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EDITED BY
U. RAMA RAU, M. L. C.
AND
U. KRISHNA RAU, M. B., B. S.

CONTENTS.

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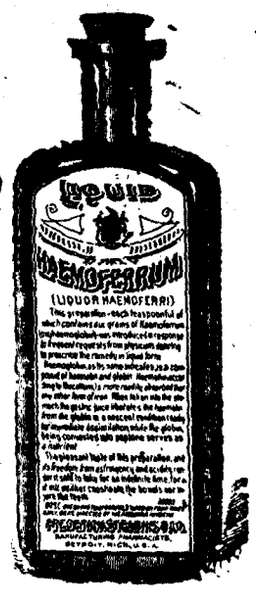

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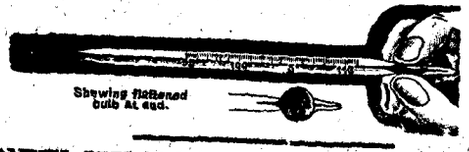

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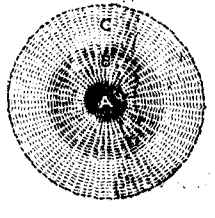
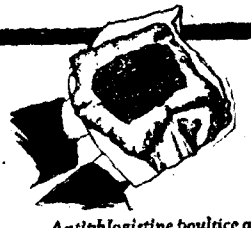


Diagram represents inflamed area. In zone "C" blood is flowing freely through underlying vessels. This forms a current away from the Antiphlogistine, whose liquid contents, therefore, follow the line of least resistance and enter the circulation through the physical process of endosmosis. In zone "A" there is stasis, no current tending to overcome Antiphlogistine's hygroscopic property. The line of least resistance for the liquid exudate is therefore, in the direction of the Antiphlogistine. In obedience to the same law exosmosis is going on in this zone, and the excess of moisture is thus accounted for.



Antiphlogistine poultice after application. Center moist. Periphery virtually dry.

The Antiseptic

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ORIGINAL ARTICLES.

*THERAPEUTIC GONADAL IMPLANTATIONS

By

Dr. Max Thorek, Surgeon-in-Chief, American Hospital, Chicago, Ill. U. S. A.

It is rather unfortunate that the great publicity which has been given in the lay press during the past few years to one phase of testicular transplantations, has tended to bring some undeserved discredit on this brilliant achievement of modern surgery. Because, as a purely surgical procedure, and from the results which without doubt follow the operation in the great majority of cases, particularly if well selected, testicular transplantation cannot but be regarded as a brilliant surgical therapeutic procedure and one which should demand the closest attention of the general surgeon as well as of those specializing in neurology and urology.

Too much attention has been focussed on the sexual aspect of the operation. The public was led to believe that restoration of full sexual activity, if not of youthfulness itself, was possible by this operation, and that this was the sole object of testicular transplantation. Testicular transplantation was the modern counterpart of the idealized "Fountain of Youth" by which the decrepit Faust was to be miraculously restored to long lost youth and sexual vigour. As a matter of fact, gonad transplantation does often restore sexual potency to a great extent when the factors upon which it depends are only quiescent but not entirely extinguished, but this restoration of sexual vigour is a secondary matter, and it is only one part of the restoration of the general organic physiological vigour which is brought about by gonad transplantation. This point cannot be too greatly stressed, *i.e.*, that the great therapeutic objective and justification for the

* Specially contributed to the Antiseptic.

surgical operation of gonadal transplantation is the restoration of somatic and psychic vigour to an individual in whom they have become impaired by age, overwork or disease; and that such restoration is brought about by the action of the endocrinic secretion of the testicle, not alone by its own proper effects on the body tissues, but by the stimulating action exercised on the other endocrine glands, especially the thyroid, which is admitted to be the great regulator of metabolism. I need not stop here to discuss the inter-relationship and compensatory actions of the glands of internal secretion. In recent literature such has been stressed by Haberland, [1] Morse[2] and others.

The point of importance is that a vast amount of experimental work has shown conclusively that in old animals the restoration of physiological vigour almost constantly followed homo-or hetero-transplantation of testicles; and that since the method has become a practical procedure in human therapeutics the same effects have almost invariably followed to a greater or lesser degree. Sexual potentia coeundi may or may not follow, but almost always there is improvement in physical and mental vigour, and this in many cases amounts to what might almost be rejuvenation. I have already protested vigorously and emphatically against employment of the term "rejuvenation" in connection with gonad transplantation, but we need not quarrel about terms if the facts be agreed upon. The matter was well summed up recently by Dartigues [3] in discussing my paper on this subject read before the Surgical Society of Paris, France. Dartigues' opinion is based on his own extensive series of testicular transplantutions as well as upon the findings of Voronoff and many other surgeons. He says that the restoration of almost extinct or almost hopelessly quiescent genital power, the restoration of strongly diminished cerebral capacity for work, the recovery of the beneficial feeling of euphoria and revitalization of the organism from the somatic and psychic standpoints which those having had a testicular transplantation have experienced—all this amounts to a veritable rejuvenation, and that such physical effects can be measured by the physical methods of testing.

It has been objected that such results are not permanent. This objection has but slight weight in view of the more recent findings. In the first place, under the older techniques testicle grafts were promptly eliminated or suppurated. But I have shown and proved elsewhere[4] that when homo-or hetero-grafts are transplanted by careful and aseptic procedures, they not only persist but become well vascularized; and that the presence of functioning Leydig cells can be histologically demonstrated after a long time in such grafts. My clinical findings have established this fact beyond the shadow of a doubt. Recently Walker [5], in one of his testicular graft cases that came to autopsy, found histologically that the

graft was vascularized and accepts this result as usual. Voronoff [6] found that grafts from the higher anthropoids to man are capable of surviving three years and he is not inclined to set any limit as to the duration of the benefit that may result.

But even if, as Walker surmises, it be accepted that a testicular graft be entirely absorbed within a few years, does this argue against the therapeutic value of testicular grafting? Certainly not. The restoration of physical and mental capacity in a large degree in cases where they are almost extinct, for even a few years, is in itself a sufficient justification for the operation; but everything points to the fact that, even allowing the graft itself to disappear, the endocrinic stimulative effects of the graft continue. Both Morris [7] and Lydston [8] found that testicular transplantations caused the patient's own atrophic testicles to grow, and the clinical findings which are daily multiplying imply that a similar stimulative activity is imparted to other secreting glands. Walker [5] made a thorough study of the metabolism before and after testicular transplantation in some of his cases. He found that a definite favourable effect was produced on the mechanism of carbohydrate metabolism. He is satisfied that even if the graft is absorbed in time, it has done its work, and that the patient's general state is then improved.

Again, in the youthful, when grafting of a testicle is indicated we might subscribe to Lydston's opinion [9] that practically all, if not all, subjects if operated at or about the time of puberty, can be taken through puberty, and will show sex development and sex characteristics approximating the normal more or less closely. That is to say, permanent benefits follow the grafting. The vast field of application of testicular grafts in youths has been overlooked.

The broad principle having been established of the efficacy and practicability of gonad (testicular) transplants as a surgical method of supplying deficient gonad secretion, it only remains to discuss the indications, technique and observed results of the operation.

Testicular transplantations seem to be indicated for the following conditions:

(a) Loss of testicles by traumatism or pathology.
(b) In pronounced disturbances during the "male climacteric".
(c) In dementia precox and other glandular dystrophic psychoses of youth.
(d) In sexual asthenia and neurasthenia.
(e) For sexual impotency not dependent upon organic disease.
(f) In eunuchoidism, homosexuality and hermaphrodism, if the effects of these conditions are unbearable to the patient.

(g) In testicular dystrophias; or in cases where the testicular function has been seriously interfered with by x-ray exposures, operation, etc.

(h) In senility, premature or otherwise, when endocrine disfunction is marked but not judged to be beyond hope of restoration.

(i) In certain types of nutritional diseases.

In any of these conditions, in all of which glandular disfunction or deficiency is a marked symptom, testicular transplantation combined, as the case may warrant, with other treatment, may be expected to give beneficial results. The therapeutic possibilities in the limited number of cases in which the results are known are sufficiently favourable to warrant the operation in cases in which other measures have failed; and it is only by studying the clinical effects in large groups of cases that we can ultimately hope to arrive at more precise indications and know exactly what benefits may be expected.

As regards technique, the operation itself is simple and within the scope of every general surgeon. I have advocated, and in my own cases have found the best results from (a) implantation of the graft in the abdominal wall, in the supraperitoneal space with its mobile and free areolar tissue forming the base upon which the transplant rests, being gently secured in its position by the slight pressure exerted from above by the rectus abdominalis muscle; or (b) by placing the implant in the retrorenal space between Gerota's capsule and the endo-abdominal fascia, in which position vascularization from the lumbar vessels follows rapidly. In either case muscle contractions do not hurt the graft as in other methods of implantation.

After removal of the testis to be implanted, it is stripped from the tunica vaginalis, leaving epididymis intact; small pieces of the tunica albuginea are then removed by the electro cautery. This procedure I have termed "lanternization" for the reason that small fenestra are created in the wall of the tunica albuginea, exposing thereby the tunica vasculosa.

When human testes are available for transplantation, or if in their absence the testes of anthropoids are used, I implant the whole testicle. Lipschutz [10] has shown that implantation of as little as one per cent of the total testicular substance suffices to maintain masculinization.

The importance of implanting the graft where it will rapidly become vascularized is obvious. Until the graft is vascularized it must depend for its nutrition on osmosis, and this critical period in the life of the graft should be abridged as much as possible to obviate necrosis.

In the period 1919—1923, I have altogether executed ninety-seven homo-and-hetero-testicular transplantations in human subjects. The indications, type of graft and results are shown in the following table:

TABULAR SYNOPSIS OF NINETY-SEVEN TESTICULAR TRANSPLANTATIONS (HUMAN).

