. (India) should be constituted like the British R. A. M. C *consisting of the white army* (according to war office orders) " please read " A R. A. M. C. (India) should be constituted like the British R. A. M. C. *consisting of British and Indian officers, the British officers to be in charge of the white army (according to war office orders).* The omission is very much regretted.—[ED. ANT.].

CURRENT TOPICS.

MEDICINE AND THERAPEUTICS.

Association of Iodine and Salicylate in the Treatment of Chronic Rheumatism:—De Jong and Wolff obtained good results from intramuscular injections of iodine combined with salicylate by the mouth in the treatment of acute attacks of old rheumatism. They use ampules containing 1 gm. of sodium iodide in 10 c.c, of a 25 per cent. glucose solution. In one of their patients, 6 gm. of salicylate by mouth for three days failed to relieve while 4 gm. supplemented by injection of iodide banished the pains in two days. The same was observed in another case after failure of four months, of other treatments. The iodide is injected into a muscle close to the affected joint. This combined treatment did not display any special influence in acute articular rheumatism.

Acrifiavine in Epidemic Encephalitis.—C. E. Riggs (Minnesota Med, December 1925, P. 753) records three cases of epidemic encephalitis in patients aged 24, 40 and 33 treated by intravenous injections of neutral acrifiavine. Each patient received eight consecutive injections. The dosage was 10 c. c. of a 0·5 per cent. solution. In order to avoid distressing symptoms the injection was given slowly at the rate of 10 c. c. in five minutes. If the injection was given more rapidly, there would be gasping respiration with air hunger, associated with a sensation of heat affecting the mucous membrane of the respiratory tract and intense lacrimation. After two or three injections the patients experienced great relief and after eight injections the improvement was really remarkable. The Kernig Babinski and other objective signs disappeared slowly.

Treatment of Erysipelas with Mercurochrome.—In the cases reported by Eldridge, a 5 per cent. solution of mercurochrome, 220 soluble, was applied to the affected area with cotton swabs, once daily, until the eruption was well on its way toward subsidence. In only one case did the affected area show any tendency to spread after the first application of the drug and in this, there was no spreading after the second application. Two patients developed a secondary area of eruption on another part of the body on the third or fourth day after the initial

eruption but the secondary eruption being treated immediately after appearance, subsided almost at once. The initial eruption in all the cases was seen and treated in the first twenty-four hours after its appearance. The treatment of three cases by cold compresses was undertaken for comparative purposes. It is interesting to note that two of these patients developed serious complications, one of them dying and that all three showed a tendency for the eruption to spread freely. On the other hand, only one of the eight cases treated with mercurochrome developed any complication and this one, not serious.

Insulin in Suprarenal Insufficiency.—Marafion injected five and ten units of insulin in two women with Addison's disease. A dose of ten units was also given to a woman with cancer of the stomach and to another with advanced tuberculosis of the lungs. It was evident, that insufficiency of the suprarenals had induced a special succeptibility to insulin. Thus, small doses of insulin might induce even fatal by-effects in Addison's disease. The hyper-sensibility is not connected with the general condition since it was not apparent in two other cachectic patients with hypo-tension and hypo-glycæmia. The cause of the hyper-sensibility seemed to be a decrease of the epinephrine secretion. Grave lesions of the suprarenals were found in diabetics who had died of coma notwithstanding the disappearance of hyper-glycæmia and acidosis under insulin. Observation of a man with a tumor of the pituitary showed that the insufficiency of this gland does not induce a hyper-sensibility to insulin comparable to that from suprarenal insufficiency.

Lumbar Puncture Head-ache.—Alpers asserts that patients who show a marked fall in spinal fluid pressure after lumbar puncture are prone to develop lumbar puncture head-ache. Pituitary extract (1 c.c. intra-muscularly) is of great benefit in most cases of lumbar puncture head-ache. Hypotonic saline solution (100 c.c. of a 0·5 per cent solution) is of value in severe and persistent cases of post puncture head-ache.

Head-ache with Nasal and Eye Discharge, Limited to one Side.—Pasteur, Vallery-Radot and Blamoutier's patient, a woman, aged 35, presented daily paroxysms of head-ache with lacrimation and a watery discharge from the nose. The phenomena were confined to one side of the head, and were accompanied by different vaso-motor changes. The ice test, namely, application of ice to the fore-head, or plunging the hand in ice water always relieved the head-ache in two minutes, all the symptoms completely subsiding in five minutes. Under one subcutaneous injection of 1 mg. of epinephrine, head-ache and also the nose and eye secretion were arrested in ten to fifteen minutes, not re-appearing for twelve or fourteen hours. Intravenous injection of one drop of a 0·1 per cent. solution of epinephrine arrested immediately the pathologic phenomena. Twenty drops of the solution, used for a gargle, induced an improvement in a few minutes, the effect being less pronounced than with subcutaneous injection. Administration of epinephrine by the mouth or rectum, or its application to the mucous membrane was without effect. A stream of hot air, applied to the fore-head, for about ten minutes, as well as inhalation of amyl nitrite aggravated the head-ache and the secretions. Evidently, the disturbances were due to a vaso-dilatation of sympathetic origin, thus explaining the efficiency of the vaso-constrictor agents. The patient recovered after twenty subcutaneous injections (each 1 c.c.) of the epinephrine solution. The mother and a son of the patient suffered from migraine. A hereditary defect was revealed by a sympathetic syndrome of vaso-constriction in one and of vaso-dilatation in the others.

Diagnosis of Tuberculosis in Young Children.—Mikulowski lists the methods and signs which may aid in the differential diagnosis of tuberculous meningitis in young children. He recalls, among others, Brudzinski's neck sign and contra-lateral reflex. The neck sign appears earlier, and is more constant than the Kernig and Babinski's signs. The neck sign was positive in cent per cent. of his cases, the two other signs only in 45 or 50 per cent. He points also to Brudzinski's cheek sign, consisting in the lifting of the hands, with the elbows flexed on bilateral pressure below the zygomatic process; also, the pubis sign drawing back the legs when compression is applied to the pubis. These two phenomena can be elicited before any other signs of tuberculous meningitis become manifest.

The Para-thyroid Hormone—A warning.—At present, the preponderance of opinion with respect to the para-thyroid structures makes them responsible for the elaboration of

hormone having to do normally with the regulation of calcium metabolism through a specific control of the concentration of the element in the circulating blood. This view has been rendered highly plausible by the recent well-substantiated demonstrations of the preparation of extracts from the para-thyroid tissue that have the potency of raising the concentration of the circulating calcium. They are effective in replacement therapy after the otherwise fatal complete para-thyroidectomy. Para-thyroid tetany and a low level of blood calcium have long been recognized as co-incident phenomena. Both can be respectively relieved and raised by administration of calcium salts; likewise, by the use of preparations containing the para-thyroid hormone.

As might be expected, such experimental studies in this field have promptly given an impetus to the discovery of possible clinical applications. Collip has sounded the keynote by reminding us that calcium metabolism enters into many medical problems. An agent is now at hand, he adds, which influences profoundly the calcium metabolism. It must be recognized, however, that the para-thyroid hormone is a most potent therapeutic agent and that its use may be attended with great danger unless due precautions are taken to avoid an over-dose and the development of hyper-calcemia. It may be that a condition of mild hyper-calcemia would be of definite benefit in certain conditions. Only by careful clinical studies, however, will the ultimate merits or demerits of this hormone be determined.

More recently, Collip's warning against any but the most careful and discriminating clinical use of para-thyroid extract has been sounded anew by Greenwald and Gross of the Harriman Research Laboratory at the Roosevelt Hospital, New York. It is their belief that the para-thyroid hormone facilitates the solution of calcium phosphate. By what means this happens is not yet determined. In their tests on animals practically deprived of calcium in the food, the calcium content of the blood was nevertheless increased through the use of the para-thyroid hormone. This, Greenwald and Gross remark, must have been at the expense of certain tissues. Since the increased excretion of calcium was regularly accompanied by an approximately equivalent increase in the excretion of phosphorous, it is not unreasonable to assume that both calcium and phosphorus were derived from bone, particularly

since there seems to be no other tissue that could supply the large amounts lost. According to the New York bio-chemists, excess of para-thyroid secretion leads to excessive solution of calcium phosphate from the bones and, possibly, other tissues, and to an increase in the concentration of calcium is much more evident. Both substances are excreted in increased amounts and in approximately equivalent proportions. Hence, the timely significance of the reminder that those who venture to use para-thyroid extract clinically should clearly understand that the hyper-calcemia it induces is not due to improved assimilation but is the cause of an increased loss of calcium. It is not to be used to promote calcium assimilation, for only the contrary result is to be anticipated.

Alcohol Injections relieve Pain of Laryngeal Tuberculosis.—Thirteen patients with advanced pulmonary tuberculosis and specific laryngeal tuberculosis were treated by Swetlow by injecting the superior laryngeal nerve with alcohol. Four patients who had agonizing pain and could swallow practically no food of any kind because of pain were completely relieved. One patient had been free from all discomfort for twenty-two days. The pain recurred, and after another injection the patient was again comfortable. Another had been absolutely free from all discomfort for twenty-five days to date. Still another had been almost completely relieved for thirty-five days to date. Another group of patients, though relieved of pain, have difficulty in "pushing the food down," as they put it. Various degrees of this difficulty are complained of. In fact, all of the patients treated had this motor disturbance which disappeared in a day or two.

Use of Phosphorus in Therapy.—Castellani speaks well of the use of phosphorated oil, externally and subcutaneously, in the treatment of granuloma inguinale, rickets, beri-beri and osteo-malacia. It seems to be useful as an adjuvant of quinine in certain cases of chronic malaria. Phosphorus is a powerful drug and its delayed action on the liver especially should be kept in mind; it should therefore be given with care and every precaution should be taken. Castellani has used 5 minims (0.3 c.c.) of pure oil locally, and injects ½ minim (0·03 c.c.) in 10 minims (0·6 c.c.) of almond oil subcutaneously.

Tryparsamide in Trypanosomiasis.—Cases of African sleeping sickness treated with tryparsamide originally by Pearce and later observed by van den Branden and van Hoof, and the cases by the last two workers alone at the Laboratory of Leopoldville, afford the very satisfactory figures of 100 per cent. cure of early cases, with unaltered cerebro-spinal fluid. Chesterman reports a similar success in five such cases, noted for from three and a half months to one year after treatment.

Treatment of Hook-*worm* Infestation.—The most efficient treatment tested by Sweet for removing hook-worms was a combination of carbon tetrachloride and oil of chenopodium in the ratio of 3 : 1, given in a solution of magnesium sulphate for a purge. This combination was also highly efficient in removing ascarids, although the giving of the salts two hours after the anthelmintic increased the efficiency in removing these worms. In a country where infection with ascaris lumbrecoides is widespread, the combination treatment, given in the purge of magnesium sulphate, will be a better routine measure than either of the anthelmintics given alone.

Intravenous Injection of Camphor.—G. Hosemann (Zentrlbl f Chir, February 13th 1926, page 394) states that he has used camphor injection in over a thousand cases during the last ten years and that the method has also been well-tested by a number of leading surgeons. Schroder (Kiel) reports that he has recently abandoned the transfusion of large quantities of blood as he considers that the intravenous injection of camphor is preferable. Hosemann's solution had the following formula:—"spiritis camphoratus" 3·5 parts, alcohol 2 parts and sterile distilled water 4·5 parts. The results are said to be more certain than those produced by the injection of sodium chloride and normal saline of glucose solutions. This injection of camphor into the blood stream is stated to have remarkable results in cases of severe hæmorrhage and of circulatory failure whether due to shock or to septic absorption. A patient had had intestinal obstruction. For several days he was pulseless with cold blue extremities but after the above treatment he rallied sufficiently to enable laparotomy to be performed. In twelve cases of paralytic ileus following suppurative appendicitis and peritonitis the patients' lives were saved by injections of camphor glucose solutions. The patients rally immediately after the injection and experience a sensation of warmth and returning strength.

OBSTETRICS AND GYNÆCOLOGY.

The Cause of Eclampsia.—H. Elwyn (Amer. Journ. Obstet. and Gynecol, November, 1925, p. 698) remarks that there have been several attempts to explain the phenomena of eclampsia in pregnancy and that the modern tendency is to ascribe them to the toxic effects of metabolic substances derived from the placenta. Volhard thought that the clinical manifestations of eclampsia resulted from a general arterial spastic contraction. Elwyn states that stimuli controlling both uterine contraction and vaso-constriction travel along the throracico-lumbar branches of the sympathetic nervous system, that uterine constrictions can be influenced by stimuli applied to the anterior part of the optic thalamus and to the floor of the third ventricle, that in the medulla there is vaso-motor control centre and that general vaso-constriction can be obtained by stimulating the region of the hypo-thalamus. He concludes, that the centres for control of vaso-constriction and uterine contraction are closely related to one another and the impulses travel along almost the same neural paths. He suggests, that with the beginning of pregnancy there is an increase in the excitability of the nerve supply to the uterus and of the corresponding centre in the brain and that the close proximity of the centre for vaso-constriction permits this increased excitability to spread to it. This condition of the nervous mechanism becomes more marked as pregnancy progresses and lasts as long as the uterus is required to contract—that is, into the puerperium. Elwyn states, further, that the increased excitability is probably present to some extent in every case of pregnancy, but that only in some cases does it become sufficiently pronounced to cause a general spastic contraction of the pre-capillary arterioles. He suggests, that those stimuli which cause eclampsia are variable, and include emotional stress and excessive physical effort and the passage of the child's blood into the mother's circulation should incompatibility exist. It is this general arteriole contraction which, in his opinion, gives rise to the clinical manifestations of eclampsia and to the histological changes found in this disease.

Palpation of Fœtus in Abdomen.—In the method described by Mc Cromick the patient is placed on an examining table, and

the abdomen exposed as for abdominal palpation. The examiner stands to her right facing her, and with his right hand assuming a "C" grasp, he places the end of his extended right thumb perpendicularly to the umbilicus, and firmly though gently, depresses it. He then applies the "C" grasp, composed on the palmer surface on the thumb, radial palm and first two or three fingers to the left part of the patients abdomen along the transverse plane passing through the umbilcus. The end of the finger should go as far back on the loin as their extent will comfortably allow. After a few seconds' effort in noting whether he has the firm, round, smooth parts of the baby within the grasp, or whether it contains soft, irregular, or indefinite parts, he releases the grasp, and he still holding his thumb against the depressed umbilicus pivots the palm and finger 180 degrees counterlockwise, and re-applies a similar grasp to the right part of the abdomen along the same transverse plane. Then, for comparison, he makes the same rotations on the parts grasped as were made on the left. The Manœuver is primarily recommended as a substitute for the classic second manœuver, namely, that of palpating the sides of the uterus with the entire palmar surface of both hands. It is applicable with the fœtus lying in the longitudinal axis, but it is of equal value in transverse or oblique presentations by using the same technic except applying the grasp first below and then above the umbilicus along the longitudinal plane. It is likewise applicable in cases of multiple pregnancy. The manœuver is pratical only after seven months' gestation, because the umbilicus is then somewhere near the centre of the so-called "fœtal triangle."

Treatment of Leucorrhœa.—R. Salomon (Klin. Woch., July 15th, 1924, p. 1324) remarks that in treating patients complaining of vaginal discharge it is necessary to exclude gross disease of the vulva, vagina, uterus, and adnexa, constitutional disorders such as diabetes, and extra-genital morbid conditions such as pulmonary tuberculosis. If such causes are established they require appropriate treatment; in their absence the object of treatment should be to restore normal biological conditions within the vagina. Healthy vaginal secretion is slightly acid, owing to the presence of from 0.3 to 1 per cent. of lactic acid; the acid is secreted chiefly by Dœderlein's bacillus. This acidity and the presence of this bacillus are necessary for the exclusion of extraneous pathological

micro-organisms. In treating leucorrhœa it is therefore wrong to give antiseptic douches or tampons. Daily instillation of lactic acid in 0.5 per cent. solution suffices in many cases within three weeks to restore normal chemical and bacteriological conditions in the vaginal secretion. The lactose preparation recommended by Lœser, which contains living lactic acid bacilli in varying amounts, may be used. Salomon has had good results from injections of a lactic acid-producing colon bacillus; also by the simpler method of instilling in the vagina small amounts of milk which, after standing for some hours, contains the lactic acid bacillus, and often, in addition, organisms microscopically and culturally resembling Dœderlein's bacillus.

Pernicious Vomiting of Pregnancy.—The essentials of treatment in cases of pernicious vomiting in pregnancy should be:

1. Rest in bed.
2. Gastric lavage, with solution of sodium bicarbonate 1 drachm to the pint, one or two pints being used.
3. Solution of adrenaline, 5 minims hypodermically every three hours for a few doses until the vomiting ceases, or the adrenaline solution may be given by the mouth in doses of 10 to 20 minims in a little water. It will be found that this drug is very efficient in stopping many kinds of vomiting.
4. The omission of all feeding by the mouth, at first, and feeding by rectal salines containing from half an ounce upwards of glucose to the pint, with a small quantity of sodium bicarbonate added, if there is any diacetic acid in the urine.
5. The addition to the evening salines of 30 grains of potassium bromide to help sleep and reduce irritability of the nervous system.
6. The gradual increase in feeding by the mouth, beginning with small feeds of water as described above.

In cases of vomiting of pregnancy which are seen by the physician as they are getting more severe it will be found, that treatment by administration by the mouth of solution of adrenaline in doses of 10 minims of 1 in 1,000 solution added to 2 drachms of water at three to six hourly intervals, will, in many cases, be sufficient to stop the vomiting. The diet, at the same time, should be light and given at short intervals. The above

treatment by lavage and rectal salines should be reserved for the more serious cases, or to those which do not respond to treatment by adrenaline.

Treatment of Dysmenorrhœa.—E. Klaus (Therapeutic Gazette, November, 15th 1925, p. 779) states that while the symptoms of dysmenorrhœa sometimes require very radical measures, yet palliative treatment by narcotics is often all that is required. The difficulty of this lies in the facility with which these patients acquire the drug habit. He reports seven cases of spasmodic dysmenorrhœa in which the symptoms were controlled by the administration of chloretone. His usual practice was to give five grains two or three times daily for a week before the period. In six cases this was only necessary for a few months, after which, the patient appeared cured; in the other case, the treatment had to be discontinued owing to the hypnotic and depressing effect of the drug. He found chloretone comparatively non-toxic in this dosage, and that, if necessary, the dose could safely be increased. In his opinion, there is very little risk of habit formation and chloretone can be given to patients who would not be safe with other hypnotics.

SURGERY.

Sequels of Prostatectomy.—R. H. Herbst discusses the causes of interference with urinary function after removal of the prostate and emphasizes the importance of the pre-operative examination from this point of view. Diverticula of the bladder which are frequently associated with prostatic obstruction may be congenital or acquired and if overlooked, retard convalescence by maintaining cystitis with frequent and painful urination. The author recommends strongly, that in every case of prostatic obstruction, the bladder should be distended before the operation with a 15 per cent. solution of sodium iodide and a radiogram taken; the bladder should then be emptied and injected and a second radiogram taken. In this way diverticula which do not retain urine can be recognized and need not be removed though the retention type must be excised when the prostate is dealt with or soon after. Examination of the central nervous system is also recommended in order that any nerve or circulatory lesions may be detected. Fibrosis of the internal sphincter may interfere with the urinary function after prostatectomy and prostatic tags left behind and attached to the internal

urethral orifice may be large enough to obstruct the flow of urine. Another cause of obstruction is the barrier produced by the trigone crossing the internal urethral orifice at a high level. This can be detected after enucleation of the prostate and may be corrected by a V-shaped excision of the bladder wall at this point. Urethral polypus developing in the prostatic bed may be the cause of impaired function; they can easily be removed by diathermy. Careful bi-manual palpation of the prostatic bed and the trigone will reveal the presence of any deep-seated enlarged submucous glands. Retention and infection of the upper urinary tract is not uncommonly overlooked and is usually corrected quickly by pelvic lavage and instillation of silver nitrate. Other possible causes of impaired function after prostatectomy include infection of the seminal vesicles; formation of a stone in the bladder; the incomplete removal of a prostatic adenoma; and malignancy in the lower segment of the prostate with benign hypertrophy in the upper one. Adhesion of the posterior surface of the gland to the lower segment should arouse suspicion of the existence of this last condition and bi-manual palpation of the prostatic bed after enucleation will usually reveal some hard nodules in the so-called surgical capsule of the gland.

Local Vaccine Treatment of Chancroid.—Hababou-Sala (These de Paris 1925, No. 508) who records seven illustrative cases employs a specific anti-Ducrey vaccine filtrate for the local treatment of chancroid. Filtration is necessary as the presence of micro-organisms would cause an intense local reaction. If the bubo has not been opened as much as pus as possible is evacuated by puncture and then the vaccine filtrate is injected. Cotton-wool or gauze, soaked with the filtrate is then applied as a dressing. Open buboes are treated in a similar way. The soft chancre itself is first cleared with sterile water and then dressed with cotton-wool or gauze soaked in the vaccine filtrate. The dressing is renewed every day and no other treatment is employed. The vaccine filtrate acts with remarkable rapidity. Within the first twenty-four hours the pain disappears, the pus becomes less and by the fourth day, the bubo may be regarded as healed.

Insulin in Surgery.—F. N. G. Starr and A. G. Fletcher (Surg. Gynecol and Obstet. February 1926, p. 194) draw attention

to the various ways in which insulin administration is of especial value in surgery and obstetrics. By giving insulin, any diet may be prescribed to strengthen a debilitated patient—a point to be remembered in preparing for operation subjects of chronic cardio-vascular disease. Excess of carbohydrate may be given under these conditions with some apparent protective action on the liver during the course of the anæsthetic and operation. The authors recommend that 20 to 40 grammes of glucose or other carbohydrate and 15 units of insulin should be administered three or four hours before the operation. Post-operative treatment should aim at anticipating metabolic disturbances as far as possible and therefore, small doses of insulin such as 10 units, three times a day, may be given as a routine as soon as food is taken. The dose should be based upon the determination of urinary sugar and when possible, upon the blood-sugar. In major operations some degree of hyper-glycæmia is unavoidable but insulin should be increased in an attempt to control the rising blood-sugar level. Ketosis may be developed rapidly after an operation and steps must be taken to re-establish adequate utilization of carbo-hydrates when there is hyper-glycæmia and glycosuria. Increased doses of insulin may suffice for this purpose but otherwise, additional carbohydrates must be supplied. Post-operative nausea and vomiting may occur, aggravated by the ketone intoxication and marked dehydration may set in. It may be necessary, therefore, to administer the glucose and fluid intravenously giving 5000 c. c. of a 5 per cent. solution as often as required. In the event of infection or severe toxæmia the insulin may be much lowered and the patient requires 50 units or more, four times a day. Under such conditions the insulin administration must be pushed until it is effective in lowering the blood-sugar level. Although insulin has been advocated in the pernicious vomiting of pregnancy the authors doubt its value since it appears that ketonuria is the result of dehydration.