Indication.	No. and type of graft.	Results.
For senility ...	29 homotransplants 40 heterotransplants	31 in which symptomatology was restored to normal. 13 markedly improved. 12 slightly improved. 13 failures.
For loss of testes ...	3 homotransplants 8 heterotransplants	8 markedly improved. 3 failures.
For neurasthenia gravis... ...	3 homotransplants 5 heterotransplants	5 markedely improved 3 failures.
For dementia precox (3); for other psychoses (2)...	1 homotransplant 4 heterotransplants	2 markedly improved. 1 slightly improved. 2 failures.
For glandular dystrophias; (Froehlich's syndrome, eunuchoidism, etc.)	All heterotransplants	1 slightly improved. 3 failures.

Of the total of ninety-seven cases, thirty-six were homotransplants and sixty-one heterotransplants. In senile atrophy there was forty-five per cent complete recovery; 18.8 per cent marked improvement; 17.4 per cent slight improvement, and 18·8 percent failures.

In traumatic cases, 72.7 per cent marked improvement and 27·3 per cent failures.

In functional disorders, 62·5 per cent. marked improvement, and 37·5 per cent. failures.

In psychoses, 40 per cent. marked improvement, 20 per cent. slight improvement and 40 per cent. failures.

In glandular syndromes, 25 per cent. marked improvement, 75 per cent. failures.

Altogether there was 62 per cent. complete recoveries or marked improvement, and this is, I think, a sufficiently favourable showing to justify the operations and point to future possibilities. The therapeutical result in many of these cases must be expected to be limited as the endocrine

deficiency is not always confined to the testicle; although the general endocrine imbalance may be much improved by a testicular transplant it cannot be expected to be fully restored.

CONCLUSIONS.

1. The purely sexual aspect of testicular transplantations has received too much attention and has veiled the really important clinical results.

2. General physiological betterment, somatic and psychic restoration amounting to a veritable rejuvenation in some cases can be obtained from testicular transplantations. Such physical and psychical improvements have been fully demonstrated, and there are good reasons for believing that they are more or less permanent.

3. Testicular transplantation is indicated *not alone* in cases of testicular deficiency, but in many endocrine dystrophias in which the operation effectually stimulates general glandular activity.

4. The author has found the use of testes from the higher anthropoids completely applicable to human subjects and effective in their results.

5. Implantation in the supra-peritoneal abdominal region or in the retrorenal space by the author's "lantern" technique, is recommended.

6. In ninety-seven transplantation (homo—and hetero—) on human subjects for senility, loss of testes, and glandular conditions, the author has obtained 62 per cent. complete symptomatic recoveries or marked improvements.

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*THE THERAPEUTIC VALUE OF INTRAVENOUS IODINE

BY

J. C. CHAUDHURI, L. M. S., BOGRA.

An article on the above subject by Lieut. Col. Jeudwine appeared in the Indian Medical Gazette of December last. I have been using Iodine intravenously for the last 6 or 7 years, and I think I have gathered some experience about its therapeutic value—based on about 4,500 cases. I have used it in numerous diseases, with more or less success, the following being some of them:—Typhoid, Influenza, Lobar Pneumonia, Broncho-Pneumonia; Fevers of unknown origin running a remittent course; Cancrum Oris, Erysepelas Septicæmia and Sepsis, local or constitutional; Tertiary Syphilis; Malaria, Kala-Azar etc.

About the rationale of treatment:—I have not much to add to what has already been said by Lieut. Col. Jeudwine besides the belief I hold that at least in some diseases Iodine has a specific action upon the micro-organisms, and mere leucocytosis cannot explain the whole thing *e. g.* in Kala-azar, Iodine increases the leucocytosis but it has apparently no action upon the spleen or duration of the fever.

Preparation of Iodine and Dosage:—The difficulties of Lieut. Col. Jeudwine were due to his using ordinary Tr. of Iodine—a spirituous solution. In my earlier years, I also used to get some of his troubles—except thrombosis; this was perhaps due to my using a very small dose of the tincture, 3–5 minims in 3 to 5 c.c. of water. But even this small dose usually used to bring on a severe re-action, and so I substituted distilled water for the spirit, and this aqueous solution gave me no trouble whatever, except mild reaction in some cases. I use as a rule 5-10 minims of this solution and repeat it once daily or on alternate days, as the necessity of the case would demand, and give the injections usually in the same vein without any local irritation or pain or any risk. In fact in all my numerous cases, I have not noticed a single case of thrombosis. The dose was usually diluted with 3–5 c.c. sterilised distilled water.

After effects:—Within an hour of the injection there is usually a rise of temperature from one to several degrees—preceeded by vigour. The vigour is sometimes very prolonged and severe. In the next hour (or sometimes a little later) the temperature begins to fall, with profuse perspiration, the patient generally feeling very comfortable with lessened pulse and resp. rate. Sometimes a quick pulse becomes very slow—with low tension but without affecting the volume.

Technique:—Any ordinary syringe for intravenous injection may be used. An experienced hand easily ascertains that the needle is right up

* Specially contributed to the Antiseptic.

into the lumen of the vein, and also from the continuous flowing in of blood into the syringe, by its darker colour, a good light being essential. With this aqueous solution diluted in the manner I have said I never got the lumen of my needle blocked. For bandage of the arm, I always use a small piece of soft rubber tubing, loosely tie the arm, thrust in the needle into the vein with the right hand and then with my left hand I untie the loose knot, the right hand holding the syringe steady with the needle in the vein and then with the left hand push the piston home, thus requiring no assistant at all.

The usual antiseptic precautions are of course taken. Before giving a brief note of some of my recorded cases, I may note here my impressions about the benefit of intravenous Iodine in the diseases in which it appears to be most effective in the order given below.

Cancrum Oris :—In this almost hopeless condition Iodine acts as a specific. I have treated more than 50 cases in various stages of development, in ages varying from 2 years to old age, and I never met with any disappointment, provided it was not too late. Usually 3-5 injections were found necessary.

Erysepelas :—Blood Poisoning :—generally very effective ; reduces fever, wonderfully lessens toxaemia in a markedly short time (probably due to elimination through profuse perspiration and phagocytosis).

Lobar Pneumonia :—Usually very effective. Three injections or less bring down the temperature to normal and convalescence established in uncomplicated cases.

Typhoid :—Fever greatly reduced ; Toxæmia lessened : risks of complications minimised ; sometimes runs a very mild course with the usual duration ; occasionally duration shortened ; Meningitis and other brain symptoms, if injections given early, checked and lessened. No apparent benefit when complicated with cold infection.

Influenza :—Uncertain ; some cases greatly benefitted—others not so.

Local Sepsis :—Boils-curbuncles, wounds, greatly benefitted.

Malaria :—Does not altogether stop the paroxysm though breaks its remittent course.

Kala-azar :—Of doubtful utility in the initial stage ; given occasionally with the usual antimony treatment seems to increase the leucocytosis more rapidly.

Tertiary Syphilis :—With more K. I. seems to be very effective.

Many fevers of unknown origin :—In these cases no malaria parasites found, No widal, usually 3-4 injections cure the patient.

I may mention here that I tried it in some cases of Cholera also. Some early cases did wonderfully good ; I am waiting for further experience on the subject to be able to give more definite results.

With these impressions, I may safely be permitted to predict that Iodine has a great future before it, and it is destined to occupy a place second to none in the armoury of the physician ; especially when he is called upon to treat a case of infectious fever or sepsis, local or constitutional.

I now give here brief notes of some of my recorded cases :—

Cancrum Oris :—*S. N. K's Son, Panchbibi—age 10 years—male—Hindu.*—(1.) K. A., Cancrum Oris developed and advanced rather rapidly, both lower and upper jaws affected, whole left side of face greatly swollen —left eye closed, portion of the lower jaw decomposed and came off. Patient very low with quick pulse. At this Iodine in 2 m. doses given daily. After the 2nd injection the disease seemed to be arrested—from 3rd injection, swelling began to disappear, and after 6th injection, Iodine was discontinued, the patient making an uneventful recovery in about a month.

(2.) *B. H. Sarkar's son, Bogra, age 7 years, male, Hindu* :—K. A., Cancrum Oris started for 5 different foci in the mouth both jaws, pharynx and soft palate; several teeth came off; bones of lower jaw affected. Iodine was given in 2 m. doses. All the wounds became healthy after the 4th injection, the patient making perfect recovery in about a month and a half.

(3.) *Markar's son—Bogra, 3 years, Mahommedan, male* :—Cancrum Oris started in the upper jaw, left side of face and eyes greatly swollen. This was seen very early, and 2 injections, first day 1m and 2m doses were quite sufficient to cure him.

(4.) *K. C. D's daughter, 3 years, Hindu, female* :—K. A. Cancrum Oris started in the lower jaw, several teeth came out. Iodine was given at this stage. 3 injections cured the patient.

The antimony in these cases were stopped during Iodine injection and was resumed only when the wounds nearly healed, as it was often found that antimony hinders satisfactory progress.

Erysepelas :—*Ganguli ;* Started from a carbuncle on the back and the whole of back down to the iliac. crests and the upper arms of both sides down to elbows affected. Temp. 105, Pulse 130, Symptoms of Toxaemia. Threpto Polyvalent-both serum and vaccine tried to no effect. Iodine m v was given at this stage. After 2 minutes temp. came down to 100 with profuse perspiration with pulse 110. 3 more injections given daily completely brought round the patient.

Erysepalas :—H. P. Bogra.—Erysepalas started after an operation for mammary abscess; and the inflammation blebs completely encircled her chest in 2 days with high temp. and symptoms of toxaemia. This case was seen early, and 3 injections were quite enough to cure her.

Typhoid:—1. *R. K. C., Bogra, Pleader, age 28.*—Fever of 16 days duration, temp. continued after the first ranging between 104-105, with brain symptoms, bronchitis and slow pulse. Widal 1-100. Iodine was given on the 16th day when temp. was 104. It quickly rose to 106 with well marked reaction, but in the next hour it came down to 102, and after evening to 99. Next morning temp. rose to 101, when a 2nd injection was given; temp. again came down to below 99, and remained so for the whole night. Next morning another injection brought down the temp. to normal and established convalescence.

2. A very badly mammaryed cure of typhoid with *Gossain-Dupchanchia:—H. M. age 25.*

1st seen on the 14th day in a very serious state-comatose five tremors—distincted abdomen—pulse 120, respiration 50 (with bronch pneumonia), and persistent Hiccough continuing unabated for days and nights for the last 4 days.

Iodine was given, temp. came down to 101 from 103, with proper perspiration; no improvement in other directions.

2nd day.—Iodine repeated; at night patient seemed to be coming to senses; Temp. 99. 5; Pulse 100; resp. 30.

3rd day.—Iodine repeated, Temp. did not rise above 99; Patient almost conscious, lungs better; hiccough continued at intervals only.

I had to go away at this stage to see a serious patient leaving the charge of the case to an Assistant. Surgeon, who tried to stop the hiccough with administration of chloro form and when the hiccough returned with the consciousness of the patient, a sub-morphia gr. ½ was given.

These measures made the patient worse-urine suppressed, high temp, severe bronchitis, distension of abdomen; I was hurriedly called for again and recourses were taken again to Iodine with other eliminatory measures. Convalescence was established in a week.

Pneumonia:—Amir Khan, Mohommedan, male, age 36, *Bogra.* Saw the case in consultation with Dr. Chatterjee. Left lower affected, Temp. 103. Resp. 60, Pulse 140.

This was indeed a very bad case, and we did not hope much. We saw him on the 4th day of fever. Iodine was given (early in the morning.) In the evening temp. was normal, symptoms much relieved; consolidation remaining, next morning convalescence,

The patient remained in good condition for 2 days. When he was again down with high fever both Dr. Chatterjee and myself were called again, and we found that the whole lungs (left) were affected, with return of all the symptoms. Iodine was again given, Temp. came down to 101 and continued so for the night.

Next morning the dose was repeated, with remission of temperature and all symptoms, the patient making a perfect recovery.

Numerous cases have recovered and I give here only some of those which were considered to be serious.

In many of my cases, blood was kindly examined by the Clinical Research Laboratory of Calcutta, and I take this opportunity of thanking the public-spirited doctors who conduct it.

---

*A NEW TREATMENT FOR BURNS.

BUTESIN PICRATE

By

FLOYD K. THAYER, CHICAGO.

In the last fifty years mighty strides have been taken in the development of new drugs. Research has been expended not only along the lines of isolating and utilizing naturally occurring medicinals, but synthetic chemistry has been a heavy contributor to the list of useful drugs.

Ages old is the knowledge of the preserving action of certain salts. Aromatics, used at first for embalming, were eventually extended to the purpose of unction by the living. The masking and neutralizing of body odours was in itself the first step toward antisepsis. Sulphur was burnt for its purification power hundreds of years before the Dutch naturalist Leeuwenhoek discovered bacteria. Even this discovery, two centuries ago, did not demonstrate the relationship between disease and micro-organisms. It was this latter fact first noted by Pasteur in 1863 which really laid the foundation for the study of the action of various chemicals on these disease-carrying organisms. From that time to the present the chemist has been in search of chemicals that will destroy these invading organisms without harm or pain to the human host.

Going hand in hand with the search for antiseptics has been the study of local anæsthetics. So accustomed are we to-day of receiving injections of cocaine and the newer anæsthetic procaine from the hands of both the physician and the dentist that it is difficult for us to realize that the first anæsthetic, the alkaloid cocaine, was discovered no longer ago than 1860. Since the isolation of this powerful local anæsthetic from coca leaves, years of patient investigation have been devoted to the search for other

* Specially contributed to "The Antiseptic".

compounds having the same notable pain—relieving property, but without the deleterious effects upon the human organism. Here we have been dependent almost entirely upon synthetic chemistry—because nature has refused to divulge any more cocaine-like substances, that are of value to the medical profession.

Thus, to repeat, in briefer statements, two of the main lines of medicinal investigation which have been pursued are: the search for new antiseptics, which prevent the growth of bacteria—or even germicides which kill the bacteria—and yet are mild in their action upon the higher forms of life; and the search for local anæsthetics which relieve pain, and are likewise without harmful action upon the human organism.

From the many hundreds of compounds which have been investigated for each purpose, a limited number have come into general usage; their desirability for use being dependent in each case upon the exact purpose and conditions for which they are intended. It is only necessary to mention a few of these compounds by name in order to see, to what a degree, they have become the useful tools of the physician. Nearly every doctor has had occasion to use all of these antiseptics and germicidal agents: carbolic acid, tincture of iodine, corrosive sublimate, chloride of lime, Dakin's and Carrel's solution, picric acid, benzoic acid, etc. The list of common local anæsthetics is not so large, but even at that most of us have had experience with most of these: cocaine, procaine (novocaine), butyn, anæsthesin, etc.

In spite of this very extensive research of the last fifty years, on both, naturally occurring and synthetic medicinals, it is a rare coincidence to find antiseptic and anæsthetic action combined in the same compound. When it has been necessary to have both actions present—and this is very often the case—two different compounds had to be used in what is called a pharmaceutical mixture.

True, there are a few examples of compounds that possess both antiseptic and anæsthetic action. But where both of the actions are found, one or the other is quite certain to be only incidental to the main physiologic function of the compound, for an example take the mild analgesic action of carbolic acid in comparison to its germicidal power. To increase the dosage to a point where both functions would be definitely apparent would bring about in the case of carbolic acid, as well as with other such compounds, undesirable and perhaps toxic reactions.

The advantages of a compound possessing both antiseptic and anæsthetic action in a marked degree, are quite obvious. All burns, ulcers and other painful denuded skin lesions demand relief from pain under conditions that inhibit the growth of invading organisms. It is common

practice for us to use antiseptics in such cases, but it is not often convenient nor is it desirable to employ cocaine or its substitutes, locally, in quantities sufficient to relieve the pain. It is to be remembered that in many cases cocaine or its common substitutes would require such concentrations to give relief that their use might be attended with unpleasant results.

An anæsthetic-antiseptic compound possessing the desired attributes would be a godsend in the relief and healing properties it offers. Small amounts would produce the same action that is induced when a mixture of compounds are used and without the disadvantage of possible undesirable, secondary efforts upon the body.

Picric acid has long been known to possess antiseptic properties. Its phenol coefficient as given by different authors, varies from 4 to 7. Recent literature[2] points out the value of picric acid as an antiseptic, especially in the treatment of burns.

Knowing the property of picric acid to form compounds with basic substances the idea was evolved of combining it with a local anaesthetic of the water-insoluble type. The anæsthetic used was butesin which is two to four times stronger in anæsthetic action than any of the other anæsthetics of this type. Chemically butesin is the n-butyl ester of para-amino-benzoic acid. Butesin is relatively non-toxic in comparison to cocaine. It is also interesting to note that anæsthetics of water-insoluble type are credited with a slight antiseptic action.[3]

Butesin Picrate is prepared by reacting, in a suitable solvent, two molecular equivalents of Butesin with one of picric acid. Benzene has been found to be a very suitable reaction solvent. It is not necessary to reflux the benzene solution of the two components; the slightly warmed benzene solution of picric acid is added to the benzene solution of Butesin, agitated, allowed to stand several hours and the product filtered off.

If desired, water can be used as the reaction medium. In this case the Butesin, which is soluble in water only 1 part in 7700, must be held in solution by two mols. of hydrochloric acid-thus its solubility in water is increased to approximately 1 part in 200. Picric acid forms a 1·2% aqueous solution at room temperature. Butesin Picrate, with a solubility of only 1 part in 2000 parts of water, readily separates when an aqueous solution of picric acid is added to the Butesin hydrochloride solution.

The product isolated from either of these two methods is a yellow solid. It is amorphous or crystalline depending upon whether the aqueous or the benzene reaction solvent is used. The melting point is 109°—110°. Butesin Picrate is odourless, but has a slightly bitter taste. It analyses for a compound containing 2 molecules of Butesin to 1 molecule of picric acid, or 62·8% Butesin and 37·2% picric acid.

$C_6 H_2 (NO_2)_3 OH._2 NH_2 C_6 H_4 COOC_4 H_9 (n)$

Butesin Picrate is soluble in water in the proportion of 1 part in 2000; in cottonseed oil, 1 part in 100. In organic solvents, such as alcohol and ether, it is readily soluble.

Butesin Picrate, synthesized with the double purpose in view, of obtaining anæsthetic and antiseptic action in the same chemical compound, was submitted to not only pharmacological tests, but to bacteriological as well.

As a means of ascertaining its anæsthetic efficiency, and at the same time testing for possible irritation, the eye of a rabbit was flooded with a 1 : 2000 aqueous solution of Butesin Picrate for one minute. Immediately thereupon, the point of a pencil was drawn across the cornea of the eye without the rabbit showing the slightest sign of winking. This is classed as Immediate anæsthesia. The duration was from fifteen to twenty minutes. At no time was any irritation noticeable. To produce the same anæsthesia under like conditions it would take approximately a 1 : 50 cocaine solution.

Pure cultures of streptococci and staphylococci isolated from a burn were tested with an aqueous solution of Butesin Picrate.

1 : 2000 killed staphylococcus aureus in 5 minutes.

1 : 2500 killed streptococcus pyogenes in 15 minutes.

To obtain approximately the same bactericidal power using carbolic acid it would be necessary to employ a concentration of 1 to 250 over a period of 2 hours.

For clinical purposes Butesin Picrate has been used in three preparations. It is incorporated in an emollient base which contains 1% of the drug; a 1% cottonseed oil solution; and in a dusting-powder containing 5% Butesin Picrate in a bland, neutral base.

At a large steel plant several hundred burn cases, ranging from first to third degree burns, and caused by steam, hot metal, and electricity, have been treated with Butesin Picrate preparations. The surgeons-in-charge report that the pain is relieved within 15 to 30 minutes, and that no infection occurs. Healing is said to take place in about one-half the usual time.

So strongly analgesic is the action of this anæsthetic-antiseptic that all burning sensation disappears within fifteen to thirty minutes. It is interesting to note that the ointment has the power of anæsthetizing the cornea as readily as the aqueous solution.

After using the Butesin Picrate treatment in a large number of burn cases, one doctor reported how pleased he was to find an almost entire absence of that offensive odour so often encountered when the first dressing is removed.