Treatment of Post-operative Retention of Urine.—Michon and Bouvier encountered thirty-four cases of retention of urine among 195 operations on the pelvis. Instillations into the bladder of glycerin with boric acid were made in twenty-two cases (10 to 20 c. c. of a 10 per cent. solution). The retention subsided immediately in eighteen cases ; in seventeen, one instillation sufficed ; two were required only in one case.

Four out of six patients voided urine in from ten to sixty minutes after intravenous injection of hexamethylenamin (2 gm.) the first day after the operation. Pituitary extract injected subcutaneously (1 c.c.) brought about micturition in fifteen minutes in one and three hours in another. It failed in the third patient. The authors assert that post-operative catheterization can be avoided since certain drugs have thus proved their reliability.

Treatment of Liver Abscess.—O. Cignozzi (Lyon Chir., September-October, 1925, p. 597) dealing with the surgical treatment of hepatic abscesses, distinguished between those arising in the right lobe and those in the left lobe of the liver. The abscess, may be found uncomplicated or it may be adherent to the abdominal parietes. The author bases his experience on thirty-three cases and finds that abscesses of the right lobe are always larger and more extensive than those arising on the left side. He holds, that the best approach for an abscess of the left side is by a longitudinal-mid-line incision above the umbilicus. If the liver is not adherent to the abdominal wall it may be sutured to parietal peritoneum or packed round with gauze before the abscess is opened. After evacuating the pus the abscess cavity is packed for several days. Abscesses of the right lobe, when large, may be drained through an incision dividing the fibres of the right rectus muscle. Where the abscess lies under the costal region an oblique incision below the lower ribs is made ; this is considered preferable to resection of the ninth or tenth rib, which often results in fistula. In the rare cases where the abscess lies on the posterior aspect of the right lobe it should be drained by a transverse incision in the lumbar region which gives satisfactory drainage. In the thirty-three cases recorded, there were seven deaths. Death is usually due to hepatic insufficiency or toxæmia, and sometimes to pyæmia or the secondary formation of a sub-phrenic abscess.

Relation of Carcinoma of Stomach to Ulcer.—In trying to determine, as accurately as possible, the primary point of origin of chronic gastric ulcer and cancer, Stewart analyzed a series of 235 cases from the post-mortem room, in which accurate information as to site was available, namely, 115 cases presenting chronic ulcer, 110, cancer alone and ten cases in which it was considered that the cancer had probably originated in a simple chronic ulcer. Of the ten cases in which cancer

had apparently arisen in a pre-existing simple ulcer, nine lesions were in the lesser-curvature region and only one was near the pylorus. In 21 of a series of 165 cases showing cancer, partial gastrectomy had been performed, and this group is excluded in considering local lymph gland metastasis. Of the remaining 144 cases, 104 showed involvement, obvious to the naked eye, of adjacent lymph glands. Those in the lesser curvature of the stomach were involved most frequently but very often, those along the greater curvature and in relation to the head and body of the pancreas were affected as well. Involvement of the sub-pyloric glands and of those in the portal fissure was frequent. In considering more remote metastasis, the whole series of 165 cases were included. In twenty-six cases, there was more or less extensive involvement of the lumbar (pre-vertebral) glands always with well-marked local gland involvement. In seventeen cases, there was intra-thoracic lymph gland involvement and only in five of these was this unaccompanied by downward extension along the abdominal aorta. In nine cases, there was involvement of the supra-clavicular glands—in seven on the left side only and in two on both sides. Intra-thoracic metastasis co-existed in seven of these cases, including the two in which the supra-clavicular adenopathy was probably examples of direct thoracic duct metastasis. In one case only the local gastric glands were invaded, in the other case, partial gastrectomy had been performed ten months before and apart from local recurrence is the gastrojejunal anastomosis, the left supra-clavicular adenopathy was the only cancerous lesion found. Peritoneal dissemination was present in forty-two cases and in twenty-five of these, it was both extensive and profuse. Direct extension to adjacent organs occurred with the following frequency pancreas, nine times; transverse colon, eight times (once with formation of a gastrocolic fistula); spleen six times; liver five times and kidney, once. In eight cases the tumor had entered the pylorus and invaded the duodenum. Visceral metastasis occurred in cancer of the stomach as follows: liver, forty-four cases; ovaries, ten cases: suprarenals, six cases; kidneys, three cases; pancreas, three cases; spleen, two cases, heart, one case. In sixteen cases preformation, acute or sub-acute, had occurred. Analysis of 216 clinical specimens of gastric ulcer and gastric cancer showed that 9·5 per cent. of the cases of chronic ulcer had become cancerous, or approaching the matter from the other standpoint, 17 per cent of the cases of cancer had originated in a chronic ulcer.

Golden Rules of Surgery.—Never fail to make a blood examination and the differential leucocyte count if you have any doubt as to whether it is an acute inflammatory condition or not.

If you have made a diagnosis of intestinal obstruction, get ready to open the abdomen—don't wait to determine the cause.

Bear in mind the relation of the right ovary to the appendix; they are often in contact—and do not make a diagnosis of appendicitis without excluding "ovaritis", etc.

Do not forget that frequency of urination and ardor urinæ are common in affections of the appendix, adnexa, and lower bowel.—*Bernays*: "*Golden Rules of Surgery.*"

Treatment of Infections of the Hand.—R. M. Handfield Jones, F.R.C.S. (*Lancet*, p. 966).—The following processes are dealt with: (1) Acute lymphangitis; (2) infections of the terminal segment of the fingers; (3) acute tenosynovitis; and (4) infections of the fascial spaces in the palm.

ACUTE LYMPHANGITIS.

The finger, following a slight prick some hours previously, becomes slightly swollen, with a dull ache, feeling of malaise or severe chill. Within a few hours the tell-tale red line has appeared in the forearm and there may be obvious swelling of the dorsum of the hand, though the primary site of infection remains but slightly swollen. The degree of systemic involvement varies considerably. Diagnosis is important, for if the finger is incised, the general condition may be imperilled.

Oft-repeated, large hot dressings are applied to the whole hand and forearm, while Bier's passive hyperæmia is produced by a Martin's bandage placed round the arm. The patient must be treated in bed, eliminative measures such as saline purges and diuretics, must be instituted, and the general condition supported by stimulants. An incision is required only if a localized abscess develops at the site of infection or in the lymph glands at elbow or axilla. Complete recovery is often rapid, though in a few fulminating cases death cannot be avoided.

INFECTION OF THE TERMINAL SEGMENT OF THE FINGERS.

A stabbing pain is felt which soon gives place to a severe throbbing pain, sufficient to keep the patient awake. The end of the finger becomes swollen, red, tense, and very tender. The swelling spreads down the finger and on to the dorsum of the hand, but the pain and tenderness remain localized to the terminal segment.

Treatment consists of an incision on the lateral surface of the finger—never in the middle line—from the distal flexion crease to within ½ in. of the tip. This will suffice in early cases, but in severe ones a second lateral incision should be made on the other side and these two joined up over the end of the finger, keeping within a ¼ in. of the edge of the nail. The flap thus formed should be dissected up so as to open completely the fibro-fatty pocket and a slip of rubber tissue inserted between the flap and the periosteum. This promotes drainage, subsidence of the infection, and restoration of function.

ACUTE TENOSYNOVITIS.

This condition may be caused by a crushing accident or by infection carried from a mere scratch or prick. It will be diagnosed by severe pain; by a symmetrical enlargement of the whole finger, with the swelling spreading to the bases of the neighbouring fingers to the palm, and particularly to the dorsum of the hand; by exquisite tenderness along the whole length of the sheath; by severe pain on passive extension of the finger, especially when the full limit of extension is reached; and by the fingers being held in the semi-flexed position, the affected finger rigidly so.

The infected sheath must be opened and drained. An incision is made either in the proximal or in the middle segment of the finger, depending on the site of the original infection. It is placed at the lateral aspect and extends the whole length of the phalanx. The tendon sheath is now laid open, but the part over the joints is left uncut so as to prevent prolapse of the tendon. By manipulation some idea can be obtained of the degree of infection in the unexposed part of the sheath, and if much pus can be squeezed out, then a second incision is made over the previously uncut segment of the finger and the sheath opened there. If the sheath contained much pus, if the synovial surfaces are severely damaged, or if the swelling of the finger is so great as to obstruct drainage, the two previous incisions

should be joined up and the sheath opened throughout its entire, length.

In dealing with the little finger, the extension of the infection into the ulnar synovial bursa in the palm is to be suspected, as the sheath and the bursa are usually continuous. The recognition of this extension is by no means easy, but these points will be of use. No marked local swelling of the palm or fluctuation in the palm will occur because of the dense palmar fascia and because the infection breaks through into other structures before these signs are present. One sign is diagnostic—the spread of the area of exquisite tenderness from the little finger sheath to that part of the palm corresponding to the limits of the bursa. When the sheath of the little finger has been opened, pressure over the bursa in the palm will cause pus or turbid serum to well up in the wound if the bursa be infected. A grooved director should then be passed through the finger incision down the sheath into the bursa. The incision is then made from the distal flexion of the palm to the level of the hook of the unciform; in order to avoid injury to the tendons and to obtain the best drainage the incision should be placed at the ulnar border of the bursa.

Similarly, the radial bursa is suspected in infections of the thumb. Early diagnosis is important in the thumb, because a large proportion gives rise to secondary infection of the ulnar bursa as well, thus producing a grave condition. The signs are similar to those in finger and ulnar bursal infections, the line of exquisite tenderness being the most important feature. The sheath is opened by an incision in the mid-line of the flexor surface of the thumb opposite the proximal phalanx. It is then continued in a gradual curve over the prominence of the thenar mass, ending ½ in. distal to the lower margin of the anterior annular ligament. The sheath is reached by separating the two heads of the flexor brevis pollicis.

INFECTION OF THE FASCIAL SPACES OF THE PALM.

The middle palmer space lying immediately in front of the metacarpal bones of the middle, ring, and little fingers and the corresponding interossei muscles, and immediately behind the tendons in the palm, is subject to secondary infection from these three fingers, from their tendon sheaths, from the ulnar bursa, and from the three lumbrical canals, as well as by direct trauma. Infection of this space is characterized by such

swelling that the normal concavity of the palm is obliterated, and by tenderness. An abscess in this position may be drained on either side of the ring finger. The guide to it is the corresponding lumbrical muscle. The decision rests with the site of the original infection, or the situation in which the pus is obviously coming to the surface ; where there is any doubt the lumbrical canal between the middle and ring finger is chosen as giving the best drainage. The incision starts in the web between these two fingers and ends half-way between the distal and middle flexion creases of the palm. This opens the canal, and a pair of sinus forceps following the muscle and passed beneath the tendons will open the space, drainage being ensured by a strip of rubber tissue.

The thenar space lying on the anterior surface of the adductor transversus pollicis muscle, therefore, lies to the radial side of the middle metacarpal. Its infection may be recognized by the great swelling and tenderness of the thenar eminence. The space is opened by an incision in the dorsum of the hand along the radial side of the index metacarpal, corresponding to the shaft in length. The lower border of the adductor transversus can readily be identified and sinus forceps being passed along the palmar surface of the muscle, the space is drained.

In both these conditions, as indeed in every septic finger and hand, the swelling of the dorsum of the hand is most noticeable.

OPERATIVE TECHNIQUE.—AFTER-TREATMENT.

(1) Incisions should be made under general anæsthesia ; nitrous oxide alone is not suitable. (2) A tourniquet should always be used—preferably, the arm compressor of a sphygmomanometer. (3) Drainage may best be obtained by rubber tissue wicks or paraffin flavine gauze—tubes should never be used. (4) No incision should be made until the surgeon has made up his mind exactly where the pus is and exactly at what anatomical structure he is aiming. (5) No incision should ever be made upon the dorsum of the hand till every other possible site of pus elsewhere in the hand has been eliminated. (6) At the end of the operation it is often useful to relase the pressure in the arm compressor until passive congestion is obtained. This may be kept up for three hours,

All these conditions are best treated by hot boric fomentations for 48 hours, after which time, small flavine dressings to the wound and light dry dressings should be used. In very bad cases baths of iodine (one drachm of the tincture to a pint of water) at 110° F. are soothing and useful in clearing up the worst of the infection. They should be used twice a day for twenty minutes at a time. Two further measures are of superlative importance: (1) To bake the hand in hot, dry air with radiant heat twice a day from the time dressings are being employed. (2) Active movements at the earliest opportunity are important. The principle was introduced by Willems in the treatment of acute infective arthritis. Patients should be encouraged to move their fingers as early as the third day, and they will do this at first most confidently while the hand is in the radiant heat bath. Therefore dressings should be as light as possible.—(*Med. Rev.*)

ELECTRO-THERAPY.

Ultra-violet Rays in Treatment of Anæmias.—Tixier emphasizes that the ultra-violet rays are without action in pernicious anæmia. They are effectual in secondary anæmias of medium intensity. The influence is manifest not only on the blood but also on functional signs. Anæmia in children from rickets, syphilis, mal-nutrition, hemorrhages or in convalescence may benefit from the rays. Anæmia from tuberculosis does not yield to this treatment.

Diathermy in Treatment of Aerophagy.—Bordier advocates the use of diathermy in ærophagy from dyspepsia or nervous disorder. Under this local treatment the stomach evacuates its contents more promptly owing to the stimulation of the motor function and the gastric pain disappears. Three cases are reported in which a few exposures were followed by recovery. Electric currents of 3800 or 4000 milliampperes were used for thirty or forty minutes in each exposure. The larger electrode was applied to the dorso-lumbar region, the smaller to the epigastrium and left hypo-chondrium. The exposures were repeated evry day or times a week.

Ultra-Violet Rays in Asthma.—P. Duhem (Paris Med. February 20th, 1926, pages 190) reports the treatment of 33 cases of infantile asthma with ultra-violet rays during the last year and a half. Complete cure resulted in 17 cases which has previously appeared to be hopeless, 6 were markedly improved, 4 were definitely benifited, in 4 cases no change was produced and in 2 cases the treatment had to be terminated prematurely owing to return symptoms. Duhem considers that the treatment should not be prolonged or intensive and that intervals without treatment should be interspersed. He starts with an exposure of 2 minutes, the quartz lamp being placed at a distance of 60 cm. and increases the subsequent exposures by 2 minutes up to a final total of 6 minutes. The lamp is brought nearer by 5 cm. at each exposure until a distance of 45cm. is reached. Duhem draws attention to the production of ozone by the quartz lamp with irritant effects on the bronchi and the lungs. He therefore emphasizes the need of caution in treating asthma in this way.

Rœntgen-Ray Treatment of Syringomyelia.—Sharapoff applied rœntgen-ray treatment in fourteen cases of syringomyelia. The abnormal sensibility improved after three or four exposures. In five, the skin anesthesia disappeared completely; in the others, only partially. The sense of temperature approximated normal after five or six exposures: exceptionally, after four or eight. Simultaneously, the muscles became stronger and the motor disturbances improved. The dynamometric force of the hands changed from 1 or 2 kg. before, to from 10 to 30 kg. after the treatment. One patient, who usually fell two or three times in walking about thirty paces, after the treatment was able to walk three blocks without assistance. A dose of 1 or 2 H. at a distance of 18 cm. was applied to the affected area. Six weekly irradiations represented a series, repeated at intervals not exceeding a month. The action of the rœntgen ray may be due to the phagocytosis induced as well as to the destruction of the gliomatous tissue.

DISEASES OF CHILDREN.

The Treatment of Acute Diarrhœa in Infancy.—G. B. Allaria, summary of four articles appearing in La Prat. Pediat. for March, April and May, 1925.

To prevent the occurence of acute diarrhœa in infants the author urges:

1. Minimal changes in diet.

2. Protection againt excessive atmospheric heat; careful regulation of room temperature; use of light clothing; increased bathing during the summer months; removal, when possible, to cooler climate during the very hot months.

3. Vigilance and caution in the preparation and preservation of foods and accessories, (nipples, etc.).

When diarrhœa occurs, treat each patient individually and gauge therapeutic procedures prudently.

Besides the strictly dietetic treatment, Allaria discusses at length direct remedies (purgatives, antemetics, intestinal antiseptics, astringents, carminatives) and auxiliary measures (stimulants, regulators of body heat, digestive correctives, tonics, etc.). These, he believes, are important adjuvants in treatment, but reliance should not be placed on them alone.

In the breast-fed, if due to over-feeding, too frequent feedings, or too great intervals between feedings, reduce the intake to six feedings in twenty-four hours. If this does not stop it, substitute water for the first morning feeding. Two or more such substitutions may be necessary in twenty-four hours. Return to the normal regimen gradually. If these measures fail, then anti-diarrhœic salts may be given when the normal milk diet has been restored. It is well, if bismuth salts are given, to warn the mother about stool changes that occur with this drug.

In bottle-fed babies the condition is usually more serious. Most of the fatalities attributable to acute diarrhœa are in the artificially-fed infant. The treatment, therefore, should be more rigorous. A liquid diet (water, only) should be given for at least twelve hours; if there is no improvement, increase to twenty-four hours. It is rarely necessary, and in fact is dangerous, to extend the liquid diet to forty-eight hours. Undernourished infants tolerate this very badly even for a few hours, so that breast milk should be given to these patients. When milk again forms the greater part of the diet, medications may be given as indicated. For severer cases, sugar, milk, and mucilaginous drinks are added; astringent drugs may be given. In older children, rigorous liquid diet is rarely necessary.

Small doses of bismuth and opium may be given as indicated. Diet should consist essentially of gruels, soups, etc.

The author denounces the initial purge; he believes it serves no useful purpose and provokes irritation and vomiting, which tend to exaggerate the already increased peristalsis. Worse still is the prediagnosis purge.

Familial Icterus Gravis of New-Born.—The family history in the case cited by Hart was a remarkable one. They had six boys born previously, all apparently as healthy and strong at birth as this baby. All, however, had developed jaundice within the first twenty-fuor hours, and the condition had become progressively worse until death occurred in from three to eleven days. They had only one child living, a girl who was the second child born to the family. She had become jaundiced as the others but she had managed to live, although deeply jaundiced, until 1 year old and weighing at this age only what she had weighed at birth. After a year, the jaundice gradually disappeared and she grew very rapidly so that she is now at 12 years a very big girl for her age but suffering with chorea. There was absolutely no history of jaundice in the family on either the paternal or the maternal side, and both parents were perfectly healthy. There was no history of syphilis. There had been no miscarriages. The baby was a well-developed male child, 2 hours old, and perfectly healthy and at this time with no sign of jaundice. On the second day, jaundice began to appear on the top of the nose. On the next day, the baby being then 48 hours old, he was distinctly jaundiced. The liver was not enlarged and the jaundice was no more intense than ordinary icterus neonatorum. On the third day, the jaundice had become much more intense, so that the skin was a deep orange. It was clearly a case of familial icterus gravis. It was decided to do an ex-sanguination transfusion. Three hundred cubic centimetres of blood was drawn from the anterior fontanel, 335 c.c. of blood being transfused at the same time into the internal saphenous vein at the left ankle. The transfusion of blood was begun after 20 c.c. of blood had been removed, and the transfusion and ex-sanguination went on synchronously until the required quantity had been used, and was ended by giving the baby 35 c.c. more than had been removed. In addition, 60 c.c. of 5 per cent. glucose solution

were given. The donor was a healthy male not belonging to the family. By the following morning the jaundice was much less intense. It continued to fade, so that by the fourth day it had entirely disappeared and the baby seemed much better. When 3 weeks old, there was a slight return of jaundice. Preceding this he had been constipated. This slight return of jaundice had entirely disappeared 4 days after it was first noted and when the constipation had been corrected. He has had no return of the jaundice and is developing as any normal baby.

CORRESPONDENCE.

TO THE EDITOR "*Antiseptic*", MADRAS.

SIR,

The case referred to by Dr. R. V. Gajendragadkar in the May number of the "Antiseptic" seems to me to be a case of Myeloid sarcoma for the following reasons:—

1. As regards the pain he felt during sleep when he raised his hand it was merely in coincidence with the beginning of the growth of the tumour. It is not that the tumour was the result of the faulty raising of the hand during sleep but it seems to be due to that as the tumour began to grow he somewhat felt the pain during sleep when he raised his hand, for the first time, or in other words, the gradual growth in size of the tumour made its presence felt for the first time, during sleep, when he raised his hand.

2. The sites of Myeloid sarcomata are generally in connection with bones and the site described by Dr. Gajendragadkar is not consistent with the usual sites for a sarcoma of this kind.

3. 'On palpation fluctuation wss felt'—These Myeloid sarcomata are generally soft in consistency and are liable to give fluctuations on palpation.

4. The growth of the tumour as has been detailed by Dr. Gajendragadkar, is tolerably rapid and the growth of Myeloid sarcomata, generally, *are* tolerably rapid.

5. Heat, redness and pain were all due to the excessive vascularity of the tumour with rapidity of growth which was pressing the surrounding tissues causing pain, and

may also be due to pressure on some nerves. The sum total of all these might have caused some amount of inflammation which really might have accentuated the pain, redness and heat.

6. "As soon as the fascia was cut, a certain amount of serum and blood gushed out . . . . . the contents removed was creamy like semi-solid substance." "Bleeding profuse." Perhaps, the capsule of the tumour could not be isolated and dissected out so, the general outline of the tumour was not defined. The contents of these Myeloid sarcomata are generally of the consistency which Dr. Gajendragadkar described. "Hæmorrhage into the substance is common, giving rise to cysts, filled with serum . . . . ." (Rose and Carles). The bleeding that took place of the disastrous type are peculiar to sarcomata and specially to these classes of sarcomata.

7. They are the least malignant of all the sarcomata and Dr. Gajendragadkar need not be surprised if there be no secondary growth, especially, if the capsule has been taken out thoroughly—knowingly or unknowingly.

Yours faithfully,
Dr. AHIBHUSAN MUKERJEE,
Nutangunj, Burdwan.

TO THE EDITOR, "*The Antiseptic*," MADRAS.

SIR,

I have the honour to forward the following resolutions passed by the Sind Medical Union at their last general meeting.

"The Sind Medical Union strongly protests at the way the Government of India propose to undermine the already very inadequate, halting and unsatisfactory reform in the reorganisation of the Civil Medical Services in India recommended by the Lee Commission, as disclosed by their recent circular to the Provincial Government to reserve the various important posts for the British members of the Indian Medical Service; and thus, with one stroke (1) perpetuating the unhealthy and unjust principle of appointing the personnel of these services on racial considerations, (ii) perpetuating the dominance of the I.M.S. in the Civil Medical Service and (iii) minimising the Indianisation of the same.