Use of this new remedy has not been confined alone to burns. Ulcers, lesions, and other painful, denuded skin areas respond to treatment with Butesin Picrate Ointment. Here again, as in the case of burns, prompt relief from pain is afforded and, at the same time, under aseptic conditions.

In order to discover if any toxic symptoms might result, should absorption take place after application of the ointment to large areas of denuded skin, over four and one half cubic centimeters or one-seventh of an ounce of saturated aqueous solution of Butesin Picrate, per kilogram body weight, was injected directly into the circulation of a rabbit and without the slightest untoward effect.

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OUR AMERICAN LETTER.

*ABOUT RATS

By

EDWARD SWALLOW.

An economic loss annually of $ 200,000,000 is enough, one might think, to make even a rich nation like ours "sit up and take notice", but when this loss to our national resources is accompanied by a constant and serious menace to the lives and health of the people such a state of affairs affects everybody and every individual is concerned. Central Asia, so it is claimed by scientists who have made a study of these things, is responsible for the enormous numbers of the brown rats that more or less over-run this country and cause damage to produce and property to the above alarming amount. The cities alone of the United States, is conservatively estimated to lose $ 35,000,000 a year from the depredations of these rodents. The brown rat, Mus decumanus, or Norway Rat had its original home in Central Asia. Thence it has spread to all parts of the world, and as it is extremely fierce and cunning, and easily overcomes in the struggle for existence all other species allied to itself, it has succeeded in driving out the house-haunting species everywhere.

These pests not only cause enormous money losses but constitute an ever present means of spreading that most terrible of diseases known as the bubonic plague or "Black Death" which in the fourteenth century

* Specially contributed to "The Antiseptic".

killed 25,000,000 of people in Europe. In India, from 1896 to 1917, the bubonic plague destroyed some ten millions of persons. Scientists attribute much of this destruction to the spreading of the disease by rats previously infected by fleas, and the carrying from one place to another the deadly germs of this scourge of mankind in the past. Here, in America, we had some few years ago, a close call to having this "Black Death" spreading all over the land. In May, 1907, a sailor was found to have bubonic plague in San Francisco, and shortly after several other cases broke out. Fortunately the United States Public Health Service realized the true seriousness of the situation and took immediate precautions. The city was divided into districts, and the work of rat trapping, poisoning, fumigating and disinfection was at once begun upon a large scale. No chances were taken, and when a rat was found to be infected, the officer in charge of the location where it was found was instructed to redouble anti-plague measures, and the situation was soon controlled. While in Europe the plague had killed its millions, at San Francisco there were only 160 cases with 78 deaths. As a further precaution the strictest measures were taken to eradicate rats and infected squirrels in San Francisco and the adjoining communities. In this way the whole country was saved from what have well become an historical calamity.

It would seem that we have accustomed ourselves to some extent to the presence of rats and the damage these rodents do to property but it might be well to know that the bubonic plague is transmitted by the flea from rat to rat and from rat to man. The seriousness of this is that this terrible "Black Death" appears to have periods of quiescence, during which, though it exists among rodent carriers, there is little sign of it among human beings. Then it would seem to gather extraordinary virulence, man becomes infected and suddenly an epidemic spreads with fatal swiftness over large areas. Thus it is that in the enormous number of these artful, filthy, and intelligent rodents who subsists on the unprotected food supplies of man, this lover of filth and refuse who carries from its detestable home disease germs from house to house, polluting the food of human beings and spreading disease in its path, that we have with us a potential source of an appalling outbreak of the same deadly plague that has decimated the peoples of the past.

As the only good rat is a dead one, the following ways given by the U. S. Department of Agriculture to kill them may be interesting generally. The all important measures to be taken are the removal of food and shelter from rats, poisoning, trapping, and under certain conditions fumigating their burrows. In many places rat burrows may be fumigated with carbon bisulphide and the rats thus destroyed in the ground. This method is effective in fields around farm buildings and dirt cellars. A wad of cotton or other absorbent material should be soaked with 1 ounce of carbon bisulphide and pushed into each burrow as far as possible; all burrow entrances should then be closed with earth to prevent the escape of the gas. Caution.—Carbon bisulphide is highly inflammable and explosive and should not be approached by fire.

Powdered barium carbonate is recommended as the best and most inexpensive poison to use for destroying rats wherever it can be used with safety. The barium carbonate should be thoroughly mixed and worked into the soft baits in the proportion of 1 part of the mineral to 4 parts of the selected food. Baits moistened to the consistency of a soft mush are very acceptable to rats in dry weather. Baits should be fresh and preferably of good quality and a variety of baits used separately not only gives the rat a choice of foods but tends to make it less suspicious. The following are different kinds of baits to use mixed with barium carbonate: Hamburg steak, saugage, fish, liver, becan, or cheese, thin slices of apple, tomato, or muskmelon, canned corn, boiled carrot, or baked sweet potato, rolled oats, bread, corn meal, flour or cake. Kitchen scraps can be worked into the ration to advantage. A piece of each bait used, about a teaspoonful, should be placed in small paper sacks and dropped in places accessible to rats or frequented by them. Bait distributed in this way serves to allay the suspicion of rats and will be taken by them more readily than exposed in the open. The word "POISON" should be marked on the sacks by way of precaution. Barium carbonate is a relatively mild poison, but the danger from accidents cannot be over-emphasized. IT IS BEST KEPT OUT OF REACH OF CHILDREN AND IRRESPONSIBLE PERSONS AND FROM DOMESTIC ANIMALS AND FOWLS. The antidote consists of either mustard or salt dissolved in warm water, or induce vomiting by inserting the finger in the back of the throat. Follow vomiting with a liberal dose of Epsom, or Glauber's salts,

CASES AND COMMENTS.

A NUMBER OF PRACTICAL SUGGESTIONS OR THERAPEUTIC NOTES

By

Rao Bahadur Thakur Ram Dhari Sinha, Medical Practitioner, &c. &c.
Motihari, P. O. (Champaran).

(Continued from 357 July issue.)

31. For tooth-ache I have found the following very efficacious—chloral hydrate, camphor, carbolic acid and glycerine, each one dram, mixed and applied on a pledget of cotton into the cavity.

32. For painful and swollen knees a mixture of magnesium sulphate solution and ammonium chloride is very serviceable. Apply locally on the knee with gauze saturated with it and plantain leaves or Guttapercha tissue placed over the gauze and bandaged.

33. Magnesium sulphate, one ounce to a pint of tepid water, is one of the most efficient, as well as cheap, antiphlogistic, to relieve any form of superficial inflammation, wherever it may appear.

34. A simple application to the bites of insects and bee stings is liquor ammonia one part and castor oil three parts, thoroughly mixed. It allays pain and promotes a speedy cure. It should be applied on a pledget of cotton.

35. In the treatment of constipation in the presence of hemorrhoids I have found the following combination very useful viz. washed sulphur, 2; acid potassium Tartrate, 2; and honey one part in doses of one dram before each meal.

36. For chlorotic patients the following alkaline iron mixture has proved efficacious :—Ferriet ammonii citras 3i ; Sodii Bicarb 3iv ; spirit chloroformi 3ii, Inf. Inassial ad oz. ℥ii mix and give 3iv after each principal meal largely diluted.

37. Indolent sedentary people are, for the most part, constipated. Hard worked people, who live on plain diet are exempt from constipation. Those who are not engaged in manual labour and who live on rich food, are victims of appendicitis.

38. Gelse nium is an excellent remedy in all cases of irritable condition of urinary organ. It is contraindicated in every case where the extremities are cold.

39. The use of spirit of turpentine is indicated in cases of typhoid fever where there is tympanities, tongue dry and brown and mucous membranes dark and red and dry, in doses of 2 to 8 drops two to four times a day.

40. A very good combination for atonic catarrhal dyspepsia is as follows :—Tinct, hydrastis, 3ii, Tinct, nux vomica m ℥ ; Tinct. capsicum m. v, Glycerine oz. ii and aqua menth pip ad oz. iv. Dose half an ounce before each meal twice daily.

THE PROPHYLACTIC METHOD OF TREATMENT OF ECLAMPSIA.

Professor Stroganoff in a lecture delivered before the Obstetric and Gynæcological section of the Royal Society of Medicine reviews the results of about two thousand and odd cases of Eclampsia treated by his method in Switzerland, Germany, Holland, Sweden and Argentine. The whole treatment can be described under five heads.

1. *Removal of all irritations :* (*a*) All noise to be eliminated, (*b*) room darkened, (*c*) examinations reduced to a minimum, (*d*) if possible, separate room and constant observation. Transfer to room under chloroform.

2. *Administration of narcotics :* Morphine and chloral hydrate according to scheme below.

The beginning of treatment : ¼ gr. (⅙–⅓ gr.) morph. hyd. hypodermically. I hour : 30 gr. (38–22 gr.) chlor. hydr. per os or per rectum. 3 hours from the beginning of the treatment : from ¼ gr. (⅙–⅓ gr) morph. hyd. hypodermically. 7 hours : As at 1 hour. 13 hours : 22 gr. (15–30 gr.) chlor. hydr. 21 hours : 22 gr. (15–30 gr.) chlor. hydr. Dose increased in severe eclampsia in the case of strong individuals, and diminished in mild forms. When patient is conscious chloral hydrate is introduced per os, and in unconscious condition per rectum with milk and physiological salt solution. During the first two intervals we frequently administer chloroform 10-20 minims in the presence of prodromata of a fit. On the second day undelivered patients receive 15–22 gr. chlor. hydr. t. i. d. In the absence of fits during 14 hours and when the patient is in good condition the dosage may be diminished.

3. If the fit recurs two to three times, or even once in severe form, in spite of administration of morphine and chloral hydrate, it is necessary to perform venesection, drawing off 400 c.cm. of blood. This is not resorted to if delivery is expected within the next 1-2 hours.

4. As soon as the eclamptic patient can be delivered without harm to herself and child, delivery is undertaken, either with forceps, by extraction, or rarely, by version. In the absence of contra-indications we rupture the bag of membranes, if the os has dilated to two fingers in a multipara, and about three fingers in a primipara.

5. *Maintenance of regular functions of chief organs :—*

(*a*) Kidneys and skin : Patient kept warm with hot water bottles at the feet and in the region of the kidneys ; hot tea diluted with milk should be given ; unconscious patients must have milk and physiological salt solution aa (about 1000 c.c. per diem), usually with chloral hydrate, per rectum.

(*b*) Lungs : Oxygen after a fit, pure warm air, removal of all hindrances to respiratory movements ; unconscious eclamptic patients should be kept chiefly on the right side ; careful cleansing of the mouth and nose from mucus, blood, and vomited matter.

(*c*) Heart : Administration of fluids (see (*a*)) when weakened after numerous fits—digitalis (if the pulse-rate is 110 or higher)—and when the heart is still weaker—camphor, caffein. Patients admitted from outside after six or more fits immediately undergo narcotic treatment and venesection. Continuous observation of patient and child during the first

Dissolve 3 drops of the tincture in three ounces of water, shake the bottle ask to take three times a day and you will find him half cured by the end of the week.

Use the above prescription with cases, who complain to you for excess of giddiness and vertigo, with dazzling before their eyes, and weak gone feeling in their arms and legs. Every movement makes them fall down. He staggers when he walks, or he may find great difficutly to stand erect from his sitting posture.

Please remember not to administer this remedy to young people for the above symptoms. It will do more harm than good.

It is an excellent remedy, for all troubles that spring out with the change of life in standing bachelors, and at the climacteric of old maids.

You can very well justify the actions of this remedy in cases of Insomnia of Multiple Neuritis. Put 3 minims in six ounces of water, divide into six doses, one every three hours.

You must always bear in mind while dealing with all nervous cases not to come to a bad conclusion too soon, and change it for other. Do your work with old principle—" Patience is bitter but its fruit is sweet."

When you know that a drug has got certain definite therapeutical properties, and when you have administered it to get some definite results, stick to it, and you will have your good results very soon.

Body of medical men engaged in the research work for the cure of cancer have reported that this beautiful remedy chooses to manifest its marvellous therapeutical actions in allaying pain, dissolving induration, checking further progress in 50% of cases with cancer of the breast and uterus.

Regulation of its dose depends on the skill of a skilful surgeon; but I would not like to push it on in its maximum doses.

I have sincerely acknowledged its efficacy in my Venereal Practice and it is my sheet anchor in old persons with strong desire to have coition, but no power——the organ flabby and relaxed, attempts fruitless. Such persons have had various medicaments from Vaidyas and Hakims to get back their vitality, with the idea that Doctors are no good, they can cure only fever and cough. Even most of the educated class are every day found to commit this blunder, to get back timely excitement, with the future prospect of complete impotency.

I divide such class of individuals into two major divisions.

1. The condition produced in fairly grown up, who have passed their life in total abstinence; in some cases want of ample money to marry and maintain the family—in some, complete disregard for the other

sex—in some cases, habit of masturbation, with gradual decrease of manly power, which creates in such individuals a fear that the wife will remain unsatisfied if they at all do marry. Some are found to possess infantile temperament and fear to mix with the opposite sex. If left alone in company of a lady a peculiar dread holds them and they are half dead. Such individuals, by the way, prefer to lead a lonely life for a number of years, when ultimately the glow and vigour of youth wishes them a big " Adieu ".

These individuals have killed their normal appetite by themselves and now, if married by force owing to circumstances, are unable to fulfil the physical requirements, and are made to run here and there for a cure.

Well—do not think that I am joking—but Tr. Hemlock is a true friend in need to such individuals.

2. Those individuals, who are father of a good number of children lose their aged wife, now marry a very young girl for the sake of a purse filled with glittering coins (a very common practice in India). Here, with the advent of newly married bride he pays his full advertence to meet her up in a way proper to her age. But the poor old man has no luck.

With such—think of conii. Do not fail to give him in milder doses—to the most 5 drops in 24 hours, given in repeated doses.

Many of the nervous complaints, due to the suppression of sexual desires, will pass off under its influence.

I have seen many horrifying outcomes due to the suppression of sexual cravings. People have gone, half mad like—lost their brilliant memory. Their bodies emaciated to the extent of skeletons, becoming victims to various infections. Some of them were melancholic, quite jealous of others married, but by using judiciously tincture of conium maculatum I have gained much.

Before concluding, I would like to inform you, that I had very good results in cases of retention of urine or dribbling of urine in old men with enlarged prostate.

I gave them this tincture in the following manner :—

Take one ordinary sized glass tumbler, well cleaned, put 15 drops of the tincture, add water to full. Place the glass near the suffering patient, and let him have a sip of the medicine once every fifteen minutes till the urine comes out in one single stream.

I hope that practitioners will very kindly inform me, with their own experiences to enable me to get more provings of the medicine from them, for which I shall be much obliged.

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THE USE OF INTRAVENOUS INJECTIONS OF IODINE IN THE TREATMENT OF PLAGUE AND ONE PRACTICAL DIFFICULTY

By

BABU RAM GARG, MUZAFFERNAGAR, U. P.

My first experience of the value of intravenous injections of iodine although it dates back to April 1922, is confined to only about a dozen cases of bubonic plague. My practice had been to give the 1st injection as soon as I got the case and thereafter to give two injections daily morning and evening till the sixth day of the disease. After this to give only one injection every morning till the disease subsides (generally the 8th day). Then no more.

I always use Tr. Iodine Rectif. B. P.

From these cases I have come to the conclusion that small doses of Tr. Iodine viz. five or seven minims per dose are of very doubtful value. While the 1st dose of 2 c.c. and the succeeding ones of 1 c.c. up to the 5th day and then ½ c.c. have proved to be of distinct service, I also learn by experience that much of the success depends upon getting the case early. All the cases that I got on the 1st and the 2nd day of the disease were cured. Of the case I got on the 3rd and the 4th day of the disease some were cured and some died. Of the two cases that I got on the 5th day, in a bad condition, of course, none survived.

My practical difficulty which I want to bring to the notice of the profession was in giving the intravenous injection without cutting the skin. Because as the days pass on, patients' fluid and blood are much reduced, besides that any loss of blood, which is unavoidable when the skin is cut, is injurious to the patient who is already so weak and is dangerous to the surgeon because it is full of the germs of the disease.

To illustrate my knowledge of the subject I quote a case which, taking into consideration all my cases, may be taken as a typical one.

A Hindu male, aged 45, consulted me on the 2nd day of his disease on April 18, 1924 at 7-30 P. M. His temperature was 103·5°F. skin dry and burning, tongue swollen and thickly covered with a dry creamy fur. Eyes were conjested and he was semi-unconscious with intense thirst. He had a bubo in the left groin of the size of a walnut which was very painful on the slightest touch.

I at once gave him an intravenous injection Tr. Iod. Rectif. 2 c.c. plus distilled water 3 c.c. in his right median cephalic vein without cutting the skin and experienced no difficulty because his vein was very prominent.

At the same time I also gave him the following mixture :—

Rx.	Liq. Strych.-Hydroch	m iv
	Tr. Digit	m x
	Liq. Am Acet	3ii
	Aqua ad	oz. i

every 4 hours.

Next morning when I visited the case I found him better all round, his temperature being 102"F, but when I applied the torniquette to make the vein in the left arm prominent for the injection I found that it was not so easy a task as it was the previous evening. The vein never reached to that prominence. However, I was able to give the injection successfully though with some difficulty. The same evening when I again visited the case he looked hopeful.

There was nothing to be anxious about. His temp. was 102-5"F. As usual I tried to give the injection into the right median basilic but failed. I withdrew the needle and tried the median cephalic, but could not succeed. Then I tried the left arm and succeeded but with difficulty. It was all due to the patient's excessive loss of fluid.

Next morning when I visited the case viz., the 4th day of the disease I found him improving all right, but I could not be quite sure of the successful end and therefore was bent upon continuing the injection though I had much hesitation in doing so on account of last evening's difficulties. When I applied the torniquette to the veins of the arms they did not become prominent. It pushed me for a while. Next I applied the torniquette about six inches below his right knee to put the internal saphenous vein to prominence. I found this vein quite prominent and specially on the internal malleolus. All the remaining injections I gave into this vein.

This case was cured. The temperature came down on the morning of the seventh day. The patient during the course of his illness developed no serious symptoms except that he would get rigours and some sweat for about 15 minutes, some 20 minutes after the injection.

The points that I want to bring to the notice of the profession for consideration are :—

(1) In cases of plague, intravenous injection of Iodine is of distinct benefit.

(2) The 1st dose should not be less than 2 c.c. Tr. Iodine rectif. B. P. for an adult and the succeeding ones 1 c.c. twice a day till the 5th day and then ½ c.c. once till the disease subsides.

(3) The injections should be given without cutting the skin and when veins of the arms do not attain the desired prominence the internal saphenous vein on account of the bony support of the internal malleolus is the most suitable one for the operation.

AN INTERESTING CASE OF FOREIGN BODY IN THE ALIMENTARY CANAL

By

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Municipal General Hospital, Negapatam.

I take the liberty to publish in your valuable journal through the courtesy of our Civil Surgeon Dr. G. V. James, M.D., the following case admitted and treated at the Negapatam Hospital.