2. That the Union views with grave concern the fact that whereas the recommendations of the Commission that were favourable to the other services but considered against the best interests of the country by the enlightened Indian opinion, have been accepted and carried out in full, the recommendations of the same Commission, even so slightly favourable to the Indian interests as those with regard to reorganization of the Civil Medical Services are now sought to be thus vitiated, under the plea of providing a war reserve, etc.,—and that also by manning those with British Officers and thus creating a new racial distinction against all the previous promises, protestations and avowals of the highest authorities from the Secretaries of State downwards.

3. That the said Commission clearly stated that the Indian members had signed the unanimous report on the distinct understanding that as the recommendations were the result of compromise, their acceptance, or rejection would be made interdependent. Even the Secretary of State for India, while introducing the Bill in the Imperial Parliament on these recommendations, accepted the principle and agreed to carry out the reform in the Civil Medical Services—at that time under consideration—as recommended by the Royal Commission. The present proposals of the Government of India are therefore, a distinct breach of faith and this Union hereby emphatically lodge their protest.

4. That this Union again emphatically asserts that the best reform is (1) to make I.M.S. a pure Military Medical Service, (ii) to create a Superior Civil Provincial Medical Service in each Province for all Civil needs and appoint a personnel on grounds of merit and qualifications only, and (iii) to man the various Civil Hospitals with purely honorary staff; and strongly recommend to Government to consider the advisability of introducing the reform in the Civil Medical Services in India on these lines."

SIND MEDICAL UNION, J. M. TALATI,
KARACHI, 8—3—1926. Honorary Secretary.

NOTICE.

INTERNATIONAL CONGRESS OF SEXUOLOGY.

The International Society of Sexuology organises its first Congress which will take place in Berlin from the 11th to the 15th October 1926. The most prominent sexuologists will take

part in this Congress. All questions in relation to sexual life in the different scientific sections will be discussed in regard to society, economic life, hygienics, legal and illegal connections, medicine in general and biology, problems of sexual character, questions relating to the law such as criminality i.e. criminality of women as sexual beings and the development of the youth, dependencies of sexual life in connection with political questions of population, birth retrogression and eugenics pedagogics and psychology, psycho-analysis and feminine questions. The principal problems will be treated by referents in part with conreferents and previously selected orators will be chosen. For any other question, free discussion will be allowed.

The re-construction of the Society after the war is, so to say, complete.

For any information regarding the Society and the Congress please apply to Dr. Moll, Berlin W. Kurfurstendamm 45 or to Dr. Stutzin, Berlin W. Kurfurstendamm 44.

BOOK REVIEWS.

THE MEDICAL ANNUAL for 1926.

A year book of treatment and practitioners' index—Edited by Dr. C. F. Coombs, M.D., F.R C.P. (Medicine) and Dr. A. V. Rendle Short, M.D., B S., B.Sc., F.R.C.S. (Surgery). Forty-fourth year. 616 Pages. 20/ net. John Wright & Sons, Ltd., Bristol.

This useful Medical Annual under review has contributions from the pen of 34 eminent members of the profession, who have specialized themselves in particular branches of advancing science of Medicine, Surgery, Midwifery, Tropical Medicine, Urology, Otology, Laryngology, Rhinology, and Radiology &c. &c.—The first 530 pages are devoted to dictionary of practical medicine, by many eminent contributors, and contains a full and extensive review of the year's advance in the treatment of diseases. Further, the numerous illustrations contained in these pages are very instructive and useful. Certainly, these costly illustrations enhance the value of the book. To facilitate ready reference in the dictionary of treatment, important drugs and treatment are printed in antique-type.

The chapter on '*The Editor's table*' contains reviews of new pharmaceutical products and dietetic articles, new medical and surgical instruments and appliances. The book further contains, a list of the principal English medical works and new editions, published during 1925 ; a list of medical institutions, homes, spas &c ; a list of medical and scientific societies, selected medical trades directory. The book contains 171 plates and illustrations. The Medical Annual must be on the table of every medical practitioner, without which, no practitioner could get on with his work in these days of rapid and progressive science like medicine. Considering the volume of

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information it contains, cost of illustrations and get up, it is priced cheap at 20s. which is within the easy reach of even an ordinary medical practitioner in India. The indroductory chapter by the Editors, contains practically the whole review of the year's work in the treatment of diseases, in a nutshell. We congratulate the Editors and the Publishers on the success of such a useful production. We heartily commend the book to our readers. The book is a dictionary and like all dictionaries, cannot be read systematically page by page. So we need tender no apology, for not having discovered all its treasures. All the same, all the discovered and undiscovered treasures are really worth-having by the medico, at a small cost.

GASTRIC AND DUODENAL ULCER.

Two lectures by Sir Berkeley Moynihan of Leeds. 48 pages. 2/6 net. John Wright & Sons, Ltd., Bristol.

This is a record of ten years' experience of the author, published in the form of two lectures delivered before the Hunterian Society of London. The learned author, after describing the causes of gastric and duodenal ulcer, discusses the merits, of medical and surgical treatment of duodenal ulcer and comes to the conclusion that resort to surgical measures is much better than the medical treatment. The author observes that if the closure of the ulcer involves a narrowing of the lumen of the gut, immediate or consequential and if the patient's condition is good, it is better forthwith to perform the short circuiting operation. Three operations have been practised. They are (1) Excision of the ulcer (2) Anastomosis of the stomach to the duodenum (3) Anastomosis between the stomach and the jejunum. The after-results of gastro-entrostomy are excellent. Over 90 per cent. of the cases traced, consider to be perfectly well. The book under review is very instructive, especially to abdomen surgeons.

DISEASES OF THE EYE.

A manual for the practitioner, by Henry Kirpatrick, M.B., Lieut. Col. I.M.S. (retired) Late Prof. of Pathology, Medical College, Madras. Late Prof. of Ophthalmology, Medical College, Madras: Suptd., Govt. Ophthalmic Hosp., Madras. Pages 132. Illustrations 28. Published by Butterworth & Co. (India) Ltd., 6 Hastings St., Calcutta.

To the beginner, this excellent book will surely be a stepping stone to the study of the subject of Ophthalmology more fully in the larger text-books. It will enable the general practitioner to render treatment in diseases of the eye which he may encounter in the course of his work. The interplay between the vitiated constitutional conditions and diseases of the eye is so interesting and so important that the practitioner can greatly add to his efficiency by acquiring a full knowledge of eye-disease. The subject is well-discussed and is written in a condensed form. The treatment recommended in this book mainly represents the practice of the Madras Govt. Ophthalmic Hospital.

ANALYSIS OF MEDICAL JURISPRUDENCE.

Dr. M. A. Kamath, M.B. & C.M. 162 pages with 7 appendices. Price Rs. 3. Sadananda Co-operative Printing Works Ltd., Mangalore.

This is the 2nd edition of the book, revised and enlarged, and brought up-to-date. Certain departmental regulations have also been incorporated, thus extending its usefulness to Medical Officers, the Magistracy and the Police.

NOTES ON MEDICAL CASE-TAKING AND THE EXAMINATION OF PATIENTS.

By G S. Haynes, M.D., M.R.C.P., Asst. Physician of Addenbroke's Hospital." Published by W. Heffer and Sons, Ltd., Cambridge, England. Price, 3 s. net.

This is a small hand-book on clinical methods of examination and interrogation of patients. It is concise and brief, written in an easy and simple style. The book is interleaved with writing paper for personal notes to be made. It deals with how a systematic examination of patients is to be carried out. This is a very useful book for medical students, especially for beginners. This will serve to initiate them in the proper methods of approaching the patient, and to indicate the main points to be observed and noted. We commend the book to medical students.

MANUAL OF HYGIENE AND PUBLIC HEALTH.

A text-book for medical and public health students: by Jahar Lal Das, D.P.H., Offg. Asst. Director of Public Health, Bihar and Orissa, Member of the Royal Sanitary Institute, etc., with an introduction by Lieut. Col. W. C. Ross. M.B., Ch.B., D.P.H., I.M.S., Director of Public Health, Bihar and Orissa. Pages 634. Published by Butterworth & Co. (India) Ltd., 6, Hastings St. Calcutta.

From his wide experience both as a teacher and sanitarian, Dr. Jahar Lal Das has written this book principally from the stand-point of the conditions prevailing in the tropical and semi-tropical countries, making it thoroughly practical and adapting it to the needs of the students as well as medical officers of health in the cities and rural areas. The illustrations are diagramatic and educative. The book extensively deals with vital statistics, ventilation, water, house sanitation, industrial and personal hygiene, food supply; disposal of refuse, sewage and the dead; climate; infection, medical entomology, etc. We commend this book to our readers.

THE NURSING OF EYE-CASES.

By L. Kingham, S.R.N., 16 pages. Oxford University Press, Bombay.

This booklet is intended to give the nurse some idea of the relative gravity of accidents to the eye, as well as to enable her to follow the various operations, which she may have to assist in. This booklet is also useful for the lay public. It is written in a simple style and readable.

PHARMACOPŒIA.

Of St. Mary's Hospital, London, 1925. Harrison & Sons Ltd. St. Martins Lane, W. C. 2, Price 1/6 net.

It contains very useful formulæ, generally used in hospitals, and is much useful for beginners.

THE CALL OF THE CHILD.

By A. Dingwall Fordyce, M. D., F. R. C. P. (Ed.) Published by Messrs. A. C. Black Ltd., 4, 5, & 6 Soho Square, London W. 1. Price 2. s. 6d. net.

The art of medicine in its relation to child welfare, whether this be practised in a mansion or a hovel, demands primarily knowledge of the child in health and illness—physical, mental, intellectual and moral—and of the influences bearing upon him and his re-actions to these. Such knowledge postulates a breadth to practical medicine hardly included in the Science commonly understood. The proper rearing of children is prophylactic pediatrics and if guidance in this rearing should be necessary, the trained family practitioner is he, to whom should come the call. This book deals exhaustively, with the preventive side of children's diseases and though primarily intended for the medical practitioner, it aims at such simplicity as renders it a practical guide for all those who, in any capacity, are responsible for child-nurture. We heartily commend it to our readers.

RATIONAL LIVING.

By Hugh Wyndham. Published by the C. W. Daniel Company, Graham House, Tudor St. E C. 4. Price 1 s. net.

This booklet contains valuable hints and suggestions for all those who wish to enjoy good health and long life, besides exposing some of the present-day dogmas and theories as being inconsistent with the laws of Nature. It is written in simple, monosyllabic English, void of all technicalities which can easily be read and understood even by the laity and the young school-folk. It will amply repay study and we heartily recommend it to our readers.

PHYSICAL FITNESS IN MIDDLE LIFE.

By. F.A. Hornibrook with a Foreword by Leonard Williams M.D. Published by Messrs Cassel and Co, Ltd., La Belle Sauvage, London E.C. 4. Price 6 s. net.

This book is primarily intended for the young athlets, who, owing to imperfect training, abrupt ending of all their muscular activities after a certain age and above all, their intemperate habits, reckless over-loading of their stomach, and wilful suppression of bowel evacuations become physically uncouth and unfit and mentally weak and restless in middle life and dig their own graves earlier than usual. The author shows clearly and convincingly how a man may remain fit through middle life or may regain the fitness he has lost by reasonable self-discipline and suitable exercises. There is, besides, a bold and fearless exposition of some of the customs of the civilized white race and strong advocacy of some of those of the natives noticed in this admirable little book, which is highly commendable. The book is well-worth perusal.

TECHNICAL EDUCATION.

By J. C. Ghosh, B.Sc., (Manchester) F.C.S. Published by Messrs. Thacker Spink & Co., Calcutta and Simla. Price Rs. 4-8.

The type of education as at present imparted to the people of India was rightly or wrongly identified with the literary side alone with the result that Indian industries and handicrafts had perished and poverty, unemployment and starvation had begun to stare the educated classes and the masses in the face. The revival of technical education, and the diversion of educated classes to industrial pursuits is the only alternative left if India is to get over the present crisis. The author of this book has brought home to the people of India in a clear and succinct manner the various avocations open to them to earn an honourable living and to keep the wolf from the door. The book deserves to be in the hands of the educated classes and all those well-wishers and capitalists of India who have the industrial regeneration of the country and the health, wealth and happiness of the people at heart.

THE SOYA BEAN.

By Violet M. Firth. Published by the C.W. Daniel Co. Graham House, Tudor St., London E. C. 4. Price 1 sh. net.

The exploitation of the animal kingdom for human consumption is becoming more and more discarded now-a-days that the Westerners have begun to devise ways and means to find adequate vegetable substitutes for animal products that enter their daily dietary. In the "Soya Bean"—a vegetable plant largely to be found in China and Manchuria—is to found an efficient substitute for milk, says the author, and it would surely revolutionize the world's dietary and solve the world's economic problem, should the Soya Bean industry, now started in England, become an unqualified success that is claimed for it. We commend this little book to all humanitarians, food reformers, and industrialists interested in the freedom of the cattle and the welfare of humanity.

DRUG REVIEWS.

KALZANA.

This preparation is produced by Messrs. A. Wulfing & Co., of Amsterdam, and is the outcome of researches and investigations carried out for some years by Professors Emmerich and Low, of Munich University, the latter of whom supervises the production.

Chemically, Kalzana is a double salt of calcium lactate and sodium lactate, to which have been added palatable adjuvants. It is supplied in tablets, each containing 7½ grains of the calcium-sodium lactate. The action of this body is generally a regenerator of all vegetable and animal cells, this claim being based upon both experiments and clinical experiences. Kalzana acts efficiently in promoting the growth of stroug bones and healthy teeth, in protecting the expectant and the nursing mother against a dangerous loss of calcium, as an efficient hæmostatic, in diminishing mucous secretions, allaying inflammation and raising resistance in local tissues, in reducing blood-pressure and promoting diuresis, and in stimulating the glands secreting digestive juices, the glands with internal secretions, and the blood-forming organs.

It is indicated in the diet of expectant and nursing mothers, and of rapidly growing children, in hæmorrhages, and profuse menorrhagia, and in all conditions in which a "lime food" is required particularly because Kalzana promotes calcium retention.

VERODIGEN.

In the ordinary standardisation-methods the substance to be tested on an animal is injected intravenously or hypodermically, while in the vast majority of cases, the same substance is administered per os for therapeutic purposes. Now, the mode of administration is not quite insignificant, since, owing to differences in the rapidity of resorption, the efficiency of the remedy may likewise differ materially. In order to determine these differences in oral and hypodermic administration of doses of the same effect extensive experiments were made on frogs after the minimal lethal dosis had been found. Of all the cardio-active glycosides examined, Vero- digen Gitalin was found to show the slightest difference between oral administration und hypodermic injection. Verodigen. then, also shows optimal efficiency in internal administration.

BOOKS RECEIVED.

The following books have been received and the courtesy of the Publishers in sending them is acknowledged. Reviews will be published from time to time. [ED. ANTISEPTIC.]

Rubber and Gutta Percha Injections.—By Charles Conrad Miller, M.D. Published by the Oak Printing and Publishing Co., Chicago. Pages 99.

Human Life and the Body.—By A. Rabagliati, M.A., M.D., F.R.C.S. (Ed.). Published by the C. W. Daniel Co., Graham House, Tudor St., London E. C. 4. Pages 171. Price 5s. net.

Eating to Banish Disease.—By James Raymond Devereux. Published by the C. W. Daniel Co., Graham House, Tudor St., London E. C. 4. 146 pages. Price 6s. net.

Facial Surgery.—By H. P. Pickerill, C.B.E., M.D., M.S. Published by Messrs. E. S. Livingstone. 16-17, Teviot Place, Edinburg. Pages 162. Price 21s. Post 9d.

A few notes regarding Psycho-Analysis.—Published by Fellows Medical Manufacturing Co., New York.

Chemistry in Industry.—By H. E. Howe. Published by the Chemical Foundation, Inc. 85, Beaver St., New York.

Nursing of Eye Cases.—By Louise Kingham, S. R. N. Published by the Oxford University Press, Bombay. Price 1s.

Histology of the more Important Human Endocrine Organs at various Ages.—By Euginia R. A. Cooper. Published by the Oxford Medical Publications. Pages 119. Price 12s. 6d.

A Text-Book of Pharmaceutical Chemistry.—By Arthur Owen Bentley and John Edmund Driver. Published by the Oxford Medical Publications. Pages 456. Price 18s.

Simplifying Motherhood.—By Frank Howard Richardson, M.D. Published by Messrs. G. P. Putnam's Sons, 24, Bedford St., Strand, London W. C. 2.

Leprosy, Diagnosis, Treatment and Prevention.—Published by the Orissa Mission Press, Cuttack.

Medical Annual—1926.—Published by Messrs. John Wright and Sons, Ltd., Bristol. Pages 616. Price 20s. net.

The Health of the Workers.—By Sir Thomas Oliver. Published by Messrs, Faber and Gwyer, Ltd., (The Scientific Press), London, Price 2s. 6d.

Mother's Manual.—By Dorothy Bocker, A.M., M.D. Published by Brentanos' one-West.—Forty-seventh St., New York City.

Organo-Therapy in General Practice.—Published by Messrs. G. W. Carnrick & Co., 417-421. Canal Street, New York.

The Further Studies on Decrementless Conduction.—By Genichikato. Published by Nankado Hongs, Tokyo, Japan.

Obstetrics and Gynæcology.—By Joseph B. Delech A M., M.D. & J.P. Greenhill, B.S., M.D. Published by the Year Book Publishers. 304, South Dearborn St., Chicago. Pages 570.

The Idle Hours of a Victorious Invalid.—By Lane Crawford. Published by Messrs Chapman and Hall Ltd., 11: Henrsitta St., Covent Garden, London W. C. 2 Pages 245. Price 10s 6d. net.

Smith's Elementary Chemistry.—Published by Messrs. Bell and Sons Ltd., York House, Portugal St., London W. C. 2. Pages 430. Price 5s. net.

Humour and Pathos of Obstetrics.—By H. D. Fair, M.D. Published by Scott Printing Co., Muncie, Indiana Pages 267. Price $2.85 net.

An Outline of Endocrinology.—By W. M. Crofton, B.A., M.D. Published by Messrs. E. and S. Livingstone 16—17, Teviot Place. Edinburg. Pages 126, Price 6s. Post 5d.

The Unity of Life.—By H. R. Royston, M.A. Published by Messrs. George G. Harrap and Co., 39—41, Parker St., Kingsway, London W. C. 2. Pages 280. Price 7s. 6d net.

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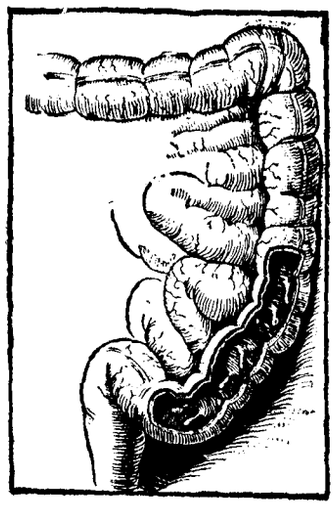

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ORIGINAL ARTICLES.

THE TECHNIQUE OF MODERN SURGERY AND HOW TO ATTAIN SUCCESS*

BY
SURESH CHANDRA DAS GUPTA, L.M.S.,
SENIOR SURGEON, NEPAL.

LECTURE III.

Delivered on June 14th, 1926.

GENTLEMEN,—

I spoke in my last lecture up to the subject of hæmorrhage, and I shall to-day finish my remarks on the modern technique in surgical operation.

AMPUTATION AND EXCISION:—In amputations, you have to take into consideration five essential points; namely (1) removal of the diseased or affected part, (2) fashioning of the flaps, (3) sawing of the bone, (4) control of hæmorrhage, and (5) shaping of the stump.

In the first place, you should remove carefully the affected part; and in malignant disease, gangrene or chronic suppuration, it is advisable to sacrifice the suspicious tissue (either œdematous, infiltrated or inflamed) for some distance, and avoid contamination of the same with newly-made wound; but under ordinary circumstances, you should try to save as much of the healthy tissue as possible. Trace out the skin flap from the *healthiest part of the limb available anywhere* in order to suitably cover the end of the bone; and there must not be any tension, as tension means sloughing in most cases.

* A clinical lecture delivered at the Bir Hospital, Katmandu, and specially sent to the Antiseptic for publication.

The old transfixation method (cutting from within outwards) is now almost extinct; the modern method is cutting from without inwards. In the former method—you cannot see what you are cutting; and you may transfix a vessel, divide it longitudinally or cut it unduly *short*; while in the latter, you can see for yourself the structures before you divide. I have, however, found the transfixation method serviceable when the main vessels are superficial, as in the upper arm or thigh; but you should cut out the flap in such a way as not to wound the vessels. In performing amputation by transfixation, I always first dissect out the skin with superficial fascia and when retraction reaches the limit, I cut out the muscular flaps—of which the ends are divided nearly at right angles—with the knife *grazing* against the bone.

Treves gives five principal methods for amputations:—(1) circular, (2) modified circular, (3) elliptical, (4) oval or racket and (5) amputation by flaps. As regards the flap-method, it is done by single or double flaps; if double, they may be either equal or unequal; the shape may be rectangular or rounded; and lastly, regarding position they may be anterior or posterior; external or internal; antero-external and postero-internal or *vice versa*. The length of the combined flaps should be "1½ times the diameter of the limb at the point of bone section" (Binnie), and in width "they should each be ½ the circumference of the limb at the same level" (Waring). The tendons should be cut clean up the end of muscular flaps and their vascular supply being low, they should not be drawn out of their sheaths. Treves proposed that the fibrous sheath of the flexor tendons of fingers should be closed by passing catgut sutures vertically through the 'theca' and the periosteum, in order to prevent infection being carried to the palm. The vessels should be cut at right angles at the border of flaps. And nerves are isolated and pulled out of their sheaths for a distance of an inch or more, and cut across to prevent their involvement in the 'superficial part of cicatrix' and after pain.

Dr. Elmslie maintains that the nerve-ends should be crushed and ligatured at the point of crushing by which the neuroma is kept inside the nerve-sheath. (Carson's Modern Operative Surgery.)

The method of cutting muscular flaps from without inwards is the best; but you must not lacerate or roughly handle the tissues and should rather divide them by a clean cut from the

margin of skin-retraction up to the bone almost vertically. If you make the cut quite obliquely, your stump will be 'conical'. For ordinary cases especially in the lower extremity, plenty of fascia and muscles must be left to form a good covering for the bone; but for those who can afford to have an artificial limb a conical stump is very suitable. It is better to make two flaps (each containing at least one artery) than a long one, in order to ensure sufficient blood supply; and far better to make them unequal. The skin should not be separated from the subcutaneous tissue, and the subsequent 'trimming' of flaps is to be depreciated.

Saw-line should be at right angles to the *long axis of the bone*. Size of the saw should be in proportion to the size of the bone to be sawn. A fine-toothed saw is better than a coarse-toothed one. Bone forceps should not be used except for snipping off sharp edges or points, or bevelling irregular margins. Some surgeons advise us to dissect up the periosteum for ½ an inch or so below the saw line so as to cover the end of the bone like a 'cuff'. Hirch maintains that 'this prolongation of periosteum is responsible for the sensative outgrowths of bone'. Da Costa also calls this a 'bad practice' and advocates removal of the periosteum and bone-marrow for a distance of 2 cm. I follow the golden median; neither I cover the end of the bone with periosteum nor remove it in excess, but keep it at the level of saw-line. I would advise you never to remove the periosteum in septic cases, as it may recede further, necessitating the removal of the protruding bare bone again. If there be two bones, it is advisable to divide the slender one of the two in the first place, and the broader one next. In using the saw *draw it from the hinder part to the tip* for the first time againstthe tip of your thumb-nail, make a mark on the bone, and slowly move the saw to and fro till a groove is formed, and then divide it by a 'long, firm and slow cut'. (Treves) The latest improvements are osteo-plastic and cinemato-plastic methods, but are not in general use as yet. You can look up in your text-books for details.

In a foul and septic case perform preliminary amputation in such a way as to 'preserve rather more of the limb than useful' by guillotine or circular method, and leave out *without suture*; when the wound is granulating, suture it. In gangrene if amputation is to be done, always keep space enough if possible, for the *second line of defence*; so that in case a second amputation is to be performed you can do it.

Ideal amputation in the lower limb is "against the retention of any part of the tibia beyond the middle third, unless the amputation is carried out at the level of the ankle-joint" (Carson). Keep the stump at rest for first 8 to 10 days till healing takes place.

CONTROL OF HAEMORRHAGE:—Unless the limb in question is fearfully septic or gangrenous, it is good to elevate the limb for a few minutes to preserve the little blood which would otherwise be lost, and then apply the tourniquet a few inches above the proposed saw-line. Make sure that the tourniquet does not slip off. Application of Wyeth's pins is useful to prevent the tourniquet from slipping off. If necessary, I place two or three sterilised gauze strips lengthwise and then apply over it about the middle, the elastic band—which is then encircled by the gauze, - ends of which are held together and drawn towards the body by an assistant. Lynn Thomas' forceps also is sometimes useful in controlling hæmorrhage. After the division of muscles, locate and pick up the main vessels and their branches. Usually big vessels lie on the inter-osseous membrane and in the intramuscular septa. Then remove the elastic tourniquet *slowly and by degrees* and at the same time secure the remaining vessels. Apply sponges wrung out in hot (110-120°F) sterilized water against the flap; two or three applications with pressure usually stop all oozing. Some surgeons advise the use of antiseptic wax for arresting hæmorrhage from bone-marrow; but it is rarely needed. If there is a dead space which could not be properly brought together even by buried stitches, you must leave the drainage reaching up to the bony surface. If the wound is septic or there is oozing you must also put drainage. For a big wound it is better to put two drainage tubes instead of one, and insert them at either end instead of at one place.

Scar ought *not to be against the bone*, if possible; and be so placed as to be *least exposed to pressure*. The flap must be long enough to cover the ends of bone; it must *not be either too long or too short*. Suitable pads are used to exert a uniform pressure on the stump. Some surgeons recommend the treatment of stump by extension, others fix it to a pillow—to keep the limb at rest, *i.e.*, free from movement.

A few words about excision of joints. Usually you perform excision in order to turn one useless limb into a useful one, no matter even if it is short by a few inches. In order to obtain the best results the joints must have full movements; but in case of knee joint you must make it thoroughly immovable, otherwise it is a failure. So, if you want a fixed joint you must remove as little of the bone as possible to ensure perfect *osseous union*; but on the other hand, if you want to make a flexible joint, you must remove sufficient bone to prevent subsequent adhesion. In any case, the saw-line should be *parallel to the articular surface* forming the joint. Rigid asepsis is necessary to obtain success.

Da Costa urges that "in a young subject an excision may remove the epiphysis, and thus lead to permanent shortening....", so, it is better that you do not attempt it especially in case of lower extremity, if you can avoid it.

LAPAROTOMY.

It is needless to say that dorsal decubitus is mostly used; but Trendelenburg's position is usually used in operations of the pelvic cavity; the patient is transferred to this position after anæthesia. Instruments, sponges, towels etc. which are to be used should be counted and their names and numbers noted down in black and white.

There are various methods of incision for opening the abdomen and they vary according to the seat and nature of disease and convenience of approach thereto; of these longitudinal incision is the most common. Incision is made for a few inches in the middle line through skin, fat, fascia, down to the apponeurosis of the rectus muscle—which line can be increased in length in either direction, if necessary, without wounding important vessels or nerves. This line of incision is always curved around the navel. Surgeons are unanimous as regards weakening of the wall by this method; and on account of poor blood supply it retards union; to remedy which, sometimes, overlapping sutures of the external oblique apponeurosis are applied, especially in case of unduly lax abdomen to impart a *broader surface of union*.

Wullstein's operation for ventral hernia by suturing the divided sheaths of recti muscles with the change of position is very efficacious in strengthening the abdominal parietes. Paramedian incision, *i.e.*, incision either on the right or left side of the median line—an inch or so external to the *linea alba*—is now usually performed; the belly of one rectus is exposed and drawn medially or outwards, but the deep layer of the rectus sheath is divided near the middle line. Last of all, a fold of peritoneum is picked up between two forceps placed transversely, and an opening is *cautiously* made in it with

a scalpel. This opening is enlarged to admit 2 fingers, and the layer of peritoneum is divided with scissors over them.

Some surgeons divide the parietes along the linea semilunaris (*i.e.*, outer edge of the rectus) and reflect the outer margin inwards, and divide the peritoneum in the line of skin incision. Oblique incisions are used for special operations; external and internal oblique and transversalis are each in turn separated *in the lines of the muscular fibres*, and the peritoneum is divided either longitudinally or transversely. Transverse skin incision is useful specially in gynæcological operations and also for those of the bladder. The Pfannenstiel's incision like the above runs transversely so far as skin and fascia are concerned; but the muscles are separated vertically as is desired. Chevrier's and Lennander's special methods of operation are also worth a trial in suitable cases.

The severed edges of peritoneum are held by peritoneal forceps, as they usually recede outwards, if left alone. Comyns Berkeley's abdominal retractor is very useful for Wertheim's and general abdominal operations. Victor Bonney has devised wire clips for holding rubber sheeting to it. Moist sponges are better than dry ones; towels wrung out of hot saline solution are used to cover the abdominal contents and keep them away from the seat of operation and changed at interval when they are cold or soiled. Just before opening the gut, the surrounding portion of the peritoneal cavity is carefully packed with flat sponges in order to prevent contamination. The risk of leakage of the contents from stomach, intestine or hollow viscus is minimised, if the viscus can be completely withdrawn from the abdominal cavity.

In resection of intestine or colon 'metallic button' bobbin, and bone-tube have fallen into disuse. Three kinds of anastomosis are in use; namely, side-to-side, side-to-end and end-to-end; of these the 'end-to-end' one seems to me the best. You must *express the contents* of the gut with finger and thumb from the affected part to one or the other side, and then apply 2 intestinal clamps on either side of the empty portion. Moynihan's, Doyen's and Lane's clamps are usually used. Murphy's clamp requires *no protective rubber tubing for the blades*. Space of about two inches should be left between 2 clamps and gut severed in between *against the edge of the clamp* placed internally. Some surgeons use thermo-cautery to divide the gut. Pauchet and others recommond crushing of the gut before division. Duck-bill forceps of Collin are very suitable for this purpose. There are innumerable

varieties of intestinal sutures; I give you the names of some of the important ones, which might interest you. Lembert's suture is the best and easiest; others are Czerny-Lembert's, Dupuytren's (continuous Lembert), quilted or Halstead's, Gould's mattress suture, Ford's, Gussenbauer's, Gely's, Wolfler's, Glove's, or whip stitch, Cushing's, Connell's, Mitchel-Hunner's for mesentery, Maunsell's through-and-through stitch, hitch-stitch etc. Connell's stitch for the whole thickness brings about complete hæmostasis, and Cushing's for serous surface is very useful. Usually 2 layers of suture are applied; they start from the mesenteric border in end-to-end anæstomosis; the first one through-and-through by button-hole suture and the second by Lembert's. Continuous suture should not be applied in the first stage as it sometimes *narrows the lumen* of the gut. In cholesystotomy W. D. Hones sutures the gall-bladder with parietes, by bringing it out and then inverting the edges. Shaw's inversion-suture is also very good. Pauchet in ileo-sigmoidostomy uses *three-level stitches* for side-to-side anastomosis; but 3 level sutures are unnecessary if Connel's and Cushing's sitches are employed.

You know, that the intestinal vessels ramify in the muscular coat and form by their branches plexus in the submucous tissue. Then again, you should also bear in mind that small intestines are more vascular than the colon. "Never cut a colon" recommends Pauchet, "but obliquely at its free border" forming an acute angle with the insertion of the mesentery. Mesentery and especially meso-colon, therefore, should be incised in V-shape and brought in apposition by catgut sutures. Suture starting at the circumference ends towards the centre. Ligature of all bleeding points and suture of the divided parts, viz., mesentery, meso-colon and meso-appendix etc. are important steps towards success. In appendixits the stump is either divided by thermo-cautery or touched with pure carbolic acid after division, and then washed out with alcohol. Some surgeons recommend the use of three clamps, the middle one being used for crushing; and appendix is then divided at the crushed part.

Pauchet holds that "gastric surgery is of extreme mildness .....The mildness depends on the training of the operator." Fine silk or catgut hardened to resist absorption for 20 days is used for intestinal suture. Half-circle, round-bodied (*i.e.*, without any sharp edge) needles are the best; Mayo's or Moynihan's spring-eyed round needles also are usually employed. Some

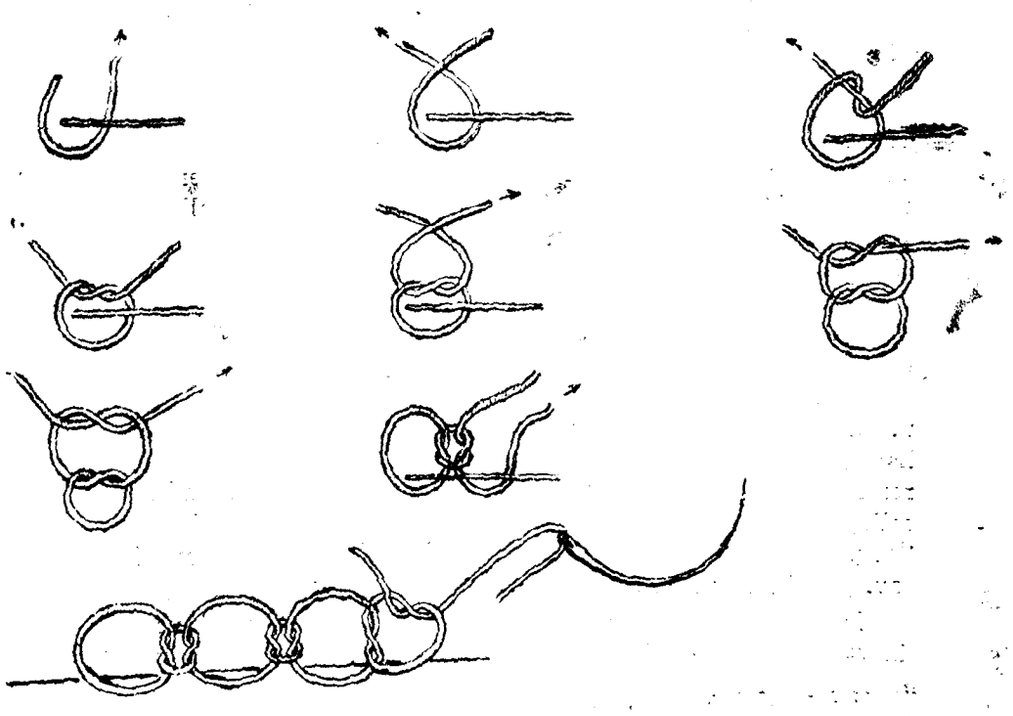
surgeons prefer thin, round, straight 'calyx-eyed' needles. Each stitch should pick up about ¼ to ½ inch of the intestinal coat, or that of colon. The sub-muscular coat is tough, other coats tear easily; so, the suture must include sub-muscular coat. Binnie describes 7 methods of operation for appendicectomy; of which the 'cuff' method of treating the stump is sometimes used; and the other,—ligature and division near the base of appendix (*i.e.*, ¼ in. from colon) and burying the stump by purse-string suture with fine silk (as devised by Fabrique) is now usually employed. Most surgeons ligate the base before burying it; some crush the stump before applying the ligature; some dilate the lumen and destroy the mucuous membrane by cautery or carbolic acid.

This much for abdominal surgery: I gave you the fundamental principles, and for details you should consult standard works.

A word about hernia, which though it occurs outside, yet communicates with the peritoneal cavity if the sac is opened. You must take care of the cord, and the less you handle it the better; you should never lacerate or *twist* it. Use blunt retractor or gauze-tractors; do not even touch it with hand except by means of a gauze compress. While narrowing the ring take care not to *strangle the cord.* In introducing sutures do not transfix or include the external-iliac artery. The neck of the sac should be transfixed with double catgut ligature and secured by a Dover's or Staffordshire knot. I prefer catgut as it absorbs satisfactorily and there is less possibility of stitch sinus than with silk. And I have found A. H. 'Ultratan catgut (No. 3—resisting absorption 20 to 30 days—very suitable for the purpose. In a strangulated hernia, if the gut is gangrenous, do not reduce it just after the division of constriction. If the patient is strong, you can perform resection and enterroraphy at once; but if the condition is very low, the "making of an artificial anus" is the only procedure. In doubtful cases "release of the constriction, but retention of loop outside the abdomen" is advised by Carson. Cover up the loop left outside with a compress wrung out in hot saline, which should be changed occasionally. If the gut is too much congested, treat similarly; if normal colour returns after a lapse of time, reduce it after washing the part with weak antiseptic lotion first, and then bathing it in hot saline; if not, remove it. In a reducible hernia do not open the sac for nothing, and complicate your operation. Always take antiseptic and aseptic precaution

before you open the sac and handle the gut. In old persons and atrophied condition of the testes, Pauchet advises to remove the cord with testes and sac—between two ligatures. If you cannot reduce the omentum on account of too much adhesion, you should remove it. I use a continuous-interrupted suture for omentum, of which I give you a sketch. You can use the same suture for other purposes also. Begin from left-hand side, pierce the under surface of the omentum and put a knot on the upper surface with the other end of the catgut or silk; then pass the needle through the same opening again from above downwards and up again *at some distance* to be tied to the other end, and so on. The upper end (with the needle) comes up and goes belowand make a loop round the omentum and includes all the vessels in it.

MY CONTINUOUS-INTERRUPTED SUTURE FOR OMENTUM.



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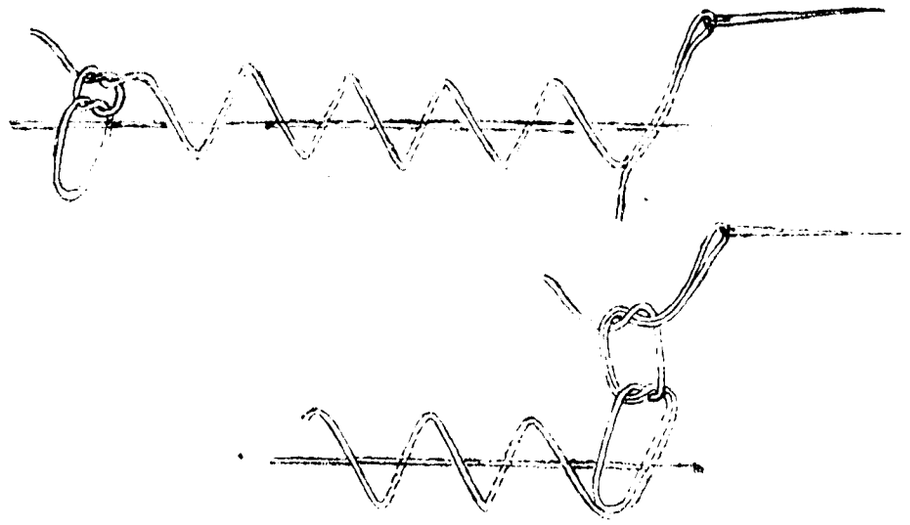
MANAGEMENT OF FINAL KNOT IN CONTINUOUS OR BUTTON-HOLE SUTURE.



If there be any adhesion in the intra-peritoneal cavity, which is soft and thin, sever them by means of the tips of your fingers *in a sawing motion*; but if the bands are thick and vascular, divide them between two ligatures, or 'ligature and clamp.'

Reposition of the abdominal contents is effected by means of a warm sterilized towel placed over it,—the edges pressed home within the walls and reduced with towel on, and then the margins of the wound apposed, and towel removed gradually by pulling it out through its central portion. It is advisable, at this stage, to bring the patient back to horizontal position from Trendelenburg's, for, if it is not done, all the fluid gravitates down into the pelvis. Blood clots should be carefully wiped out by means of sponges wrung out in hot saline. Some surgeons advise flushing out of the peritoneal cavity, if there is any suspicion of septic contamination. But Jellet asserts, "We have given up flushing of the peritoneal cavity in favour of removing the fluid by sponges". If the patient is found in collapsed condition during operation, the same author advises "to pour 2 to 6 pints of (hot) normal saline into the peritoneal cavity and allow it to remain there and be absorbed."

Instruments, sponges and towels are counted before closing the wound. It is needless to repeat that special sponges are necessary for laparotomy *i.e.*, one with a long tape sewn at its corner, the end of which should be held by pressure forceps.

SUTURE:—Dr. Kelly asserts that "the best method of closure is that which brings the tissues into exact approximation layer by layer in the order they occupied before division." To retain the viscera in position and avoid wounding the same, a flexible metal sheet or "square of stiff but pliable India-rubber may be placed inside the peritoneum, and withdrawn as the stitches are knotted and tied." (Thomson & Miles.). The peritoneum is stitched up by continuous or better button-hole suture of catgut either by a curved needle or Reverdin's needle (as modified by Woo) for the purpose of rapid sewing. Pressure on both flanks reduce the tension on the peritoneum. If peritoneum tends to tear, it is advisable to include the transversalis fascia and posterior sheath of the rectus, and part of the muscle also being included in the stitch, if necessary. Muscles are stitched with catgut by a button-hole or U suture. The anterior sheath of the rectus is either stitched up separately or with the muscles, by a continuous suture of catgut. Some surgeons introduce 4 to 6 silk-worm 'tension-stitches' at right angles through the skin, fascia, rectus muscle and its sheath and then beneath the transversalis fascia, which passes across the wound to a corresponding point at the opposite side to emerge finally through the skin. The ends of the silk-worm gut are held by forceps and tied only after final suture of the skin—over a roll of gauze placed along the line of incision.

REPAIR OF NERVES, VESSELS, TENDONS, DUCTS ETC:—Nerve-suture is an important branch of surgery; it is done by two kinds of suture,—direct and pereneural. Van Layer asserts that "the surgeon who neglects to suture a nerve, commits the same mistake as he who neglects to reduce a fracture or fails to unite a divided tendon". The cut ends of the nerve if not sutured, after a time becomes 'bulbous'; in old cases the ends must be freed from cicatrical tissue and united end-to-end or laterally. Relax the nerve to *prevent tension* in order to ensure union. Nerve-grafting was advanced by Letievant. Healing of the nerve is prevented by deposition of fibrous tissue intervening between the sutured ends. So closest approximation and strict asepsis are necessary for success.

'Prevention is better than cure'. So, you must know the exact position and relation of all important nerves, and avoid injury to them, especially big ones. Amongst others, facial, vagus, spinal accessory, phrenic, hypoglossal, musculo-spiral, recurrent laryngeal, great sciatic etc. are of great surgical importance.

TENDONS: Binnie advises that "*incision to expose the tendons should be longitudinal and so placed that they may be slid over all the parts it* is necessary to expose.....An incision should not be made directly over a tendon; it should be to one side of it." Surgeons should avoid flaps and V-shaped incisions in order to prevent adhesion. Sir Robert Jones asserts that a tendon must be covered by its sheath, as it receives its nourishment from the same. Tenorrhappy, tendon-shortening or lengthening are now usually done. Tendon lengthening is preferable to simple tenotomy. Von. Hekar splits the tendon of index finger and bridges the gap in the middle finger and in order to avoid 'peritendinous adhesions' he surrounds the transplanted tendon with a piece of freshly-removed hernial sac and sutures the bands of fibrous tissue across it. Binnie deals with this subject elaborately.

Dr. Elmslie says "The tendon at the point of suture is very liable to become adherent" and urges that if the tendon possesses a sheath, it should be closed by a fine catgut; if not, "fixation of a little fat over the region of the suture is the best method of preventing or minimizing adhesions." (Carson)

VESSELS:—In recent years suture of vessels has been established on firm footing. Thomson and Miles assert that "it is contra-indicated if the vessels' wall is contused and lacerated if more than three-quarters of an inch of the artery is destroyed or if infection is present." Both lateral and end-to-end arteriorrhaphy are practised. Da Costa circular method is employed in anastomosing an artery with another artery or vein. To do this you must *temporarily occlude the vessel*—one inch above and below the wound with Dorance's, Carrel's or Crile's clamp—the blades being covered with rubber tubing, or surrounded by tape and clamps beforehand; approximation of endothelial coats is essential (Carrel). In wounds of vessels an elastic tourniquet is usually employed. Next, the lumen is washed with normal saline and smeared with sterile vaseline both inside and out, so that no fibrin may remain there or give rise to clotting. The external sheath being carefully resected or withdrawn, the lip of the wound is brought in apposition by drawing its *edges parallel to each other* by thread tractors. Continuous suture is applied including all the coats. In case of a big artery it is reinforced by a Lembert suture. Remove the proximal clamp first, and then the

distal one; if there is any leakage apply some more sutures. There are various methods of arteriorrhaphy and implantation, of which, Briceau-Jaboulay's, Dorrance's by V-suture, Payr's by magnesium rings, *Murphy's* invagination method are worthy of mention. Carrel closes the tissue after putting one or two stitches in adventitia to strengthen the suture. Lexer bridged over a gap in the axillary artery by a segment from the saphenous vein: Binnie describes these methods in detail. In this way, with great care and patience you can also unite ducts and so on. If you cannot suture the divided thoracic duct, you should tie both ends.