On 15-6-1924 a lad by name Murugaiyan, aged about 15 years, came to the out-patient department at 8 A.M., saying that he had swallowed a rupee coin the previous night. It would appear that his mother refused him the night meal as a punishment against his misconduct. Hence out of vindictive spirit he stole a rupee out of her box and swallowed it. He said he found it painful to pass it down the throat, but managed to coax it down with a few mouthfuls of water which hastened the passage of the coin into the stomach. He said he had severe colicky pains twice that night which disturbed his sleep. The following morning before coming to the hospital he went to an adjacent coffee shop and took some refreshments. When he narrated his gallant feat of the previous night to some of his friends they at once convinced him that he would die unless he went to the hospital immediately and got it removed. So he came running along and told me the story. The boy appeared to me of some defective mentality. I palpated the whole abdomen but could not discover any tender spot, nor did he complain of pain anywhere which made me even doubt the veracity of his statement; but as he so well assured me I had to believe him and be seriously concerned about the complications that might set in. Any how I admitted the boy as an in-patient and sent him over to the Civil Surgeon who examined him and obtained no positive evidence of the coin being in. He ordered a castor oil purge to be followed 4 hours later by a high enema and decided to do laparotomy in the evening to look into the stomach to find out whether the offender was within that viscus. It was 4 P.M. Patient had six motions, painless and uneventful. The high enema was then administered—a good 1½ pints of soap and water with an ounce of castor oil in it in a semi emulsified form. He then evacuated the bowels little by little complaining of catching pains in the rectum now and again till after a few minutes to the surprise of all and to the great relief of the patient out came the hero from behind the stage with jingling noise on the cemented floor of the latrine—a full rupee, a British genuine coin with all the imprints in tact but slightly blackened by biliary and sulphurous pigments. The subsequent mental attitude of all concerned can be better imagined than described,

I would consider the case an interesting one for the following reasons:—

Although it is possible for a coin of the size of a rupee to be swallowed with difficulty and deliberately it becomes usually lodged about the level of cricoid cartilage or gets arrested at the cardiac entrance of the stomach and if not expelled by the mouth at this stage might with difficulty enter the stomach. Cases are on record that all the above obstacles could be passed through for the coin of the size of a rupee as far as the pylorus of the stomach. Our Civil Surgeon told me that he read several years ago in the Indian Medical Gazette an interesting report of a similar case. Here a villager who had in his possession about 30 or 40 rupees in coin was chased by a few dacoits who scented out his treasure to rob him of his money. As the unfortunate victim was running furiously for his life, yea, for his money, he made up his mind to frustrate the evil intention of his pursuers and devised upon the idea of swallowing the rupees one after another which he successfully did. As he was running along the pursuers overtook him and they found to their chagrin that the villager's money which they knew for a certainty he had in his possession, had mysteriously disappeared. A few days later the man's distress became acute that he had to seek admission into a hospital where his stomach was opened and the rupees which had sagged the bottom of the stomach, settled themselves therein were removed, and the patient was none the worse for the extraordinary devise of safe-guarding his hard-earned money.

From the size of a full rupee and the narrow pyloric valve especially that of a 15 years old boy, it is difficult to reconcile under ordinary circumstances, how the rupee passed into the intestines. Then having passed into the intestines how the solid round rimmed rupee accommodated itself and passed through the lumen of the gut without rupturing its thin walls—the diameter of the rupee being 1¼" nearly and that of the small intestines in a boy about ½" in the undistended state, and still more noteworthy how the narrow ileocecal aperture which is only a transverse slit allowed the rupee safely. It is also surprising to see that the silver coin was not acted upon chemically by the digestive juices with their acids—the impressions being quite distinct and uneffaced—the passage to the bowels should have been very rapid without being acted on by the hydrochloric acid of the gastric juice. Purgatives are generally contra-indicated in such cases. Not long ago Col. W. G. Pridmore recorded a case of this type of unusual interest. A clerk swallowed an entire lower artificial denture while having his tea. Ten hours after, he had violent colic and to appease it he ate one pound of bread. This relieved him of the acute pain and he eventually passed the entire denture per rectum on the third day following the swallowing of it. An eminent author says "When the foreign body has been pushed into the stomach purgatives should not be given but the patient should be fed on oatmeal porridge, brown bread, suet pudding etc. in the hope that the body if angular may be surrounded by this soft material and travel through the intestines without injuring them." In this connection I may state that I have seen while studying in Madras a noted surgeon administering cotton wool and sugar to eat in large quantities to a boy who swallowed accidentally a

piece of broken glass and after a good castor oil purge the glass piece was expelled fully covered up by the soft cotton and mucus as a small ball.

Anyhow it is really interesting to note that in such cases when acute signs and symptoms are absent surgical interference should be reserved to the last whatever be the triumphs of modern aseptic surgery. Of course such expectant treatment will not be justified when symptoms of perforation or obstruction are present.

TETANUS AS AN UNUSUAL COMPLICATION OF OTORRHOEA

By

DR. P. B. KHARKAREY, M.B., NAGPUR.

A Hindu boy, aged 11 years, Devidas by name, was brought to Nagpur from a village Maimda about 18 miles off. I was called on to visit the boy. On examining him I found that he had rigidity of the neck as well as of the back. The jaw was locked, only fluid could be tilted through the gap in between the upper and lower sets of teeth. The history showed that the condition occured some 18 days back and was growing from bad to worse in spite of the native physician's treatment. He could not speak properly and the respiration was also much interfered with by the contraction of respiratory muscles. His face was also much distorted. When I enquired about any lesion in the skin or injury or wound on the surface of his body I was told that there was nothing like that. Then I again closely examined the patient and found out to my surprise that the boy was suffering from Otorrhoea and polypus which was already operated on by the local doctor. This was sufficient ground for the Tetanus bacillus to grow its toxin. I forthwith warned the patient's mother and relatives the long and expensive treatment for the disease. They agreed and I at once pushed in intramuscularly about 3000 units of Tetanus Anti toxin. I did not give the Anti-toxin intravenously for fear of anaphelactic shock. Second day again the same amount intramuscularly washing both the ears which had discharge of pus with strong carbolic lotion and dropped gyanacid carbolic and plugged them with antiseptic wool. Third day I injected by intravenvous serum 3000 units. All the three injections produced varying anaphelactic shock but was got over. After these three injections the boy could open his mouth a little wider. Tetanic contraction of muscles stopped. Injected 12,000 units and by this time the boy could get up and walk to my dispensary. I still inject 1,500 units every fourth day and the boy can take his nourishment properly and could speak well. I have now kept him on Iron Tonic and wash his ear with corbolic lotion hydrogen peroxide every alternate day. This rare complication of otorrhoea is to be noted and duration of illness after which the adequate treatment was given deserves attention. The point I want to emphasise is that in Tetanus the severity of the case depends on the area of injection. In uterine cases where the area is wide enough there is every possibility of greater amount of toxin being produced and vascularity and richer nerve supply of the organ gives the wider circulation of the Tetanus Toxin. Consequently in Tetanus

cases of uterine origin and infection the treatment has to be very vigorous and prompt as I lost a case of Tetanus in nulliparous woman who contracted the infection for only 2 days about 3 weeks after the abortion which she had. This lady also responded to the treatment but her heart failed being a little advanced in age. She too was not given the first intravenous dose of Anti-toxin for fear of anaphelactic shock. Uterine cases of Tetanus are rather more serious than tetanus cases of other origin.

A SINGLE LARGE CONCERTION OF SMEGMA WEIGHING ONE OUNCE AND 40 GRAINS, FOUND LODGING IN THE FORESKIN IN FRONT OF THE GLANS

By

K. SRINIVASAMURTI, L. M. P., SUB-ASSISTANT SURGEON, KUDLIGI BELLARY DISTRICT.

Patient's name—Chenna Basapah. Age—30 years. Male. Caste—Lingayat. Married.

Previous history:—Gives history of Gonorrhœa.

Present history:—The patient came to me on the evening of 30-7-24 with a complaint that his penis had swollen to a considerable size and that it was paining him much with inability to pass urine freely. On examination the anterior portion of the penis was swollen to the size of a hen's egg and it was stony hard. The prepuce was a 'pinhole prepuce'. The skin externally was normal. I thought the swelling was due to ulceration of the glans, and foreskin internally due to venereals.

Duration was about one year. He took mercury for the above complaint from a native quack. He is now suffering from mercurial stomatitis.

I gave him castor oil and asked him to go to the dispensary the next morning. He accordingly came to the dispensary the next morning. I put him under chloroform with the help of a newly passed out Sub-Assistant Surgeon, Mr. Hulikunta Rao, who was present here at that time and gave a dorsal incision.

To my astonishment a white stone like thing lodging in front of the glans completely blocking the urethral orifice and lightly and completely covered over by the foreskin was found. The incision was extended as far as corona and the stone removed and the circumcision operation was completed. There was no ulceration either of the foreskin or of the glans and they were healthy. The stone weighed one ounce and 40 grains and it was about the size of a small hen's egg, measuring 1½ inches in length and 4½ inches in circumference. It is shaped like that of glans penis itself. It was white and smooth with a cup-shaped depression at its posterior end. Section not made. I am of opinion that the stone is nothing but collections of smegma formed into a single large and definite concretion and the phimosis was responsible for this. The patient is doing well.

The Antiseptic

SEPTEMBER, 1924.

SPINAL ANALGESIA.

There is still a great deal of rivalry between general, spinal and local methods of analgesia—rivalry in the sense that one or other of the three methods is more in favour with some surgeons than with others—that a large amount of data from various clinics has to be collected before any opinion can be given. But from what we have seen and done Spinal Analgesia, if properly given, seems to be the best of the three methods. Of the various drugs used to produce spinal anæsthesia Stovaine is said to have the least harmful effects while drugs such as novocaine, encaine, tropocaine, and alypin are said to damage the surrounding nerve tissue. A glance into the article in the June issue of the Lancet by Dr. Slater who gives an account of 400 operations done under spinal anæsthesia will be an eye-opener to many surgeons who discard this method of producing analgesia. According to his experience the death-rate from spinal anæsthesia is 1 per cent. less than that from general anæsthesia. The disadvantages, it is claimed, are practically absent except it be that it gives an extra amount of work to the surgeon. Its advantages are many. Spinal anæsthesia is safer than 'general' and especially so in those suffering from chronic bronchitis, chronic nephritis, arterio-sclerosis, acidosis and diabetes; chest complications such as Bronchitis and Pneumonia are absent; muscular relaxation is complete, a very valuable and useful state of affairs in all abdominal and rectal operations; post operative shock is practically done away with and the surgeon is relieved of anæsthetic anxieties, a constant factor whenever a general anæsthetic is given. Another factor which cannot be neglected is the comfort of the patient. A patient is certainly more comfortable under a spinal

anæsthetic. The horrors of "going under" and "coming out" as well as the struggling, the nausea, the vomiting, the shouting, the thirst and the feeling of suffocation and post-operative headache so commonly present under a general anæsthetic are all avoided. Dr. Slater clearly states the difference between the two anæsthetics when he describes a ward containing spinally anaesthetised patients as a convalescent home while one containing generally anaesthetised patients is compared to the "deck of a cross channel packet in dirty weather."

A great deal of the success of spinal analgesia depends on the technique. Morphia ¼ gr. is given as a routine measure 20 minutes before the lumbar puncture. The needle and syringe should be carefully and thoroughly sterilised by boiling in distilled water. Stovaine with glucose is the analgesic Dr. Slater employed in his series of four hundred cases. Ampoules of 2 c. c. each containing 1. gm. of stovaine as prepared by Allen and Hanbury were the ones used. The patient is usually placed on the left side with legs bent up and flexed. Some anæsthetists however prefer the sitting posture with head well bent. The puncture is always made with a stout needle by some in the middle line and by others a little to either side of it and about an inch above the line joining the post superior iliac spines. A slight manipulation after the vertebrae have been reached will enable one to enter the canal. Whenever possible it is always better to avoid making more than one puncture. The practice of withdrawing cerebro-spinal fluid before injecting stovaine is not universally done. Dr. Slater, for example, is of opinion that nearly all cases of 'Spinal Cephalalgia' are due to withdrawal of 20 or 30 c.c. of C.S.F. The stovaine is injected the moment the C.S.F. begins to flow into the needle. The needle is then removed and collodion applied to the puncture. The patient is then made to lie down on his back with head flexed and pelvis raised to a height varying with the height of analgesia required. In about 5 minutes the anæsthesia runs up to the desired level, its progress being easily watched by pinching up the skin with towel clips. A screen is usually employed to shut off the operating area from the patient's view. The most important procedure perhaps during and even after operation is keeping the head flexed as otherwise there is the danger of paralysis of the medullary centres and post-operative headache.

The operation is usually uneventful but of course sudden complications may require interference. Faintness can be relieved by a little spirits Ammonia Aromaticus, nausea by drinks of Soda water, and a low blood pressure with pallor and slow pulse by pituitrin and adrenalin. These of course are no great handicaps and are present even during general anæsthesia.

THE INDIAN SCIENCE CONGRESS.

Lt. Col. Mackie, the Director of the Bombay Bacteriological Laboratory and the President-elect of the Medical Research Section of the Indian Science Congress to be held in Benares during January next, invites through our columns contributions in the shape of papers dealing with results of research work (purely clinical articles being not suitable) or of such a nature as to stimulate discussion on the scientific aspects of some medical problems. The papers should be of such a length that they do not exceed 10 minutes in reading and should be in the hands of Lt. Col. Mackie on or before the 30th November at the latest.

CURRENT TOPICS.

SURGERY.

Carrel-Dakin Irrigation for Acute Osteomyelitis:—E. Hedlund (Acta Chir. Scand., May 7th, 1924, p. 513) finds that the usual treatment of acute osteomyelitis of the long bones consists in opening the bone, plugging its cavity, and removing necrotic bone later by sequestrotomy. The disadvantages of this procedure are the pain, the delay entailed by the necrosis of the bone, and the necessity for a second operation. Since 1917 the author has treated twenty-one cases by irrigation with Dakin's solution, on the lines laid down by Carrel. A comparison of the length of stay in hospitals between cases treated (1) with Dakin's solution, and (2) without it, showed that it was on the average only 101 days for the first class, as compared with 261 days for the second class. After opening the bone freely and removing all the diseased tissue, the author introduces several Carrel tubes for thorough irrigation. Drainage is provided for abscesses in the soft tissues, and care is taken to arrest hæmorrhage. On the eleventh or twelth day the irrigation with Dakin's solution is discontinued and the drains are removed. This procedure

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shortens the treatment, renders it practically painless, and usually prevents necrosis of bone. A further advantage is that the scar formed is comparatively narrow and loose. The author insists that the hypochlorite must be of the desired strength; one of his failures was traced to the fact that the ready-made solution used contained only 0·07 per cent. of hypochlorite instead of the 0·475 per cent.—*B.M.J.*

X-Ray Treatment in Exophthalmic Goitre.—G. M. Goodwin and W. B. Long (Amer. Journ. Med. Sci., Jan. 1924 p. 38) refer to the differences of opinion as to the etiology and treatment of this disease. The risks and uncertainty of operative measures encourage many patients to submit readily to X ray treatment. The authors give details of nine patients whom they have treated, all of whom were of the toxic exophthalmic type with the usual symptoms. They received a weekly treatment of approximately two-fifths of an erythema dose filtered through aluminium and directed to alternate sides of the neck each week between the upper level of the thyroid and the third rib (in order to include the thymus). A uniform distance of 35 cm. from the target to the skin was maintained, the aluminium filter was 3 mm. thick, the potential was 140,000 volts, and 5 milliamperes of current were used for five minutes. Such a dose given weekly on alternate sides of the neck may be continued for months without danger of dermatitis, but after six or eight such treatments faint tanning is seen. Definite improvement usually commences after five months. The most striking feature is the gain in weight: in the first five cases one gained 42 lb., one 27 lb., and all the others 15 lb or more. The pulse rate showed a fall, but was more variable than the other curves. There was a striking improvement in the appearance of the patients, save for the prominence of the eyes. In Case VI there was marked subjective improvement but little visible change. The patient in Case VII received twenty-two treatments (a larger number than usual), with no improvement. She lost 14 lb., became discouraged, and asked for operation; a subtotal resection was done; the gland was adherent to adjacent structures, but no particular difficulty resulted from this. In Case VIII there were thirty-four treatments, with temporary improvement but subsequent relapse. In case IX improvement resulted, but the treatment had to be interrupted. The authors conclude that in 5 cases the result has been satisfactory, in 1 case the result is doubtful, and in another treatment was interrupted. In the 2 remaining cases the toxæmia seemed to increase in spite of prolonged treatment.—*B.M.J.*

Epigastric Hernia :—H. Willemse (Nederl. Tijdschr. *v.* Geneesk, April 26th 1924, p. 1863) states that in 10,000 cases of hernia of all kinds there are 137 cases of epigastric hernia, 120 of which occur in men and 17 in women. The majority are found in men between the ages of 30 and 45 who are engaged in hard physical labour. Of twenty-five patients operated on by Willemse only one was a female; three were below 20, nine were between 20 and 30, eight between 30 and 40, and four between 50 and 60. Three were employed in work above ground and all the rest below, so that the majority were engaged in very hard physical labour. There was no history of direct trauma or of loss of flesh. The complaint made by all the patients was pain in the stomach, but in only one case was this localized in the site of the hernia; in all the others it was situated one or two finger breadths below the xiphoid process that is, at a higher level than the hernia. The duration of the symptoms ranged from fourteen days to years. At first the pain did not radiate to the back, while pressure on the pyloric region did not cause any pain radiating to the mid-line as in pyloric ulcer. Diet did not appear to have had any influence on the pain. In most cases there was gastric hypoacidity. In twenty-two of the twenty-five cases the pain in the stomach returned very quickly after the operation, in most within six weeks, so that Willemse came to the conclusion that there was no connexion between the gastric pain and the hernia. Spontaneous pain at the site of the epigastric hernia itself appeared to be the only symptom peculiar to the condition.—*B.M.J.*

The Toxic Effects Following the Use of Local Anesthetics: Analysis of Reports submitted to, and Recommendations of, Committee for Study of Toxic Effects of Local Anesthetics.—EMIL MAYER, NEW YORK, *Journal of the A. M. A.*, March 15, *1924.*—A study of reports of forty-three fatalities and numerous non-fatal accidents has been made by the Committee of which Mayer is chairman. The symptoms in fatal cases have been tabulated. Concentrated solutions of cocain, and cocain with fairly large doses of epinephrin injected into the tissue, have caused the greater number of fatalities. The local application of a small amount of dilute solution of cocain alone (but of sufficient concentration to cause complete anesthesia) has caused no deaths, except some of those following urethral injection, of which the Committee has been able to learn. Procain (novocain) is certainly far safer than any of the other local anesthetics in common use, but that does not mean that procain should be used without caution, for it is capable of causing death when large doses are injected into the tissues. Butyn, alpin, apothesin, stovain and cocain are probably about equally dangerous when injected into the tissues, and when concentrated solutions are applied. Urethral injections constitute

special source of danger. Absorption does not take place readily from the bladder of bronchial mucous membrane. The Committee has not been able to add materially to its knowledge of the comparative value of the several local anesthetics in special fields of medicine. Emphasis is placed on the danger attending the use of cocain paste (so-called cocain "mud"), and suggestions are made concering the concentrations of solutions to be used. The reports of fatalities afford no evidence that epileptics are especially sensitive, and it may be added that while status lymphaticus is mentioned frequently in the necropsy records, the Committee is of the opinion that status lymphaticus is not a frequent cause of death with the local anesthetics.

Cocain should not be injected into the submucous tissue or subcutaneously. Cocain paste ("mud") should not be used as a pre-operative measure. Its use in that way is unreservedly condemned. Local anesthetics should not be injected into the urethra when trauma or stricture exists. Especial care should be exercised in the use of local anesthetics when constitutional disease of a grave character exists. The Committee believes that local anesthetics may be applied safely in the following concentrations and total amounts: Cocain in the mouth and epipharynx (pre-operative), 5 per cent; in the nose, not over 15 per cent. and in total amounts of from 10 to 15 minims, containing from 1 to 1·5 grains; in the eye, not over 5 per cent; in the larynx and bronchi, not over 20 per cent.—preferably 10 per cent. in two applications—and not over 15 minims total containing from 1 to 1·5 grains. Procain should not be used in greater concentration than 1 per cent; apothesin not greater than 2 per cent and not more than 1·5 grains; butyn should not be injected, but may be applied in 2 per cent solution. Epinephrin (adrenalin) serves a valuable purpose in causing a bloodless field and in delaying the absorption of the local anesthetics, especially procain, but the addition of epinephrin in amounts of 1 mg. or more to a solution of cocain often results in a greater degree of toxicity than that from cocain alone when rapid absorption takes place: hence the use of large doses of epinephrin with cocain is deemed unsafe, and epinephrin should not be used in greater concentration than 1 : 10,000 and of this not more than 100 minims with cocain. Somewhat larger total amounts of epinephrin may be used with solutions of procain, but not more than 1 mg. of epenephrin should be used, and even this dose may be unsafe in patients suffering with hyperthyroidism. Further investigation of the actions of epinephrin are urgently needed. When severe toxic symptoms result, efforts should be made to sustain in the heart in order that the drug may be carried to the liver, where it is destroyed.