SKIN AND BONE GRAFTING:—Plastic operation should not be done in a debilitated patient. Two kinds of skin-grafting are in practice; in one, the epidermal tissue and the apices of the under-lying papillæ are taken,.....for which anterior portion of the skin of thigh is a favourite site; and in the other, the whole thickness of skin is used. The skin must be properly retracted. Some surgeons use Kilner's or Mastin-Slesinger's skin retractors for the same purpose. But I have never used any one of them. If you can manage to have the thigh squeezed by both hands from both sides at the lower segment with uniform pressure, and the skin properly pulled down by one of your assistants —you can discard the help of instruments. A plain-ground straight-edged sharp razor or knife is always wanted; Thiersch's or Guy's razor is usually employed. Some surgeons use an aquous solution of glycerine to make the knife glide easily. But making *a graft of the whole thickness* is impossible without a connecting link for the vascular supply of the flap. Success depends in both cases on strict asepsis, preparation of the skin and the part where the graft is to be applied, perfect apposition, avoidance of pressure and arrest of bleeding between the surfaces of contact; and in the latter, there must not be very much twisting of flap, as it impedes the circulation of blood. The graft should be one-sixth time more than the deficiency. The connection should be only cut off when vascular supply is established and sensation tends to return—in the graft, which usually occurs in 10 to 15 days. As for the epidermal graft, each strip should not be less than ½ inch in width and 2 inches in length (Waring); and if covered by oil silk, tin or silver foil and dressed lightly without the use of antiseptic lotion, it usually succeeds.

BONE-GRAFT:—Is useful to fill up the deficiency in bone, and is usuallay taken from the same individual and "such a graft" writes Da Costa, "is more powerfully stimulating to the bonegrowth than a graft from another individual or from one of the lower animals." Transplantation of bone from lower animals is also done. According to Abbee, fixation alone is not sufficient; graft is taken from the sound end of the same bone, or another bone of the same individual, which is inserted by cutting away the fibrous union, and freshening the ends. If fractures could not be set up by ordinary methods—the fragments are secured by wiring, screwing, bone-plating, bolts, ivory or bone-pegs, Parham's bands and so on. Cone and cap fitting of old fracture ends, driving 'peg' through the fragments, filling the gap between the bones by "massive grafts" taken usually from the adjoining bone which should be about 2 inches longer than the gap—are not uncommon in practice. Lane's and Sherman's Vanadium steel bone-plates are usually used. Da Costa advises never to touch the wound with bare hands and that all necessary manipulations should be done only with instruments; Sir Arbuthnot Lane does not even permit the gloved hand to enter into the wound.

SEPTIC WOUNDS AND CONTENTS: Punctured wounds and wounds not attended to for some time after injury should always be considered as septic, and treated as such so long the aseptic conditions are not secured. Never stitch up such suspicious wounds; but if you have to do it, you must not only clean the wound but secure a thorough antisepsis of the surrounding parts and leave a drainage. After a few days, when the wound is quite healthy, you can close the wound after a little scraping, if necessary. Even in septic wound, you should not be careless about asepsis, lest *mixed infection* might take place. In cellulitis of neck, abscess of the parotid gland and in cellulitis of dangerous zones—especially over big vessels and nerves—it is much better and safer to open them by Hilton's method. For the purpose of enlarging the wound you can make use of tracheal dilating forceps (Bowlby) by one hand only. I have seen a distinguished surgeon dividing the portal vein in opening a liver abscess, and known another to open a poplitial aneurism by mistake for an abscess. These cases need not cause any wonder, but there is credit if you can avoid them. In suspicious cases, you

must not open at once without previous exploration. Usually as soon as pus forms, it pushes out the vessels to a safe distance from the subcutaneous wall; so never dig your knife or needle beyond the pus cavity. Even when you are sure of a pus cavity, make your incision small at first, and then pass a director or your gloved finger inside, and gauge the depth and extention of the cavity. Squeeze the part to be divided between your index finger and thumb and feel for pulsation or any resisting structure. If there is none across the line of your incision, enlarge the wound. Remember that your line of incision should be made if possible in such a way as to drain the cavity to its full extent *with reference to the position* in which you propose to place the patient afterwards.

According to De Quervain "no special scheme of operation should be followed, nor should any particular incision, recommended by one surgeon or another, be adopted; but the abscess should be opened *at the most superficial situation* and with as little anatomical damage as possible, *i.e.* in the ilio-cæcal region, lumbar region, linea alba, or finally in the vagina or rectum...Find out the point smallest incision will suffice."

De Quervain also holds that glands do not suppurate of themselves and we must, therefore, search for the 'portal of entry', and attend to both the primary and secondary seat of infection.

You must not introduce a probe or director beyond the septic area *i.e.*, into healthy tissue, especially in the neighbourhood of synovial cavities, after its contamination with septic material. Never use the same sponge which you once used for the wound again for the surrounding parts and vice versa: *i.e.*, use separate sponges for external and internal purposes. In the septic infection of hand and foot, the position and relation of digital synovial sheath, common palmer sheath, synovial sheath of the wrist and hand, and annular ligament and those of flexor and extensor tendons, and the dorsal subaponeurotic space must be taken into consideration with regard to the line of incision and drainage. Beesly and Johnston advise incision into the proximal part of the sheath in the line of ring finger between median and ulnar nerves for pus in the common palmer sheath. They deal exhaustively with the surgical anatomy of these parts. If the abscess stretches across a big vessel or a nerve, make one, two, three or more incisions parallel to important structures instead of a

big one across them. In order to open an axillary abscess, keep the arm at right angles to the body. In an iliac or a localised abscess of the abdomen or pelvic cavity, do not disturb the adhesions or break the wall of the circumscribed area; do not even use douche with great force or pressure: use a double channel catheter or 2 parallel drainage tubes one for the douche and another for the outlet. In a female, you should try, if possible, to open through the Douglas' pouch. In abscess of liver or other organs—try to make the wound cavity *extra-peritoneal* by suitable sutures or well—planned drainage system. In opening a retropharyngeal abscess "no anæsthesia, not even cocaine, is permissible on account of increased danger of sucking in of discharge. Knife should be protected by cotton or sticking plaster and incision made at the most prominent part and knife withdrawn at once". If there are many pockets leading to the main abscess—they should be explored and opened up with the finger. Abscess of the cheek, eye—lids, etc., should better be opened, if possible, from inside in order to prevent visible scars. In abscess of the chest, back, nape of the neck, the flanks, and the outer aspect of arm, legs and buttucks, etc. you can *make a more free use of the knife* than other parts, provided you do not go too deep. In the palm of hand, sole of foot, in cheek, in anterior and posterior triangles of the neck you must avoid tendons, nerves, vessels and duct of glands and also the thoracic duct. Open a mammary abscess by a radiating incision; pockets of pus cavities should be opened by finger. In a retro-mammary abscess a semilunar incision is given along the lower border, and the gland lifted up and pus drained and the wound stitched up leaving a drainage. In mastoid abscess, you must take care not to open the lateral sinus. A sherry-coloured iodine solution should be used to wash out a tuberculous cavity; while perchloride or biniodide lotion (1 in 1000) is useful in securing antisepsis for septic wounds. Use weaker solution, say, 1 in 3000 to 5000 for irrigation purposes. In extensive suppuration or sloughing wounds employ antiseptic bath or Carrel-Dakin treatment; and when inflammation subsides, sloughs separate and the wound becomes quite healthy, you can apply, if necessary, sutures with or without drainage according to the condition of the wound. By proper precaution and management you can easily control the issue of an aseptic operation; but it is very tedious and sometimes doubtful too, to bring about the aseptic condition of a septic wound.

DRAINAGE.

Dr. G. Williams writes in his Minor Surgery, "A knowledge of the general principles is very necessary to the house-surgeon;.....and satisfactory healing of the wound may be very seriously impaired by the too-early or too-late cessation of drainage." In aseptic cases drainage is needed when 'dead spaces' in the wound are not brought in apposition when there is oozing going on, and secretion or excretion is required to be let out, and in all septic cases generally—to, make way for removing the discharges by drainage which must bo applied *at the most defendant part*. A variety of drainage material is used, such as ordinary gauze, cigarette-like roll of gauze, glass or metal tube, horse hair, silk worm gut or catgut folded double in the form of a bundle, and rubber tubing; in the last case, it must be large enough, otherwise, it will become plugged by a thick or coagulated discharge. A better form of gauze drainage is prepared by having an envelope of oil silk, which prevents it from adhering to the surrounding tissues. Rubber tubes are sterilized by boiling in water and are then kept in (1 in 20) Carbolic lotion, and are reboiled just before use. Drainage tubes when once used, should not be used again even after boiling. They are usually perforated alternately on either side, to drain out the discharge from the surrounding area. If a drainage is not employed notwithstanding secretion, excretion or discharge being present——there is always an accumulation of fluid, even if the opening is not closed; so under such circumstances it is always advisable to leave a drainage. Insert a drainage tube of smaller calibre, or cut short the tube as soon as the cavity narrows or its depth decreases.

Always lower the position of outlet more than that of the pus cavity; e.g, lower the knee if the cavity is higher up in the thigh or raise the knee if it is a poplitial abscess opening into the thigh; and similarly in an abscess of the perineum, put the patient in Fowler's position. There are special apparatus for suction drainage of bladder; of which Irving's Cathcart's, Caird's and Bunsen's are in use; Caird's T-shaped tube for supra-pubic drainage is the simplest and best. Drainage in laparotomy is rarely required; but if there is too much effusion or oozing, drainage can be effected by the use of "a rubber drainage tube or a Keith's Glass tube" to be removed after 24 hours. Drainage is also carried out through lower angles of the abdominal wound or through an opening made in the floor of the Douglas's pouch into the posterior fornix of vagina.

Kelley recommends making of one or more lateral or posterior openings through the abdominal wall or through flanks just outside the erector spinæ muscle. Neither rubber nor glass tube is as good as a gauze drainage. The pelvis is filled with gauze packing and the end of the plug is brought down into vagina. This is removed on the following day (Jellet.) In other cases Mekuliez' bag is used; which consists of a large piece of gauze 18 inches square with a tape sewn to its centre, and is placed in the utero-vesical pouch. Jellet does not however approve of this method. According to Binnie drainage must provide protection to the peritoneal cavity when collection of pus is to be evacuated through it. The end of the tube should either be fixed to the margins of the skin by one through and through stitch in the middle, or side stitch on either side—by silk worm gut or a sterilized safety pin is transversely attached to it, in order to prevent its slipping into the cavity or coming out. In aseptic cases it is better to fix thetube with the margins of the wound by a suture; put a *half-knot* rather, so that you can remove it simply by undoing the knot and dividing the tube and then after removal you can close the wound by applying a full-knot. McArther soaks the rubber tubes after sterilization in liquid paraffin for a week or so, which make them softer, and prevents clotting inside. Binnie describes various forms of drainage; of which split rubber tubes (*i.e.*, ordinary tube divided longitudinally), dressed rubber tubes, Wetherill's drain, rigid rubber or celluloid tube, prepared chicken-bone-tube and glass drain with rubber collar are used in suitable cases.

If the main abscess cavity leads to different smaller cavities, it is advisable to insert several drainage tubes through the outlet leading to these parts. Ballance's method of ventricular drainage by the use of inverted L-shaped tube of platinum resulted in complete cure for hydrocephalus.

Drainage is not so suitable in pericardium but "daily aspiration of any fluid that accumulates till a cure is effected" is the best method as advised by Ballancee. Rose remarks that for the drainage of pleural cavity "a more convenient site may be selected in the 5th or 6th interspace just behind the mid-axillary line". In œsophageal operations drainage tube should be inserted to prevent septic infection passing down into thorax along the carotid sheath. (Beesly and Johnston.)

SUTURE: Senn remarked that "the wound should not be sutured until hæmorrhage has been completely checked". To close up a dead-space buried sutures must be applied—without which accurate approximation of the deep part of the wound is impossible; a few rows of these sutures are required. For a big skin-wound, silk-worm gut sutures are applied at an interval of 1 inch or so; sutures of horse hair or silk-worm gut are applied, in the interspace. In order to be successful, the edges must be brought together by pulling in opposite directions the margins of wound by thread tractors or ordinary tissue forceps. An assistant can help much in this matter by approximating edges of the wound either by fingers, ordinary forceps, or Moynihan's or Diver's special suture forceps during application of sutures. Usually begin your stitches from the apex. Sometimes application of surgeon's knot is useful to keep the parts in close apposition——where there is much tension in the flaps. Continuous suture is applicable for small incision; but loose skin, large or irregular line of incision, button-hole or interrupted sutures are more suitable. If there is much tension——U or Halstead suture proves effective. The other favourite sutures for the skin are Ford's (with one or two square knots), subcuticular (intradermic), button or quitted suture etc. The knots should always be placed to the side of the wound and not along the line of incision. Keep the ends of superficial stitch one inch long, so that you may easily find out the ends in order to remove the stitches. Twisted sutures are used in hair-lip operation specially. Use slowly-absorbable catgut sutures for the mucous membranes, as there is no need of its removal afterwards.

Heger's, Moynihan's, Collin's and Doyen's needles are more or less used. Reverdin's, Pauchet's or Carles's needle on handle is usually used for skin suture. Gillies' scissors combind with needle holder, and Wares' ligature scissors are now-a-days used advantageously for rapid work. Mitchel clips (new suture set) are useful for lapartotomy and big but usually straight incisions. They are easy to apply, but not so easy to remove. Bonney has devised special forceps for removing Mitchel's sutures.

DRESSING AND BANDAGE.

You know enough of dressing and bandage; so I have very little to speak about them. Covering of the wound is an absolute necessity; and pressure to the oozing surface is of great import-

ance. Proper pads *in proper position* and in such a way that the pressure of bandage when applied may be uniform on all sides; —if the wound is closed; or directed towards the outlet, if a drainage is left in. Strausmann's aseptic back rest is used in applying a spica bandage or one around the abdomen. Bandage must not be too tight so as to occlude the lumen of veins but just tight only. Part or parts should be squeezed from above or below—according to the lower or upper position of the outlet respectively: or if the pus is burrowing both above and below pressure should be exerted on either side of the outlet. Many-tailed bandage is better than a roller bandage, because it can be easily undone and replaced without lifting the patient.

Usually after operations on rectum it is advisable to inject a few drams of sterilized vaseline into the rectum and insert a suitable rubber tube 1½ to 2 inches inside, and then secure the outer end by a ligature passed through it to prevent its slipping in or out; and dressed and T-bandage applied firmly. This tube not only helps passing of the flatus, but also gives indication of any hæmorrhage occurring inside.

Before leaving the hospital, the surgeon should leave instructions as to the position in which the patient should be kept in bed and the diet to be given afterwards.

APPLICATION OF PHYSICAL SCIENCE IN SURGERY:—You have read Science and known its application. You should bear in mind that the same principle which governs the science of matter and energy is at work invisibly in every step of your operative surgery. Science our back ground; and we need the physical laws of light, heat, electricity, magnetism, statics, hydrostatics and dynamics to guide our principles and practice in surgery. Thus, for example, in opening the pleural cavity, we have to take into account the problem of atmospheric pressure; in setting the displaced broken fragments of a bone we have to bear in mind the effect of resultant forces in causing approximation of the broken ends; we have to consider the energy in inpact of elastic bodies employed in controlling hæmorrhage by means of elastic tourniquet; the question of capillary action and force acting along an inclined plane in obedience to gravity with regard to drainage: proposition of the line of traction against the line of least resistance in the delivery of a cystic stone* or fœtus; the subject of pulley for

* Vide Indian Medical Gazette 1926, June—my article "Study of Supra-pubic Lithotomy."

extension in counter-acting the action of antagonistic muscles; mechanical advantage of levers with reference to application of effect, resistence and fulcrum in the use of elavators, bone-cutting forceps, and crushing instruments etc.; question of 'water-level,' measurement of pressure and energy of jet, especially in the injection of saline solution under skin or into a vein, and so on. I can give you a hundred and one examples—but there is no use. Weight, wedge, tension, motion, friction, rotation etc, are too common surgical terms. It is needless to give examples of heat, light, electricity and magnetism; you have innumerable intruments for their application in surgery. You must know their action and use in order to make your work a complete success.

GENERAL REMARKS:—I have dealt with the main features and procedures of operation in general. It is impossible to give you notes in detail on every sort of disease. However, you should know a little about surgery of heart and brain. Sir Charles Ballance tells us that the heart should be "treated as one of the ordinary tissues of the body" and method of operation conforms to the fundamental principles of surgery. He also urges that "all cases of injury with symptoms of heart compression require at least incision of the pericardium," and advises us to save the pleura as far as possible. Spangaro operation is less hazardous; one big incision in the 4th inter-space is made; 4 or 5 ribs are divided or disarticulated and retracted. It is easier to manage a ventricular wound than an auricular one. In opening the heart, preliminary Lambert suture is applied over the *proposed line of incision* beforehand in order to close the wound and control hæmorrgage. Ballance advises that blood pressure should be noted throughout the operation on the heart. "In suturing a wound of the heart fine vaselined silk and small round needle should be used.

"The opening of one pleural cavity is of no consequence, and resulting collapse of lungs is not complete." The employment of negative or positive pressure apparatus is unnecessary, it only makes a simple surgical procedure, difficult and complicated. (Ballance). Needless to say, the hilum is the most dangerous region of the lung from which to remove a foreign body. Only the other day, I removed a bullet fired from a 'short Lee-Enfield' rifle, which was lodged in the substance of lungs at its posterior aspect, and I had not much difficulty; the lungs did not collapse under atmospheric pressure, and the patient left the hospital in 10 days completely cured. I did not open the pleura

just opposite the inter-costal space; which I opened but one inch away from it in the next inter-space;——a sort of valve arrangement. Duvval's lung forceps, and Waring's or Taffier's rib retractors are usually employed in these operations.

In brain surgery you must be thoroughly acquainted with the cranio-cerebral topography; preparatory treatment, precautions against shock, anæthesias, position of the patients, and control of hæmorrhage etc demand your careful attention. The proposed line of incision should be marked on the shaved head beforehand. Frazier places the patient in sitting posture and uses either anæsthesia. Many patients bear chloroform quite well. I did a case of trephine for depressed fracture a few years back; I could not bring out the fragments by elevator, so I had to use chisel; the gap in the skull measures 8½ inches in circumference. The patient recovered completely. Now-a-day ostio-plastic resection (bone and flap in one) is practised; the flap when replaced, rests on the bevelled edge and cannot go in. For bigger exposition of brain, Gigli's saw is used in combination with trephine. Pauchet advises to stop arterial bleeding in the bony canal with wax, if it be small, and with ends of bone if it be large. This plugging in operation on the skull is done by cutting a piece of bone close to the area.

In hypophysectomy, Begojawlensky raises the head end of the table to an angle of 30°, and the patient's head hangs backward over the end of the table; this prevents the loss of cerebrospinal fluid,

In vaginal operations, constant douching of the field of operations is of great help to the surgeon in as much as it helps to wash out the blood and blood clots which obstruct the view. In abdominal hysterectomy, especially, bladder should be relieved just before operation and again just after —to ascertain whether urinary organs are free from injuries.

Make it a point not to perform an aseptic operation on a patient with a septic focus in his body, if you can avoid it.

In order to emphasise what I already mentioned I cannot check the temptation of quoting for you the words of Col. Anderson: "Neither the operator, the assistant, nor the dresser should, on any account, touch any unsterilized object... Should he accidentally contaminate his hands, he must go through the *whole process of sterilization* again.... No unprepared hand should ever touch the inside of a sterilized receptacle." This advise, though elementary is very essential.

You know, that I never touch with my fingers the part or parts of instruments, namely, blades of knives or scissors, needle, trocar or canula etc., which go into the tissues; and even I hesitate to touch them with my gloved hands also, and believe me, I do not do so for nothing.

The prevention of post-anæsthetic toxæmia is effected by avoiding chloroform in all patients who are subjects of sepsis, rickets, cyclical vomiting, or diabetes by allowing plenty of carbohydrate food during the days before operation and by four-hourly admintstration of bicarbonate of soda and glucose during the day before operation. (Carson).

Never begin anæsthesia without separating the teeth with a small prop placed between the bicuspids of one side; head should be slightly raised above the level of shoulders and turned to one side. Bloomfield holds, "The safest plan consists in a light narcosis secured by C. E. mixture from an open mask, the patient lying on the with the mouth propped open." Some surgeons recommend Omnopon with Scopolamine instead of morphia and atropin; I use the latter. A little deeper anæsthesia should be preferably given when dividing a bone, big nerve or cord of the testes or any very sensative structure of the body; this is necessary to reduce the shock. If the operation table is not provided with a drainage system, Kelly's douching cushion can be used with advantage on the table for abdominal operations, or on bed for vaginal douching.

Before making a big or complicated incision it is always advisable to scratch the skin lightly with needle at right angles to and across the line of proposed incision, and especially, at corners in order that the sutures be apposed in the correct line. Preliminary laryngotomy and *temporary occlusion* of the external carotid artery assist the surgeon in excision of the lower jaw. Sometimes, a transverse wound is converted into a longitudinal one and vice versa; or a V-shaped incision into the shape of Y, or Y into V by the change of position and application of sutures for surgical purposes either to strengthen the line of suture, or relax or make tense the parts. If the flaps of skin be short, there are three convenient methods of relaxing the same; (1) by 'undermining the flaps by subcutaneous transfixation'; (2) making parallel counter incisions above and below, and (3) by 'bridge-flap' from the adjoining skin above or below.

Many surgeons maintain that during bone-work 'ligatures should be reduced to a minimum, hæmostasis being obtained by crushing the vessels with forceps.' (Carson)

Use only absorbable ligature, and not silk or other non-absorbable material in deep parts, as the latter is very apt to give rise to a sinus or painful nodule,

Greatest care must be taken in lifting an enlarged tumour to expose the pedicle, because if the tumour is very heavy or pedicle short, careful handling is necessary to prevent any sudden pull rupturing the pedicle.

Inter-locking sutures are used for ligature of pedicles; and non-inter-locking ligatures are introduced by an aneurism needle for ligature of vessels and division of the same in between.

One word about appliances: Bonney has devised an antiscreen and instrument-tray combined in one for the purpose of providing a partition between the surgeon and anæsthetist and also special instrument tray for use in Trendelenburg's position.

However, you do not always want special instruments when simple ones are adequate for the purpose; for the simplest are always the best.

If you commit even a serious blunder in the course of operation, do not lose heart but exert your best to remedy the evil by all means at your disposal; *e. g.*, if you open out the intestine instead of incising the bladder; you should at once prevent contamination of the surrounding parts, suture the opening, and calmly attend to the work, according to the condition of the patient.

A few words about operative treatment of malignant disease or in other words 'lymphatic surgery': Dr. Handley has dealt with this subject in Carson's Surgery. He states that excision of growth——'monobloc' of malignant growth and glands is necessary, whenever possible, in order to prevent the *setting free* of the infected cells in the wound. Some surgeons remove in weak cases the growth first, and then the gland in another sitting. Handley urges that "except in the case of fibro-sarcomata, removal of glands should be a rule," and if necessary, glands of the opposite side too. In early stages gland infection is microscopic and is clinically imperceptible. In the skin incision elevation of skin-flaps must be made "to obtain access for removal of adequate area of infected deep

fascia" encapsuled, as it were, by a layer of healthy tissue. The line of incision, as a rule, should not encroach within 1 inch of the edge of the growth.

"Radium possesses great advantage over X-radiation..... radium tube or a tube of radium emanation can be buried in the tissues for a longer or shorter period....." Usually tubes are withdrawn in 24 hours and moved into a second position for a further 24 hours.

"Believe nothing of what you hear and only half of what you see". This proverb is very true in the field of surgery, and if you want to be sure of your success, you must personally inspect and go through every detail of preparation and after-treatment.

To a high-class surgeon nominal success in the operation should not be the sole aim; the operation must be done gracefully as well as beautifully, and the cure should be permanent.

A FEW REMARKS ON KALA-AZAR

BY

KAMAKHYA PRASAD LAHIRI, L.M.S., P.O. BERA, DIST., PABNA.

Kala-azar, although on its re-appearance in Assam in the seventh decade of the last century, hailed by the western physicians as a new disease, under the present nomenclature, is already a malady of respectable antiquity. Charak, the oldest writer of the extant Ayurvedic treatises, must have known this disease. He describes this as "Satataka" which he considers to be a form of chronic fever with a double rise of temperature; once during the daytime and again at night.

His words are:—Ahoratree Satatako dvaukalanuborlate Chikitshitasthanam 3/32.

During day and night satataka follows twice (*i. e*, fever comes on twice). The value of this laconic description of the astute Aryan observer is best illustrated by the following quotation from one of the latest and most valuable publications on Kala-azar which saw light at least thirty centuries after the work of Charak, I mean the book, Kala-azar by Dr. Muir and Dr. Napier.

"There is, however, one form of fever which is characteristic of the disease, that is, the double intermittent or remittent type of fever" (Page 41).

* Specially contributed to "The Antiseptic."

The authors hold different opinions about the frequency of this double rise in cases of Kala-azar. Dr. Muir thinks that it is present in every patient whereas Dr. Napier seems to regard it in the light of the fœtal heart sound in pregnancy and rusty-coloured sputum in pneumonia. When present it is a sign of great diagnostic value and helps the physician to clinch the diagnosis clinically. This difference of opinion between two eminent authorities does not, in any way, diminish the value of Charak's observation. This double intermittent and remittent type of fever induced the Ayurvedic physicians as well as the laity to change the name of satataka to dvaukaleen in Bengal. From the above it will also be apparent that it is very difficult to agree with Dr. Brahmachari, the indefatigable worker who has done so much and is doing so much to stamp out this dreadful scourge from Bengal, nay India, when he writes "it is however doubtful whether Kala-azar existed in the days of Susruta". Susruta lived at a later date than Charak and he wrote chiefly on surgery. Of course, in the last portion of his work called Uttara-Tantra general diseases are described, but this is regarded by many scholars as a subsequent addition by some other writer or writers. The very name of the text "Uttara", supplementary, lends colour to this view.

The name Kala-azar is derived from the Assamese words *(a)* Kala = deadly *(b)* Azar = disease. We need not wonder at this appellation of the malady because an almost cent per cent. mortality followed its trail, when the disease broke out in an epidemic form in Assam. In this name it made itself known to the physicians of the modern school since Clark's description of the epidemic in 1882. The Bengalee has, from the phonetic similarity of the words, Kala-azar, in his vernacular, made them mean black fever ignoring the proper derivation. Intensification of pigmentation of the skin of forehead, temples and around the lips may justify him to some extent in making this change. This reason, I presume, induced the authors I quoted above to state in their definition Kala-azar or "black-fever," in their book. A high officer recently writing in "the Bengalee" uses the words black-fever as synonymous with Kala-azar.

I have already stated that Kala-azar existed in India from the remote antiquity but subsequent to its recrudescence in the Garo-Hills in 1869, it attracted the attention of the European Medical Officers. The epidemic, starting there, spread slowly

north-east along the course of the Brahmaputra to the point of the emergence of the river from the eastern portion of the Himalayas—into the upper part of the province of Assam.

In the course of its progress it took such a heavy toll of the inhabitants that villages were depopulated; and vast areas of land were thrown out of cultivation. I happened to be at Gauhati, the chief town of the district of Kamrup from 1884 to 1890 and was a student of the local high school. The district was then under the full grip of the fell disease. I still remember with what horror people looked upon it. Several of my friends and fellow-students succumbed to it. Impressions made on my youthful mind by some of the pathetic scenes then seen, remain green even after 36 years. I give below two cases which moved me most.

(1) Two brothers, my class-mates, appeared with me in the test examination. The younger brother stood first in it, but died before the entrance examination. The other brother who went through the last-mentioned examination, expired before the results were published. I may mention in passing that he was a great athlete and was successful in the examination and was entitled to a local scholarship.

(2) The family of one of our teachers consisted of four members, a son, a daughter, the wife and the teacher himself. One by one, all of them died in the order named, within one year. The family incidence of Kala-azar is very common, but not to such wholesale extent. Dr. M. C. Combie Young has made elaborate investigation of the epidemic in large parts of Assam and one interested on the subject will find interesting details in his papers. The epidemic gradually died down after reaching its height in 1897 to reappear again following the influenza epidemic of 1918–19, but this has been kept in check by the antimony injections aided by other hygeinic measures.

It is only after Dr. Clark's description, the disease is regarded as a clinical entity. For a long time Kala-azar passed as malaria from the close simulation of the symptoms of cachexia of the latter affection. I think, the disease that decimated the districts of Burdwan, Jessore and Nadia is none other than Kala-azar. A few words about the causation of the disease may be interesting as this will prove how difficult it is to find out the true nature of a malady and what amount of labour and patient research is necessary for ascertaining this. The Government of India deputed Dr. Giles in 1890 to report on the disease. He

regarded it to be a sort of ankylostomiasis and recommended thymol as a specific. Sir Leonard Rogers thought it to be an intensive form of malaria in 1897.

Sir Ronald Ross supported him in 1899. Dr. Bently regarded it to be due to micrococcus melitensis (1904). All these speculations were set at rest by the discovery of the parasite, a protozoon known as leishmania donovani, so called from the fact of its being described almost simultaneously by Dr. Leishman (May 1903), Dr. Donovan (July 1903). The possible mode of infection may now be regarded as settled. The parasites are carried from case to case by the sand fly. For a long time the incriminating anthropode escaped the vigilance of the scientists. The bed bug was under suspicion since Sir Leonard Rogers' indictment in the Lancet, 1905 (Vol. I page 1483); but ultimately Dr. Macki's suspect (Indian Medical Gazette, 1922 Sept. 326) is declared guilty.

Whether this discovery will enable us to stamp out the disease from infected areas, as the knowledge of the intermediate host of malarial parasites has done, time alone can show. I hope there will be no paucity of workers to apply this with such brilliant results as accompanied the labours of Sir Roland Ross in Islamia, General Gorgas in Panama and Dr. Malcolon Watson in the Federated Malay States. A few words about the diagnosis of the disease may be interesting. Before the method of Muir's spleen puncture and culture of peripheral blood were discovered, too much reliance was placed on the ratio, the white corpuscles bore to red. If this fell to 1/1000 the case was diagnosed to be Kala-azar. This is not above fallacy. It is doubtful whether this disease can be diagnosed clinically.

There will be a strong presumption for this if the following signs or symptoms be present:—

(a) Double rise of temperature (either remittent or intermittent.)

(b) Pulsation in the third, fourth and fifth inter-costal spaces on the left side.

(c) Soft enlarged spleen.

(d) Loss of hair.

(e) Darkening of the face

(f) Inefficiency of quinine.

(g) Craving for animal food. (Even those who do not take this sort of food for religious scruples have been found to take it stealthily.)

In some cases of Kala-azar there is no other sign or symptom except pyrexia.

Lately, I had an interesting experience with a case of this nature while I was at Shillong. A respectable Hindu gentleman came to me and requested me to give an "exparte opinion" (as he said) about the illness of his wife from clinical symptoms only. He very politely declined to show me the results of the blood examination, and to inform me of other physicians' diagnosis of the case as that might bias my opinion. I examined the patient who was somewhat reduced. There was a history of persistent fever for four months. No other sign or symptom could be detected. I told him frankly that it was extremely hazardous to give an opinion on such insufficient data and that I regarded his wife's illness to be Kala-azar because her chest was normal and there was no enlargement of liver and spleen thereby excluding tuberculosis and malaria and that the diagnosis was to be confirmed by detection of leishmania donovani. The husband then narrated to me the whole history of the case. The patient was examined by several medical men at Shillong. There was a difference of opinion amongst them. Some regarded it to be a case of Kala-azar while others thought it to be a case of tuberculosis. The peripheral culture of blood did not settle the controversy as only one or two parasites were detected after examination of several slides. At Shillong, Brahmachari's Urea-stibamine is regarded as an infallible remedy and usually four injections cure a patient. The subject in question had then seven injections of this salt without any appreciable change. This fact was supposed to lend additional support to the tubercular nature of the affection. This greatly disturbed the husband and other relatives and they preferred to have the opinion of a third party. I was then selected as such with peculiar restrictions as stated above. I advised continuation of the treatment. The patient was cured after 13 injections. Another fact that is often met with in Bengal is the simultaneous invasion of the system by leishmania donovani and plasmodium malaria. This often makes the diagnosis difficult.

There is considerable ground for a difference of opinion about the practical value of Napier's test which is a modification of the formol-gel test for syphilis. The test is a very simple one and works well in many cases. As this is negative

in the earlier stage of the disease and as it remains positive even when the patient is almost cured and as there is found a seasonal variation of its presence and as in less pronounced (partially positive) cases other diseases may give similar result, many physicians regard it as of doubtful utility.

As in the case of ætiology, the treatment also remained in a nebulous condition for a long time. Caronia and Di-Cristinia in 1915 followed Vianna in treating the cases of infantile Kala-azar with intravenous injection of tartar emetic, in Italy. I think, at present sodium-antimonii tartras is mostly used because it is less irritant and less depressant than the corresponding potassium salt. Three drugs namely (1) Urea-stibamine (2) Von Heyden's 471 (3) Antimonii Sodii Tartras now hold the field. Every one of these have special advocates. It is very difficult to state which is most efficacious. I have seen cases where all these fail. The number of injections required is greater in the case of the sodium salt. For rapid action the other two drugs may be tried, but they are expensive. I have already stated that Brahmachari's salt is highly praised in Assam, specially at Shillong, while Dr. Napier admires Von-Heyden's 471. The last-named salt is dearer than even Urea-stibamine and the larger quantity of water required in its solution makes it less suitable in cases of children with œdema and small veins.

Affection of joints simulating gout is very common after antimony injections, but I have met them more often after the use of Brahmachari's salt. I cannot account for this excess of uric acid but cases are easily cured with Lithium salts and Colchicum. In the case of Urea-stibamine I can offer only a theoretical explanation. The waste products of metabolism of nitrogenous tissue is excreted mostly as uric acid in reptilia and as urea in mammals. Urea is produced by further oxidation of uric acid. It is possible that urea injected as a component of Brahmachari's salt may undergo a process of reduction and uric acid is formed. This gives rise to joint troubles which subside easily as I have already stated, under the specific treatment. In this connection, I hope, the readers will remember that according to Archibald, the alkalinity of the blood is decreased in Kala-azar. Rogers confirms this but Napier is of opinion that the hydrogen-ion concentration of the blood becomes less stable. Either of these factors may contribute to the reduction of urea to uric acid. Another complication

I noticed after a few injections of Urea-stibamine is that an eruption closely simulating urticaria makes its appearance about 5 minutes after the administration of the drug. Relapses after apparent imperfect cure with antimony are often found. Such cases are very obstinate and often respond better to a salt of this metal other than one previously used. No measure has been found successful to combat lucopenia. The commonest complication of a bad case of Kala-azar is dysentery. This taxes the skill and patience of the physician to the utmost degree. Washing out the lower bowels with a solution of an organic salt of silver *e.g.* Choleval, Nargol and administration by mouth of Liq. Adrenaline in ten minim doses thrice daily and Benzonaphthol are very useful. Parasites are found in the supra-renal glands. That is an additional indication for the use of Liq Adrenaline. Some cases respond to Dimol and Tanalbin. Coagulability of blood is greatly diminished in the later stages of the disease as manifested by epistaxis, malæna, hæmoptysis; such patients require calcium lactate or chloride. The latter drug is specially indicated when there is œdema of the legs and feet. Not less than 4½ dr. is to be given for a dose of either salt and at least 3 doses are to be given daily. I have already stated that there are cases of double infection with malaria and Kala-azar. Such patients improve in general condition under a course of antimony but the fever persists which requires quinine. I have seen several cases of spontaneous recovery. Besides these, I have found some patients recover after an inter-current attack of pneumonia or erysipelas or cancrum oris.

It is difficult to state whether such cures are due to accompanying leucocytosis which relieves leucopenia and leads to subsequent destruction of Kala-azar parasites or to destruction of a large number of invading bacteria in the process of recovery, setting free antigens which lead to the production of immune bodies in the system analogous to the explanation suggested by W. Yorke and S. Macfie, *of action of quinine in malaria.* (Trans. Roy, Soc. Trop. Med. and Hyg. 1924 March and May). I think there is a milder variety of Kala-azar.

Persons suffering from this type of affection often recover without any treatment worth the name. In Bengal several patients become "Haribola" that is, dedicated to the Hindu God, Hari in pre-antimony days. They observed no restriction in diet or bathing. They used to recite the name of Hari several

times a day and prayed for their recovery. I have seen several cases recover in this way. They might have anticipated Cuism as they were often told by elders that they were cured. This induced them to make auto-suggestion.

A few words as to diet may not be out of place. In the earlier stages, I do not make any restriction in diet as appetite remains good. There is a distinct craving for animal food in the majority of cases. In some cases it becomes so abnormal that they even take it surreptitiously when there is any objection to it on religious grounds. This, I think, is due to the fact that there is loss of muscle cells from the system and nature wants to replenish it by intake of muscular tissue which may act as homo-stimulative. In some cases desire for food becomes abnormally keen making the patients extremely voracious. In these, diarrhœa sets in as the abnormal quantity of food is not digested. The physician should warn the patient and his relatives of this complication.

From close resemblance of Leishmaniasis to malarial affection, one may think of the possibility for the simulation of other diseases *e.g.* pneumonia, typhoid by Kala-azar as is done by malaria or for the presence of a latent phase of the affection like that of the latter, manifested by neuralgia *e.g.* brow ague. It is still too early either to affirm or deny these.

In fine, I would advise junior physicians not to get frightened with severe pain and inflammation in wrist and ankle-joints that set in as complications to injections of antimony. These, like the slowing of pulse and its intermittency in pneumonia, are without unfavourable prognostic import. Rather they are to be regarded as signs of convalescence.

CASES AND COMMENTS.

A CASE OF BILATERAL SYMMETRICAL ANEURYSM

(Illustrated.)

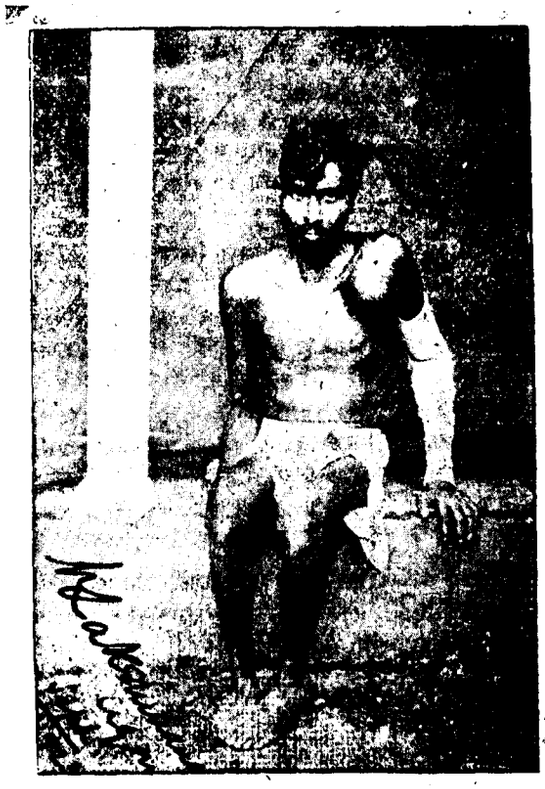
By

N. LAKSHMANA IYER, M. B., C. M., NAGERCOIL.

Aneurysms are so rare in India and more so in this part of India that the following case deserves to be recorded. The case is a multiple aneurysm of the subclavio-axillary trunks of the arterial system.

Generally, in the body "the thoracic aorta and the popliteal artery lead in the incidence of aneurysm" (Tice, Vol. vi page 26), where it is said that in a series of 530 cases (Crisp) the subclavian artery was affected 23 times and the axillary artery 18 times.

Though it is said that aneurysms may be multiple, or that two or more aneruysms may occur along the course of the same artery, no mention is made, so far as I am able to make out, of the occurrence of bilateral symmetrical aneurysms. For these reasons, it is evident that the case must be interesting.



CASE.

The patient Sauku Kaukori, aged 40, a tree climber by occupation, was admitted as in-patient No. $\frac{28}{1923}$ about the 25th of September 1923 in the District Hospital at Vaikom. After a stay of one month in the hospital he was discharged about the 25th of October 1923 with his condition much worse. (He died three days after discharge).

55

HIS COMPLAINT AT THE TIME OF ADMISSION.

A big swelling below and at the outer half of the left clavicle, with slight swelling and pain of the left arm, and a smaller swelling, at exactly the same situation under the right clavicle also.

Duration of the condition. Two months (swelling).

HISTORY, FAMILY AND PERSONAL.

His father died at the age of 64 of fever lasting for 15 days, with cough, dyspnœa and pain in the chest. His mother is alive, aged 74. She is reported to be subject to polyuria, with excessive hunger and thirst (Diabetes). He has a brother, aged 52, whose health is satisfactory. One sister died at 4 (cause not given), one brother died at 42 (cause not given). One brother died of small-pox (age not given) and one sister died of anæmia (age not given). There is no history of insanity, epilepsy, rheumatism or tubercle in the family.

From his 14th year the patient has been following the occupation of climbing cocoanut and palm trees and cutting down cocoanuts. This occupation he gave up only just three months ago.

Patient married at 22. When he was 33, his wife died of small-pox leaving three children behind. Six years ago he again married and has two children by the present wife. All the children are healthy so far.

He used to drink toddy almost daily in the evenings until six months ago.

His house is in a fairly dry elevated place. He is in very poor circumstances having to work for his daily bread.

PREVIOUS ILLNESS.

Before his marriage at 22 he had a fall from a height of eighteen feet coming down on his buttocks. Soon after his marriage at 22 he was laid up with fever for seven months. There was cough, wheezing in the chest and difficulty of breathing with this fever. He had no gonorrhœa or syphilis.

HISTORY OF PRESENT ILLNESS.

The present illness began about three months ago. He was one among a few friends who formed a music party and who used to sing prayer songs every evening to the accompaniment of drums, cymbals &c. He used to keep time by striking two bells together. Recently there was a continuous performance of this musical party for

five days. On his return home on the fifth evening he felt a little pain under the left clavicle and shoulder. This pain radiated to the left arm and lasted for three weeks. Eight days after the onset of the pain there was just a faint swelling at the site of the present tumour, where also the pain was first felt. On the right side he did not observe any change till about a month or five weeks ago, when there was a slight swelling there also.

Local Examination.—A tumour of the size of a small husked cocoanut is occupying the space below the left clavicle in its outer two-thirds. The actual measurements of the tumour are 5 inches from left to right in length with an approximate circumference of 11½ inches in the middle. The shape is that of an elongated ovoid. Palpation gives a sense of thrill synchronous with the heart's action. Expansile impulse marked and visible. A heaving, blowing soft systolic bruit is present. There is a sense of warmth in the tumour. Pulsation absent in the brachial artery and its branches. The arm at the elbow appears to be swollen and shrunken above and below the joint, comparatively giving the whole limb a spindle-shaped appearance. The patient complains of severe aching in this extremity. There is some loss of sensation on the lateral aspect of the forearm.

A tumour about the size of a hen's egg is found on the right side in the same situation. It is placed under the middle third of the clavicle. It is also oval but not elongated. It is placed parallel to the clavicle. Pulse in the brachial artery and its branches on this side is altered being diminished in volume but distinctly palpable.

General Examination.—The patient is appreciably anæmic. He has a large, flat, pale indurated tongue. The teeth and gums appear healthy. Temperature normal. Pulse varies from 100—112 per minute.

The liver and other abdominal viscera healthy. Lungs sound.

The apex of the heart is four inches lateral to the mid-sternal line and in fifth intercostal space. The impulse of the heart is heaving. The cardiac area has a thrill. The first sound is replaced by a murmur, soft and blowing, audible at the mitral, aortic and pulmonary areas.

Mental condition.—The patient has an unhappy, resigned look about him. He does not require anything to be done with him,

except the administration of drugs which will alleviate the aching, and, if possible, any medicines which will cure his condition without any cutting operation.

PROGRESS OF THE CASE.

Three weeks after admission the measurements of the tumour were as below:—

Length 8 to 8½ in. Circumference 13½ inches. The tumour occupies the entire length and extends further on either end of the clavicle. It is enlarged downwards and forwards, also raising the pectoral muscles well forwards.

The smaller tumour (right) is one-third larger than its previous size.

The big tumour appears to be filled up with clots as indicated by the swelling getting firmer and less expansile. The skin covering the tumour is seen to be traversed by dilated veins. The whole area is twice the normal girth and the limb has got very heavy and being in the patient's own words "an encumbrance" to him.

Four weeks after admission both the tumours were found to be considerably increased in size, the larger tumour being of the size of an unhusked cocoanut. On the inferior and front aspect of the tumour there has appeared an area 1½ inches in diameter where the firmness is lost and a sense of softening is felt. The upper extremity of the humerus (left) is being pushed outwards with the upper area abducted. The swelling in the limb has very much increased and the extremity is cold. The impairment of sensation in the limb is, if at all, only increased.

The swelling on the right side has increased to double its original size.

The severity of the pain having increased and the patient going sleepless morphia had to be resorted to.

Treatment.—On admission the patient was given a dose of calomel. As a purgative, jalap was given frequently. By way of mixture patient was given Iodide of Potash at first five grains three times daily and gradually increased to ten grains, three times daily.

On the 17th day after admission, the first dose of morphine with atropine was given. Now calcium chloride, three times a day, at ten grain doses was given for about ten days. The morphine doses had to be increased almost daily to relieve the pain and sleeplessness. On the 29th day after admission the patient left the hospital with his condition much worse.

COMMENTS.

Aetiology.—Syphilis is given the first place in the causation of aneurysms. In this case there was no history of syphilis. Though syphilis is now very common in India cases of aneurysms are few.

Injury to the arterial walls ranks next in importance. Embolus is also mentioned among the causes producing aneurysms. But embolus can form generally only in an artery whose walls are injured in one manner or other. Arteriosclerosis, atheroma, gout, etc., are also factors in the production of aneurysms. But in the present case, these can be excluded though continuous heavy strain or exertion, leading to irregular excitement of the circulatory system and resulting in increased blood pressure is mentioned among the factors conducive to the formation of aneurysms. Tice, in his System of Medicine, Vol. VI, page 25 says "Alcohol, tobacco, lead and other tissue poisons, gout, diabetes, rheumatism are not important factors in aneurysm. Heredity plays no role except in the cases of aneurysm in children."..."Men are more prone to aneurysms."

In the present case, the patient has had heavy strain for a long time being a tree climber. He was using tobacco and alcohol also for a long time. Finally, the heavy exertion for five days in the music party precipitated the formation of aneurysms. His age, forty, was just the age for aneurysm.

TREATMENT.

As regards treatment, the patient stoutly refused to have any surgical treatment. Even if the patient had consented to have surgical treatment, it was a question whether anything could have been done. The life of the patient and his safety depended upon ligaturing two main arterial trunks—a formidable undertaking, attended with the greatest risks, and a questionable procedure.

Just two or three days before his discharge the patient became so miserable, that he in a half-hearted way, suggested that some surgical procedure may be taken in his case. At that stage, it was not to be thought of at all. But he was advised to go to the next biggest hospital where he might have a chance of getting something done for him.

Later, it was reported that after discharge from the hospital he went directly home. The third day after reaching home the soft area mentioned to have formed in front of the tumour (left)

gave way resulting in a hole from which bleeding began, and the patient had a sad end to his career.

It was also reported that when the bleeding began, the patient's mental condition altered, he becoming almost mad for the last few hours.

SUPRA-PUBIC LITHOTOMY FOR ENCYSTED STONE IN THE BLADDER

BY

R. D. GAJENDRA GADKAR, ASSISTANT SURGEON, OSMANABAD, SHOLAPUR DT.

Name:—Baboo, son of Sawalya. Age:—5 years. Sex:—Male child. Caste:—Dhed. Residency:—Osmanabad.

Previous history:—One year back the patient was alright. In childhood he had the habit of eating earth and other such articles. After that, all of a sudden, he got one day prolapse of the anus and retention of urine. After some time he passed blood-mixed urine with the greatest difficulty. He used to handle his penis, always having irritable sensation there. After rubbing it for sometime he used to run about whenever there used to be sensation to micturate. Every time, there used to be blood-mixed urine and prolapse of the anus (four to six fingers).

On 30th April 1926, it was diagnosed as encysted stone at the neck of the bladder after catheterisation and he was admitted as in-patient and advised for operation. Three months back he had been to the hospital, but being advised for operation ran away. This was the third time he appeared for the radical treatment. On the same day, a saline purge was given and he was prepared for the operation.

Technique of the operation:—After getting everything ready for the operation the patient was anesthetised and an incision was taken about ½" above the symphisis pubis in the median line to about midway between the symphisis pubis and umbilicus. After cutting through skin, layer of fat, superficial fascia, deep fascia, anterior sheath of the rectus, separating the rectii muscles, the posterior sheath of the rectus came upon the point of the catheter in bladder which was previously fixed there due to being unable to fill the bladder with boric lotion. The bladder was held in place by two sutures to the skin and opened at the point of the catheter in the bladder just sufficient to pass

the fore-finger. The left fore-finger was passed in and was tried to dislodge the stone. But as it was very deep and encysted it could not be removed. So it was removed after my assistant raised it by passing his finger in the rectum with the greatest difficulty. The stone is nearly circular in shape, having encrusted and rough surface posteriorly. (The stone is of uric acid.) It weighs about 70 grains but larger in size. The bladder was washed with warm boric lotion and two sutures were put to the bladder, only a slit being left in the centre to fix the catheters. The wound was closed after suturing layer by layer leaving a small skin wound open, where the bladder was held up by sutures and dressed aseptically and removed to the bed. The bladder was washed with boric lotion every alternate day 3-4 times and the patient made an uneventful recovery within a fortnight and was discharged on 15th May, 1926, as cured.

The interesting points in the case are the young age of the patient, the thickness of the bladder wall misleading a beginner to take it for peritoneum or the rectii muscles, the crooked bladder cavity with its small calibre and the encysted stone very deeply placed in the bladder at its neck.

ERYSIPELAS

BY

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Having gone through the various articles on Erysipelas in the January, April and June issues of the 'Antiseptic,' I am led to the conculsion that all the cases described therein were possibly not genuine cases of erysipelas. The chief diagnostic points of the disease are (1) its method of extension by a broad, sharply-defined, slighty-*raised* margin; (2) the œdema pitting on pressure; (3) its invariable association with superficial vesicles minute or big bullæs; (4) the presence of fever as long as the rash persists; (5) the swelling fading away from the parts already involved as it spreads to new regions; (6) the attack usually lasts more than a week.

I fear, perhaps, cases of infected wounds with pent-up discharge and cellulitis are described as those of erysipelas by some like Dr. R. Ch. Panda in his article in the June issue of the 'Antiseptic', while the case described by Dr. Narender

K. Das in the last January issue and the case of a child, ten months old, described by Dr. M. A. Ramachandra Rao in the June issue appear to be genuine cases of erysipelas. It is probably due to this mistake that tincture ferri perchlor appears to act like a charm in one case while it fails on the other when painted locally. This is my humble opinion and I may be wrong. I do not write this to contradict others but I put before my medical brethren what I think. I refuse to believe that tincture ferri perchlor, when painted locally, will reduce the inflammation of erysipelas within eight hours.

While three cases of pucca facial erysipelas in young graduates proved fatal within a week of onset treated by Dr. M. A. Ramchandra Rao, I think, I was lucky that my case of facial erysipelas in a young graduate recovered alright within two weeks. The patient came under my treatment on 24th January 1924 and remained under my treatment till the end of February 1924 as the patient had a long convalescence. The inflammation having started upwards from the right submaxillary region took more than a week before it finished its journey on the left side having attacked the whole of the face and the scalp. It was probably a case of idiopathic erysipelas as no breach of surface was noticed. The patient had temperature ranging from 100° to 104° and pulse 100 to 130. He was never very delirious. He was treated on the following lines :—

(1) Anti-streptococcus serum, 20 to 10 c.c. daily intramuscularly to neutralise the toxins. The serum alone costed nearly 50 Rs. to the patient.

(2) Purgatives, diuretics and diaphoretics to help elimination of toxins.

(3) Icthyol 50% ointment for local application and zinc and starch powder for dusting on raw surfaces left by bursting of vesicles.

(4) Tincture ferri perchlor one drachm daily and quinine sulphate 20 grs. daily.

(5) Digitalis for the heart.

(6) Expectorants as the patient had bronchitis.

(7) Sedatives and hypnotics like bromides and veronal.

(8) Continuous ice on the head as long as the temperature was high.

(9) Rest and liquid light nourishment.

Twice I tried to check the progress of the inflammation by painting liniment Iodine near the margin but failed, hence I gave it up owing to the fear that perhaps it might irritate the skin and help the formation of big bullæ.

HYPERTROPHIC CIRRHOSIS OF LIVER AND ASCITES IN A CHILD OF TWO-AND-A-HALF YEARS

BY

S. SRINIVASACHARI, MEDICAL OFFICER,
SUBBIAH FREE DISPENSARY, KOONNAKUDI.

A child of about 2½ years was brought to the dispensary about eight months ago for the treatment of enlargement of liver.

Previous history:—There was dysentery, passing slime and mucous, for about one month which was cured by some native treatment.

The duration of this enlargement was about two months.

Condition on admission and physical signs.—The child was emaciated with sunken eyes ; there was no pigmentation (yellow) of conjunctiva. The child was anæmic with muddy appearance and there was pain in the region of liver. On palpation the swelling was uniform, edge well-marked out and distinct, occupying the right flank and middle portion of the abdomen. Downwards it measured as far as midway between right iliac spine and right seventh costal cartilage. From right to left it extended as far as middle line of the abdomen or a little to the left. The consistency was hard. Spleen slightly enlarged and palpable.

The child had no fever throughout the course but had urticaria over the body.

Treatment.—As the child had dysentery passing mucous and blood, I put the child on Ipecac treatment internally and the child had a course of emetine ½ gr. injection but it had no effect. Day after day the swelling was increasing in size. Then thinking that it ma be a case of hypertrophic cirrhosis of the liver the child had saline and soda sulphate. In the nights I gave calomel and in the mornings, saline was given. Though it appeared in the beginning that the swelling was becoming reduced, it had no good effect.

As the swelling was in the same condition, the parents gave up the English treatment and had some native drugs given to the child. This extended over 4 months.

The child had boils over the body and lower extremities for which they again brought it to my dispensary.

I opened the boils one after another and gave the following mixture.

Re.—Mixt. Pot. Iodide oz. ii
Liqr. Arsenicalis m. vi

Ft. Mist. ½ part, 4 times a day after meals.

The child had all along barley water and conjee and cow's milk. The child had an aversion for breast-feeding.

Though the general condition improved a little, yet the liver had not reduced in size. Then the child was taken to some hospital for treatment. As they found no use there also, they kept quiet for a month leaving everything to God.

But gradually the parents saw the abdomen of the child increasing in size with fluid in it. About a week ago the child was once again brought to this dispensary with the above conditions.

The child was reduced to skin and bone and the abdomen was full of fluid, tympanitic shifting dullness was present. There was œdema of feet. The general appearance was muddy but the bowels were regular. There was anuria and very small quantity of urine at times. The child had ascites with prominent superficial veins.

I told the patients about the grave prognosis of the child. Then I tapped the abdomen and fluid measuring about 60 ounces was drawn off.

The following mixture was given internally.

Pot. Iodide gr. xv.
Spts. Etheris *3* i.
Tr. Digitalis m xv.
Aqua chlor. *3* iss.
Ft. Mist. oz ss. T. D. S.

Diet.—Restriction of fluid a little. Milk and sago conjee was given. Next day the child passed sufficient quantity of urine and œdema of feet disappeared.

Two days after, again the child was tapped as it had distressing symptoms. This time the fluid measured about 40 ounces. I repeated the same mixture. Three days afterwards as the abdomen was again full of fluid, and as the child had distressing symptoms, I tapped the abdomen and about 30 ounces of fluid were drawn off. The child had some relief for 2 days. The next day I found that the child had difficulty in breathing as there was phlegm sticking to the throat, and the child expired the next morning.

I have seen many cases of this sort of enlargement of liver in children proving fatal at the end. The English and Indian treatments have not proved successful in treating these cases. My brother's child also was one of the victims of this sort of disease. It had the best of treatments, Indian as well as English.

This disease comes to children, fed under cow's milk as well as under any patent diet (Horlicks, Nestles Food, etc).

Will the readers let me know through "The Antiseptic" the specific Indian or English line of treatment to cure these cases of enlargement of liver in children?

AN ACUTE OBSTRUCTION CAUSED BY A SUB-PHRENIC ABSCESS

BY

AMARNATH YAJNIKA, M.C.P. & S.

A boy named Bansi, some five years old, by caste a-gold-smith, was brought to our nursing home for very urgent symptoms of absolute constipation, recurrent vomiting, tunifaction of abdomen and extreme restlessness.

The patient was admitted in the ward and palliative measures like soap and water enema and colonic irrigation were repeatedly tried but to no effect. It was decided upon as a last measure, to do laparotomy.

The patient was put under chloroform anæsthesia; the field of operation was aseptically prepared.

A median incision some 5 inches long above and 3 inches below the umbilicus was made. The muscle and the fascia were reflected and laid aside with blunt dissection. No sooner was the peritonium opened, than the coils of the intestine appeared followed by pus. It was greenish-yellow, thick and mixed with shreads. It was coming in a sufficient quantity. In order to trace out the source of pus I had to take out the intestines loop by loop. The coils of the intestine, both small

and large, were uniformly congested and they were inflated with decomposed materials. There were necrosed patches here and there on the coils of the intestines. All the time, during operation they were constantly irrigated with warm saline solution and the sloughs were separated with the aid of gauze. During the process of separation one of the necrosed portion gave way to a rent which was immediately used for siphonge-washing when all damed up collections of the intestine were removed, and outlet was sutured with a linen thread. The abdominal cavity afterwards was well and thoroughly washed with warm saline solution. The pus had an origin from a sub-phrenic abscess which was well-washed. Sloughs and debris were removed.

It was a point of interest that the abscess was causing the obstruction by pressing the transverse colon.

The abdominal cavity was closed layer after layer, a drainage tube was provided for the exit of any contents left behind and aseptic dressings were put.

Subsequently, the abdominal cavity was daily irrigated with aseptic saline solution. In the course of a week, the tube was removed and the wound healed by granulation.

The post-operative condition was fair and patient bore the shock well with slight reaction.

Following the operation, the patient had an intractable diarrhœa, which, I presume, was a help of Nature to drain away toxins and relieve the congestion of the intestines.

Some localised peritonitis was observed in the gastric region which resolved, in due course of time, by topical applications. The patient was discharged cured after 20 days, and an improvised abdominal belt was given to him for use.

This case is interesting for the following points :—

(1) The patient of such a tender age could withstand such a big operation, when the condition was associated with such a high amount of sepsis.

(2) Drainage tube saved further complications and proved of great help in eliminating the toxins and discharge. No irritation was caused to peritoneum. Tube was kept purposely more for irrigating the cavity than as an outlet for the discharge of pus.

(3) The median incision fortunately proved successful, inguinal colostomy would have failed to relieve the symptoms.

This central incision was taken only with the idea of an exploration. There were no symptoms of sub-phrenic abscess, hepatitis or anything pathological in condition in the vicinity of it.

(4) Neither ventral hernia nor fistula was formed.

The Antiseptic

AUGUST, 1926.

THE NEED FOR A CHAIR OF CHILD-WELFARE IN MEDICAL INSTITUTIONS IN INDIA.

No problem in the world has attracted greater attention, no problem has ever claimed the more serious consideration of the laity and the medical men, during the past few decades, than the problem of maternity and child-welfare. To trace the beginnings of the child-welfare movement would be a fascinating study in social development. Here, it is enough to say that year after year since at least 1855, records were maintained in some of the enlightened countries of the world, of the deaths of children at the various ages from birth upwards; that medical men made careful studies of the conditions that determined the incidence and amount of infantile mortality; that, in the course of Public Health Administration, the mortality of young children came to be a large section of the day's work; that through the persistent presentment of facts, the general mind was educated; that conference followed conference and congress followed congress until the whole world was talking of "infant mortality". The recent world-war has given a further impetus to the child-welfare movement. At a meeting of the representatives of the various National Committees held at Geneva a few years ago, the declaration of the rights of the child—the children's charter—was issued, the wording of which ran as follows:—

"By the present declaration of the rights of the child, commonly known as the 'Declaration of Geneva', men and women of all nations, recognising that mankind owes to the child the best that it has to give, declare and accept it as their duty that beyond and above all considerations of race, nationality or creed.

(1) The child must be given the means requisite for its normal development, both materially and spiritually.

(2) The child that is hungry must be fed, the child that is sick must be nursed, the child that is backward must be helped, the delinquent child must be reclaimed, and the orphan and the waif must be sheltered and succoured.

(3) The child must be the first to receive relief in times of distress.

(4) The child must be put in a position to earn a livelihood and must be protected against every form of exploitation.

(5) The child must be brought up in the consciousness that its talents must be devoted to the service of its fellow-men."

That a great many intricate national problems thus centre round the mother and child cannot be gainsaid. These problems include the care of the expectant mother, the care of the nursing mother, the limits of the industrial employment of expectant and nursing mothers, the problems arising out of the feeding of mothers and children, the clotted mass of problems grouped under the name of housing, the problems arising out of the protection of infant life, the best methods of providing for the medical supervision of the pre-school child, the causes of infant deaths, the prevention of the acute infections, the prevention of tuberculosis, the provision of sick children's hospitals, the provision of convalescent homes, the provision for the invalid and crippled children, the provision of orphanages and a host of other things too numerous to mention. All the institutions for the welfare of mothers and their children have their tap-root in the one great fact that when the child dies the race dies; and when the race dies the great fight is over and man is defeated.

In order, therefore, to preserve the health and life of the helpless new-born child, the medical man must be well-equipped, well-posted with the nature of the children's diseases and their treatment. Pediatrics is a serious subject. Sir Leslie Mackenjee M.A.,M.D., L.L.D., Medical Member of the Scottish Board of Health, in his report to the Carnegie United Kingdom Trust on Scottish mothers and children, has given a graphic summary of the dangers that a child has to face in the process of coming into this world, which is worth-quoting here:—

"The child, if he is still alive up to the commencement of parturition has to face the illimitably varied chances of death,

classified under the terms, wrong presentation, difficult labour, contracted pelvis, mal-formation of child, prolapse of cord, palcenta prævia and other causes. To any of these chances may be added others: the unsuitability of the mother's house of one or two rooms; the knowledge or ignorance, the experience or inexperience, the skill or unskilfulness of the medical practitioner or midwife acting singly or together; the stresses of the mother's mind in transit to the maternity hospital or in touch with other anxious cases there; the mother's history of still-births; her maternal experience as tested by the child's own place in the family sequence; the family luck of life as shown by the brothers or sisters, living or dead; good or fair or indifferent or bad health of the mother; the good or not good means of the mother; her employment as a wage-earner and the nature of her employment; the burden of her day's work at home. These are but a few of the named avenues of adventure, the unnamed are innumerable. If the child is dead before the commencement of parturition, he may have died from any one of the maternal accidents; falls or blows or over-straining; shock, fright, worry, under-feeding; ill-health due to syphilis, epilepsy, metritis, anæmia, nephritis, bronchitis alcoholism and a number of undefined causes". The first call of the child is thus on the medical practitioner alone and it is the bounden duty of the medical profession to steer the mother and child safely through the many dangers that threaten them in those few critical days or hours and to look after the health, growth and development of the child thereafter.

In view of the attainment of the latter object, the International Conference on Child Welfare held in Geneva last year recommended the establishment of chairs of infant welfare in connection with the medical schools of Universities. Such chairs are already in existence in some of the United States Universities while the necessity for a thorough education in pediatrics for medical students is coming to be more fully recognized in various European countries. At the time when the Ministry of Health was founded in England one of the most important resolutions passed at a Conference of medical men had to do with the necessity of making midwifery and child-welfare an important part of the teaching of all medical students. At the eleventh general Interim Conference of the Royal New Zealand Society for the Health of Women and Children held in Dunedin last

December, a definite proposal was put forward that a chair of infant-welfare should be estabished, the place suggested as the most suitable being Dunedin. The University Council resolved, however, that a distinctive chair of infant-welfare might not fit in with the arrangements of the University but they did feel that adequate and uniform instruction in the first principles of rearing infants should be given to all medical students and that child-welfare should be made a compulsory or examination subject.

In India, the problem of maternity and child-welfare has a much graver aspect. The number of deaths reported annually among infants under one year of age is about two millions. This, of course, excludes children probably equal in number who are still-born. From an economic point of view, it is perhaps even more serious that conditions which kill one-fifth of the nation's children within a year of birth act also to a large extent on the four-fifths that survive and tend to make them during the rest of their lives, less fit than they might have been. Colossal ignorance of the masses, social customs, insanitation, insufficiency of medical relief, poverty and economic distress, all contribute not a little to the high mortality among infants. Furthermore, the medical men in India, with no other training than that received in the average medical school, is no more equipped to assume immediately the duties of an efficient health officer than to become at once a finished surgeon or an ophthalmologist. The so-called courses of 'Hygiene' in many of our medical schools are imperfect. There is not even a hasty survey of the field and the student emerges with a hazy idea that public health and hygiene consist in the measuring of the cubic feet of air in a room and perhaps, in the making of a few perfunctory reports. Yet, the layman looks to the physician as mentor in all matters of health and sanitation. Is it any wonder that the public should fail utterly of comprehension? The physician must be given a broader outlook in the schools. Adequate courses in the whole subject of public health must become the rule where they are now the exception. As Luckett and Gray observe; "No phase of public health activity makes such popular appeal as the preservation of infant life. The right of every baby to be born well and to acquire vigour of body and mind is nowhere denied. Yet the lowest infant mortality is still over thirty. Co-ordination of agencies for pre-natal care, maternal nursing and child-welfare will do much to reduce this mortality to a minimum."

The establishment of a chair of child-welfare in the several medical institutions in India is, therefore, a great desideratum and will certainly go to remove that sad disability on the part of the medical men now-a-days to treat children's ailments successfully and prevent the onset of diseases among children which are mostly preventable and the Ministry of Public Health in the various provinces should look to it that such a chair is opened erelong and that pediatrics is made a compulsory part of the curriculum of studies in the medical schools and colleges in this country.

ERRATUM.

In the July '26 issue of the Antiseptic, pages 341-346—for '*Liqr. Iodine Perchlor*' read '*Liqr. Iodine Terchlor*' wherever it occurs.

CURRENT TOPICS.

THERAPEUTICS.

Camphor in Bacteriæmia.—E. Jarlov (Acta Med. Scand., Supplement VII, 1924, p. 57) states that it has long been known that the growth of pneumococci is arrested in as dilute a solution of camphor as 1 in 10,000. Oil of camphor has been found unsuitable for subcutaneous injection because it is absorbed so slowly, and it is unsuited for intravenous injection because of the risk of fat embolism. The investigations of Leo have shown that camphor is not so insoluble in water as it was thought to be, and, on Leo's prompting, the author has given intravenous injections of camphor in several cases of bacteriæmia. Using a solution of 15 cg. of camphor in 125 c.c. of water, the author gave from 150 to 500 c.c. or more to adults at one injection. Each injection took from fifteen to twenty minutes, and in several cases one injection was given every day for a short period. Among the numerous cases recorded by the author there was one of septic fever in a man, aged 21, who did not respond satisfactorily to injections of collargol. On three successive days he was given 250 c.c. of the solution of camphor; after the second injection the temperature fell to normal, and he was discharged from hospital much improved. In a case of pneumonia, in a woman aged 29, the injection of as great a quantity as 400 c.c. of the solution of camphor was immediately followed by a rigor, the temperature rising to 104°

F., but she soon felt much better. When at a later date, 75 cg. of camphor was injected in the course of about fifteen minutes, a rigor again developed, and the temperature rose to 103° F.; a few hours later she felt perfectly well and she made a complete recovery. In a case of severe puerperal sepsis as much as 90 cg. of camphor was given in about 15 minutes, and this dose was so large that the patient was rendered almost unconscious by it for a few seconds. But neither in this nor in any other case did the injections inflict any permanent injury, and the author concludes that camphor, given in this way, is a very effective remedy for a great variety of blood infections. He adds that it is not only a stimulant, promoting the functions of the vascular and respiratory systems, but it is also a powerful internal antiseptic.

Serum Treatment of Typhoid Fever.—A. Rodet (Journ., de. med. Lyon, November, 15th, 1925, p. 619) who has collected more or less detailed information about 1,500 cases of typhoid fever in France and foreign countries treated by this serum, records statistics of 679 cases. Of these patients, 66 died—a mortality of 9·7 per cent. The best results were obtained when the serum was given early, the mortality being only 2·3 per cent. among 86 cases treated within the first five days. Like the mortality the average duration of the disease and the frequency of complications and relapses were reduced by early administration of the serum. Rodet claims that serum treatment is superior to balneotherapy not only in being simpler to apply, but also in shortening the duration of the disease and even causing it to abate if the treatment is begun sufficiently early. The serum may be given at any stage of the disease but it is best to use it as early as possible. It should be given in larger doses than has hitherto been done, at least in some cases. It should be the only form of treatment applied and should not be associated with anti-pyretic drugs, baths, or other methods of reducing the temperature.

MEDICINE.

Bismuth in Treatment of Mercury Poisoning.—Landau Marjanko and Fergin consider bismuth treatment as specific in mercury poisoning. It brought about recovery in 80 per cent. of twelve cases. They describe a grave case of mercuric chloride poisoning with complete recovery notwithstanding the anuria

which had persisted for seven days. Bismuth sub-nitrate and bismuth carbonate 0·75 gm. of each were given four or six times a day. The usual methods are used to supplement the bismuth treatment. The diet is limited first to sweetened tea and orange juice, then to food poor in albumin. The treatment is based on the theory that the incoercible vomiting, bloody diarrhœa and intolerable pains are secondary phenomena from infected ulcerations in the digestive tract. Bismuth aims to combat that infection lesions; the healing of the kidney lesion may occur spontaneously even in advanced cases.

The use of oil in Artificial Pneumo-thorax.—G. Desmedt (*la Vie Med.* December 18th, 1925 p. 2089) discussing the pneumothorax treatment of tuberculosis suggests the injection of oil into the pleural cavity. He states that it is a better compressor of the lung than air and therefore refills will be less frequently required. It can also be combined with antiseptics which have a deterrent action on the development of effusions. Desmedt uses a mineral oil and adds to it gomenol, a French Proprietary balsamic preparation. This antiseptic is absorbed by the pleura and fresh quantities must be introduced from time to time in order that the oil may remain completely sterile. He injects the oil also in cases of pleural effusion and finds that the emulsion which it forms with the pleural fluid is inimical to the growth of secondary organisms.

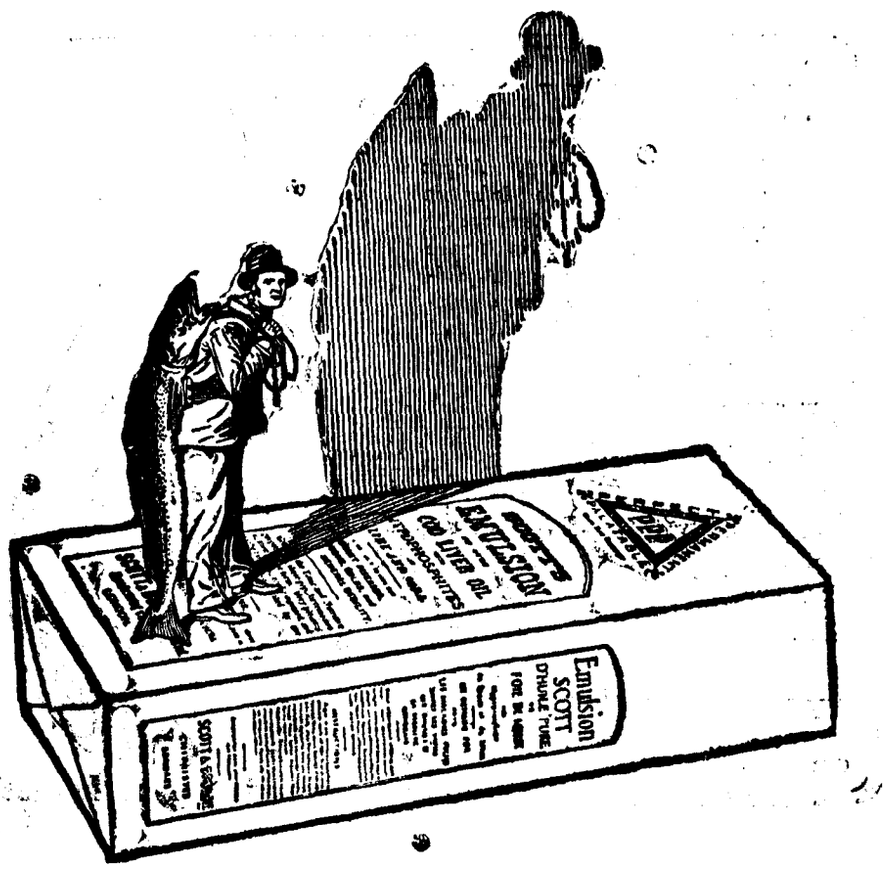
Treatment of Hodgkin's Disease.—Lorta Jacob, Schmite and Lerasle (Bull. Soc., Med. de paris, November 12th, p. 1394) report two cases of Hodgkin's disease both treated by x-rays. In one, the treatment was for a time successful. The patient's condition improved and all palpable glands disappeared. There was a total recurrence, however later. The second patient did not do so well. It occurred to the authors that in x-ray therapy substances inimical to the growth of the lymphadenoma were being set free in the blood. They therefore injected serum from the blood of the first, "convalescent" patient into the second who was failing to react to treatment. This had a remarkable effect on the blood picture, the red cells rising from 3½ to 4½ millions and the whites from 12,000 to 25,000. Serum injections were given daily beginning with ¼ c. c. and rising to 1 c. c., this dose being then continued for 12 days. A further course was given later. During the whole period

x-ray treatment was given. All the symptoms including boils which had been most intractable, cleared up and the patient was discharged. The authors suggested that the serum augments but does not take the place of x-ray therapy.

SURGERY.

A simple Clinical Test in Sciatica.—E. Warburg (Ugeskrift for Lægar, June, 1924, p. 465) describes a phenomenon which he has invariably observed in twenty-five cases of sciatica investigated during the past year. The affected limb is flexed at the thigh while extention is maintained at the knee, the flexion being increased until pain is provoked in the hip or back of the leg. This pain ceases when the amount of flexion is reduced a little. Pain can again be excited with the limb in this position if pressure is now exerted on the tendon of the biceps in the popliteal region. The author argues that this observation is confirmatory of Helweg's teaching that sciatica is not a true neuritis but a myopathy, the result of over-exertion of the muscles concerned. The objection might be raised that the pain provoked by pressing on the tendon of the biceps muscle was due to pressure exerted on the peroneal nerve, which runs close to the tendon of the biceps. But the author has succeded in isolating the one from the other and in showing that the tendon and muscle, but not the nerve, must be held responsible for the pain provoked. Were the pain due to pressure on the peroneal nerve, pressure under the same conditions over the tibial nerve in the middle of the popliteal space should also provoke it ; but it does not do so as a rule.

Ether in the Treatment of Suppurative Otitis Media.—G.M. Mcauliffe (Med. Journ. and Record April 21st 1926, p. 503) recommends the use of ether in treating suppurating conditions of the middle ear. After cleansing the ear with a solution of boric acid it is partly dried and then filled with ether, the patient remaining recumbent until the ether has evaporated. This treatment is given twice a day. The patient is said to experience the same sensation as that given by hydrogen peroxide and the method is described as being easy for home treatment. In the majority of cases it was found to be very beneficial and no ill-effects were encountered. It is not applicable in cases of chronic mastoiditis and is without value when the perforation in the drum is insufficiently large to allow passage of



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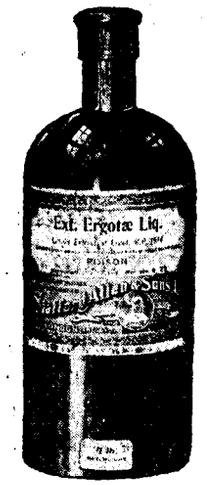

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the other. Short details are given of sixteen cases and the author refers to Waterhouse's article on the use of ether in the peritoneal cavity and the bladder (Journal, February 6th 1915, p. 233).

BOOK REVIEWS.

THE MEDICAL ANNUAL GENERAL INDEX.

For the ten years 1915 to 1924, 339 Pages. 12/6 net. John Wright & Sons Ltd., Bristol.

This index embraces the contents of the last ten volumes of the 'Medical Annual' and is issued at the request of subscribers. The back numbers contain a large amount of valuable information upon medical and surgical questions. This index enables the readers to trace rapidly the progress in any particular subject. Another new feature of the index is that it contains a complete list of authors quoted in the ten volumes, together with the subjects upon which they have written. Thus, a reader will be helped to trace the work of the most prominent writers upon it during the period under review, as well as the original sources of information given. It also contains a list of various eminent physicians and surgeons and others who have contributed to the pages of the Annual. We commend this useful index to our readers.

THE THEORY AND PRACTICE OF THE STEINACH OPERATION

With a report on one hundred cases. By Dr. Peter Schmidt (Berlin) and an introduction by J. Johnston Abraham, C.B.E., D.S.O., M.A.M.D., F.R.C.S. Pages 150. Published by William Heinemann (Medical Books) Ltd.

Of late, much discussion has arisen both for and against the views on rejuvenation that an authoritative survey of the theories and practices on this subject will be of great interest to the medical profession. This book, a translation from the German by Dr. M.D. Edir, presents the necessary desiderata on the subject. It is a summary of the practical experience of 100 cases, augmented by references to the work of others in the same field. The chief interest in this book are the clinical records, which lay down clearly the indications and contra-indications for surgical intervention in conditions hitherto considered not amenable to treatment. The operation is worth-trying by surgeons in India, where there is ample field for investigation.

A TEXT-BOOK OF PHARMACEUTICAL CHEMISTRY.

By Arthur Owen Bentley, Ph. C., Director of the Department of Pharmacy, University College, Nottingham and John Edmund Driver, M. Sc. (Lond.) A. I. E. Lecturer in Chemistry, University College, Nottingham. Published by the Oxford University Press, Humphrey Milford, London. Pages 456. Price 18s net.

This book is written to meet the needs of those studying for the Pharmaceutical Society's Diplomas and for degrees in Pharmacy. It includes a detailed study of the theoretical and practical pharmaceutical chemistry and general organic chemistry necessary for the student. It is a very useful book. We commend this book to our readers.

THE UTILIZATION OF MUSIC IN PRISONS AND MENTAL HOSPITALS.

By W. Van De Wall. Published for the Committee for the Study of Music in Institutions by the National Bureau for the advancement of music, 45, West 45th Street, New York. 58 Pages.

The therapeutic value of music is attracting greater attention each year. This book deals with its influence on the morally-delinquent and mentally-deficient and deranged. Music tends to harmonize conflicting forces within these inmates of our mental hospitals and custodial institutions. The author gives his own personal experience of the cure effected by music by presenting actual cases. The whole subject is lucidly dealt with. We commend the book to all readers, especially to those who have no taste in music.

THE IDLE HOURS OF A VICTORIOUS INVALID.

By Lane Crawford The Whitefriars Press Ltd., London and Tonbridge. 245 Pages.

The book records the experiences, reflections and meditations of a patient, who has passed through many years of suffering and has come out triumphantly into renewed health. The writer records his experience at Harley Street, at the Nursing Home, at the Operating Theatre, etc. It is a book to put mankind on comfortable terms with fate and it is very interesting reading. We recommend the book to our readers, especially to those who are suffering from chronic and incurable diseases.

SEWAGE PURIFICATION AND DISPOSAL.

By G. Bertram Kershaw, M. Inst. Consulting Engineer, Late Engineer to the Royal Commission on Sewage Disposal: Member of the American Society of Civil Engineers, etc. Second Edition, Published by the Cambridge University Press, Fetter Lane, London. Price 16 net.

In this Second Edition of the book the information previously given has been amplified and extended wherever necessary. A fresh chapter has been added on the activated sludge process of sewage treatment, according to the up-to-date ideas and improvements. The book presents the most recent knowledge relating to sewage disposal and purification as concisely as possible. It also deals with the working costs of various processes and lastly, a chapter is given on the treatment of trade wastes. We commend this book to the medical profession, to officers of health and sanitary inspectors, to municipal engineers and medical students.

NURSERY GUIDE.

By L. W. Sauer, Ph. D., M. D. 206 Pages. Second revised edition with illustrations. S. 1·75. The C.V. Mosby Co., St. Louis.

This booklet written for mothers and children nurses, gives in clear concise form all essential details in the care and feeding of infants, such as the nursing infants, the premature infant, artificial feeding, some common ailments and care of the sick infants, &c. The Illustrations are clear. A very useful book for child-welfare centres.

THE CHEMICAL ACTION OF ULTRA-VIOLET RAYS.

By Carleton Ellis and Alfred A. Wells. Assisted by Noris Bœmer. Illustrations 83. Pages 362. Published by the Chemical Catalog Company, Inc Book Department. 14, East 29th St, New York U. S. A.

Ultra-violet radiation represents to day one more instrumentality available to the chemiest in the synthesis and decomposition of substances. It forms one of the armamentarium of the modern physician as a therapeutic agent. It has its limitations as well as its field of applications. This book clearly deals with the therapeutic applications and the biological effects of the ultra-violet rays, which will surely be of interest to those engaged in medical practice. The chapters relating to the possibilities of making synthetic foods through the action of ultra-violet rays will be interesting to the research chemists. The book is written in a simple and clear style. The diagrams and illustrations are educative.

EXAMINATION OF CHILDREN—BY CLINICAL AND LABORATORY METHODS.

By A. Levinson, B.S., M.D. with 74 illustrations. 146 Pages. 1924. C.V. Mosby Company St. Louis, U.S.A.

This book deals with the interpretation of clinical and laboratory tests as applied to pediatric practice. Stress is laid on simple procedures such as facial expression of the child, posture and state of nutrition &c. Further, the work deals with the methods of clinical procedures in infants and children such as case history, physical examination, removal of blood form jugular vein and from the longitudinal sinus; spinal, ventricular and cistern puncture, collection of urine; lavage and gavage, skin tests &c. The author's methods were simplified to such an extent that they could be done by every practitioner of medicine. The illustrations are very clear and instructive. We commend the book to practitioners and students.

THE CONQUEST OF DISEASE.

By David Masters—with a Foreword by Sir James Cantlie, K.B.E., F.R.C.S. 314 Pages. Illustrated. 8/6 net. John Lane the Bodley Head Ltd. London,

The fight against disease seems endless. Many a gallant man has sacrificed his life in the field and in the laboratory to save the lives of others, to lift a little pain and suffering from the hearts and shoulders of mankind. These high endeavours of man has been set forth in this useful book, so that the general reader and the student alike may know the extent of man's triumph over disease. This book contains the full description, how the gradual conquest of disease by the sacrifice and energy of single-minded men—of Jenner's fight against small-pox, Lister and his antiseptics, Pasteur's great work, the gradual conquest of malaria and yellow fever &c. It is written in a non-technical style. We recommend the book not only to medical men but also to the lay public.

BOOKS RECEIVED.

The following books have been received and the courtesy of the Publishers in sending them is acknowledged. Reviews will be published from time to time. [ED. ANTISEPTIC.]

The Manager of the Antiseptic will be pleased to supply the readers any books acknowledged hereunder, or others at the Publishers' price. When sending their order, the readers are requested to send a remittance for the full value of the book. That a remittance in advance should be requested is no reflection on the credit of any reader of the Antiseptic, but is simply a condition necessitated by circumstances.

Diseases of the Nervous System.—By H. Campbell Thompson. Published by Messrs. Cassell & Co., La Belle Sauvage, Ludgate Hill, London E. C. 4. Fourth Edition, 1925. Price 16s.

An Introduction to Surgery.—By Rutherford Morison and Charles F. W. Saint. Published by Messrs. John Wright and Sons Ltd., Bristol. Second Edition, 1925. Price 15s.

Puerperal Septicæmia.—By George Geddes, M.D., C.M. Published by Messrs. John Wright and Sons Ltd, Bristol, 1926. Price 12s. 6d.

Medical Annual—General Index 1915—1924.—Published by Messrs. Wright and Sons Ltd., Bristol 1925. Price 12s. 6d.

Fellowship of Faiths.—By Alfred W. Martin. Published by Messrs. Roland Publishing Co., New York, 1925. Price S. 1·25.

Intravenous Therapy.—By Walter Forest-Dutton, M.D. Published by Messrs. F. A. Davies & Co., Philadelphia. Second Edition. Revised and enlarged. 1925. Price S. 6·00.

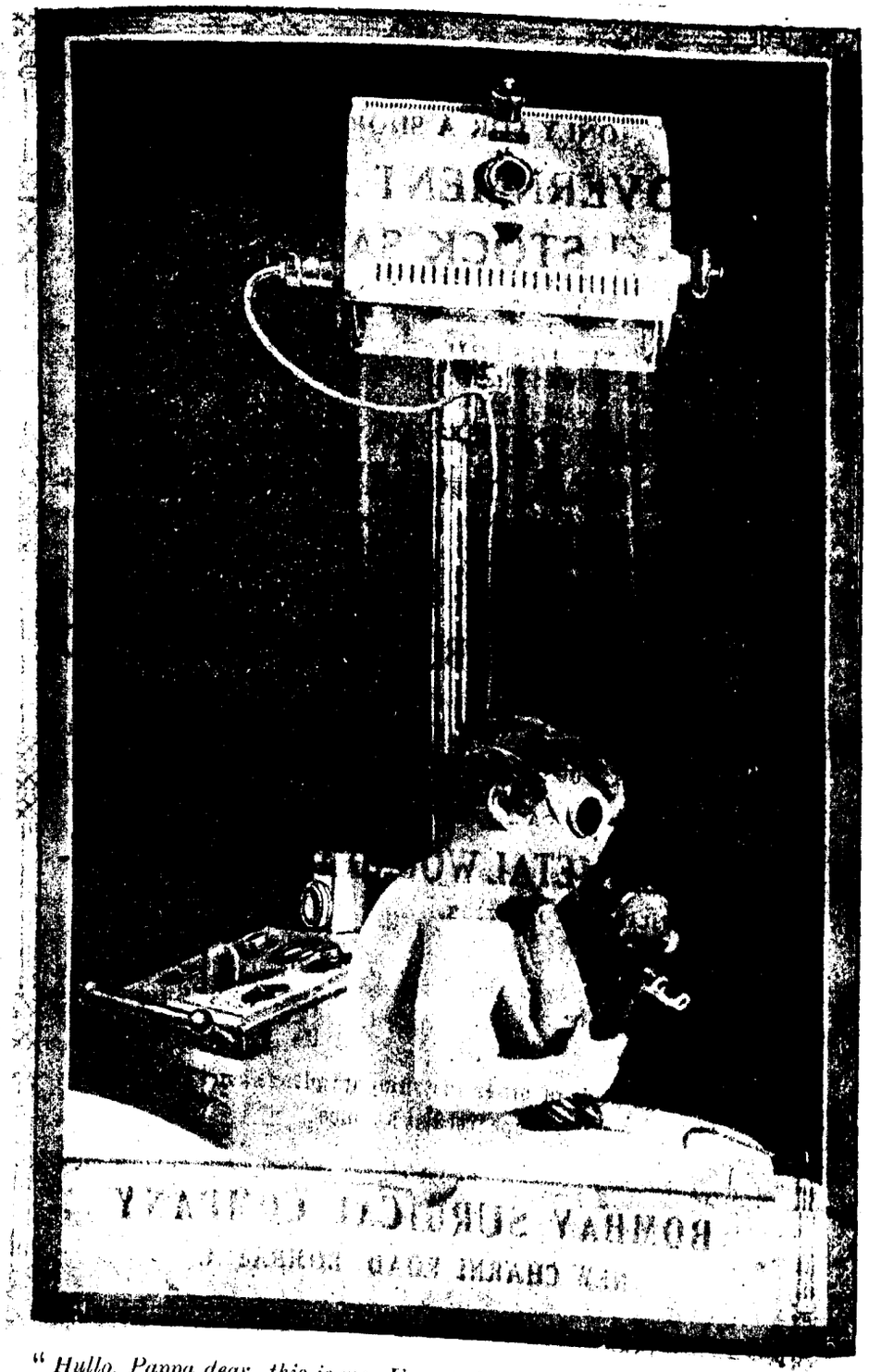
Eye-sight Conservation Survey—Bulletin VII.—Compiled by Joshua Eyre Hannum, M.E., and edited by Grey A. Henry. Published by the Eye-sight Conservation Council of America. Price S. 1·00.

The Thyroid Gland.—By Prof. Charles H. Mayo and Prof. Henry W. Plummer. Published by Messrs. C. V. Mosby Co., 508, North Grand Boulevard. St. Louis, U.S.A. Price S. 1·75.

A Manual of Normal Physical Signs.—By Wyndham B. Blanton. Published by Messrs. C. V. Mosby Co., 508, North Grand Boulevard. St. Louis, U. S. A. Price S. 2·50.

Nursery Guide.—By Louis Sauer P.H.D., M.D. Published by Messrs. C. V. Mosby Co., 508, North Grand Boulevard. St Louis, U.S.A. Price S. 2·00.

Treatment of Kidney Diseases and High Blood Pressure.—By Frederick M. Allan, M.D. Published by the Physiatric Institute, Morristown, New Jersey.



"Hullo, Pappa dear, this is me, I'm at the Institute taking my Ultra-Violet bath. I like it better than Cod Liver Oil or Spinach. Goodbye."

The Electro-Therapeutic Institute, 323, Thambu Chetty St. G. T. Madras.

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