Cardiac massage, and perhaps, epinephrin in proper intracardiac doses, are indicated when the heart has stopped. The Committee cannot endorse the views of those who recommend large intracardiac doses of epinephrin, and not more than 2 cc. (30 minims) of a solution of 1 : 10,000 is recommended. The Committee is unable to state the dosage of strophanthin and digitalis in such cases, but large doses are almost certainly dangerous. Artificial respiration is indicated, as a rule. There is no evidence that the inhalation of ether or the injection of morphine has any value as an antidote to the local anesthetics, but on the contrary, the use of morphine in such cases is considered distinctly dangerous. Ether is possibly of value in controlling convulsions. All doses of local anesthetics—however applied—should be measured accurately. This is manifestly impossible when preparations of unknown composition or concentration, including those that have deteriorated, are used. All solutions should be freshly made and should be sterile.—*A.J.S.*

The Results of Surgery for Migraine. J. ARTHUR BUCHANAN, Pueblo, Colo. *Surgery, Gynæcology and Obstetrics*, May, 1924.

The histories of two patients are presented to illustrate the end-results of surgery for migraine. Nasal operations, etc., and assaults to destroy foci of infection in the teeth, tonsils, gall bladder, appendix, and so forth, are all valueless. Migraine is hereditary in man and is transmitted from generation to generation according to the laws of Mendel. Surgical rocedures have no place in the therapy for migraine.—*A. J. S.*

Novacain Treatment of Muscular Atrophy after Injuries. *(Novocainbehandlung der Muskelatrophie Verletzungen).* F. MANDL Vienna, *Archiv fur klinische Chirurgie*, April 7, 1924.

Increased muscle tonus such as occurs after injury, particularly as in the case of fracture, leads to muscle atrophy. Novacain injection by stopping the muscle tonus will prevent muscle atrophy. This is of great practical importance in cases of fracture, following which there is usually marked atrophy with interference in work and play.

The prophylaxis and treatment of muscle atrophy has previously consisted of motion and has not been complete. The action of the injection (20 to 30 c.c. of a ½% novocain solution) by nerve blockade lasts 6 to 8 hours, is repeated at daily intervals for several days, and having once overcome the initial spasm, seems to have a permanent effect. The muscle at complete rest does not undergo atrophy.—*A.J.S.*

Fractures of the Spinal Column: A Report of Fifty-two Cases. E. W. CLEARY, San Francisco, *California and Western Medicine*, May, 1924.

Cleary reports on 52 cases of fractures of the spinal column. These fractures are apparently more common than has been realized. In only 30% of these cases was the diagnosis made early. This he attributes to improper history-taking and inadequate roentgen and physical examination.

Twenty-five of the 52 fractures were due to falls from a height ranging from 6 to 70 feet. Eighteen were due to heavy masses falling on the patient; 4 were due to heavy blows on the shoulder; 4 to heavy lifting and twisting strains. Deformities, limitation of motion, muscle spasm and discoloration of the skin are to be looked for best in the standing position. Rigidity of the injured segments and guarded motions of the body as a whole are characteristic symptoms. In the treatment rest is essential. This may be secured by head traction, special fracture beds, collars, plaster jackets and other devices. The author considers the Hibb's better than the Albee operation, but has devised an operation which combines features of both. His operation, illustrated in the article, consists in a spitting of the spinous processes of the vertebræ with two lateral laminotomy extensions. Into these lateral laminal clefts a wedge-shaped graft is laid on each side and over these the divided spinous processes are folded. Following his fusion operation the patient remains in a plaster jacket on a Bradford frame for seven to eight weeks and then wears a modified Taylor brace for at least four months while gradually increasing the range of action. After thorough fusion industrial patients return to work in eight months to a year. There were reported by the California State Industrial Commission about 30—40% of cases with total disability. Conservatively treated cases have a period of convalescence approximately twice as long and disability of 40—50%. No cases of fractured spine treated conservatively should be immobilized less than eight to twelve weeks, and in severe cases six to eight months are necessary.—*A.J.S.*

Conservative Treatment of Eclampsia.—A. C. Beck (Amer. Journ. of Obstet. and Gynæcol, June, 1924, p. 677) states that up to six years ago the first consideration in treating eclampsia at the Long Island College Hospital was immediate delivery: the results were so unfavourable in comparison with those reported by Tweedy Stroganoff, and others, that conservative treatment has since been tried, with striking improvement in the mortality. An early and large phebotomy—as a rule 1 litre, immediately after the first convulsion occurring in hospital is the most important measure; gastric lavage has been abandoned, and colonic irrigation reduced

at once in twenty-four hours, for it is believed that these procedures are apt to induce convulsions. Morphine is the only sedative drug used, half a grain being given on admission, and a quarter of a grain at hourly intervals until the convulsions cease or the respiration frequency is markedly lowered. Much importance is attached to keeping the patient protected from sensory stimuli in a quiet darkened room. As a rule eclamptics go into labour spontaneously during treatment or shortly after recovery; but if after waiting for several days labour does not commence the author believes that it is right to induce it, in order to avoid a second attack of eclampsia. In pre-eclamptic toxæmia he advocates induction of labour if no improvement follows the use of eliminative measures.

OBSTETRICS AND GYNAECOLOGY.

On the Use of Adrenalin in White Asphyxia of the Newly Born. By CAPT. N. N. GHOSH, M B., Serajganj, in the Indian Medical Gazette.

The author was in attendance on the confinement of a Mrs. A., a multipara. The child was born in white asphyxia, with the skin cold, with no sign of respiration, but with the heart still beating. The usual remedies were tried—dipping into hot water, clearing the throat and nose, Schultz's method of artificial respiration, and slapping the back. Finally continuous artificial respiration was begun; but the case appeared to be hopeless.

The author now gave an intra-cardiac injection of half a c. c. of liquor adrenalin, 1 in 1,000 (P. D. and Co), the injection being given into the musculature of the left ventricle above the site of the apex beat. Artificial respiration was continued. The heart beats immediately became quicker and more audible. Fifteen minutes later the child gave a gasp, and shortly afterwards began to breathe spontaneously. It was wrapped in cotton woool and carefully tended; but the next day pneumonia set in, with a water-logged condition of the lungs, and death followed.

McLoid's Rules for the Management of Labour:—1. Learn thoroughly the mechanism of labour.

2. Never interfere with any labour that is progressing normally. A slow labour is not an abnormal labour.
3. A full bladder is the most common cause of dystocia.
4. Pituitrin is a dangerous drug.
5. Do not rupture the membranes artificially.
6. Practise conducting labours by abdominal examinations.

7. Conserve the anatomical parts.
8. A greater number of women in labour need sedatives than oxytocics.
9. Manual dilatation and effacement of the cervix is not possible.
10. Treat occiput-posterior positions expectantly as long as you think it possible to do so, and then just a little longer.
11. A version performed for hæmorrhage through an undilated and uneffaced cervix must not be completed.
12. Manage the third stage of labour patiently.
13. Nipple trouble always precedes a breast abscess.
14. Douches are contraindicated.
15. Apply forceps only after deliberation; never too soon.
16. Violent methods are never necessary in the resuscitation of the new-born.

Use of X-ray Therapy in Disturbed Menstruation. Rongy, A. J. *New York, Jr. Obst. and Gyn.*, Feb., 1924.

The author is opposed to surgical interference for fibroid growths of the uterus in cases where there is cardio-renal disease, or where the location of the tumour increases the operative risk. About thirty-five per cent. of cases with fibroid growths of the uterus are poor surgical risks.

In this series of cases x-ray was used, and in only a very small percentage was operative interference necessary for recurrent uterine hæmorrhage. He further demonstrates that small doses of x-ray may be used with great advantage in cases of menorrhagia, metrorrhagia, or to correct menstrual irregularities where the function of the ovary is disordered. In the hands of a skilled radiologist mild doses of x-ray acts as an ovarian stimulant, and he cites a series of various types of irregular menstruation which have been corrected by mild stimulating doses of x-ray.

MEDICINE.

Insulin Treatment of Diabetes.—C. von Noreden and S. Isaac (Klin. Woch., April 22nd, 1924, p. 720) record further experiences of Insulin treatment in diabetes mellitus. The most striking results of insulin are to be found in cases of pre-coma and commencing diabetic coma. By fasting and large dose of alcohol von Noorden was formerly able to check many cases of commencing coma; but insulin gives much better results. In coma large doses of insulin are required. Each dose should usually not exceed 30 units, and three hours should elapse between them. Dextrose injections may be required as emergency treatment at any moment, and the practitioner must therefore be prepared. The authors have so far lost no case of coma treated with insulin. An endeavour should be made to obtain

the good results in the usual insulin treatment with small doses. As a temporary measure doses of 80 to 120 units daily may be necessary for treatment extending over long periods of time 40 to 60 units. An introductory course of dieting, with insulin, should be given for three to six weeks to regulate the sugar metabolism; then a permanent diet and insulin treatment, which the patient can carry out at home. In the latter treatment, under the influence of insulin, as a more liberal diet and a suitable amount of fat may be allowed, the patients increase in weight and general health. The insulin injections may be restricted to twice daily. In the most severe forms of diabetes it is too early to judge what the value of the insulin treatment will prove to be. In cases of medium severity, by careful dietetic treatment a decidedly better condition of metabolism is often produced, or further advance of the disease is checked. These are the cases (apart from coma) in which insulin has been of the greatest service. Astonishing results are obtained not infrequently by a long-continued combination of dietetic and insulin treatment. In some cases, though the diet has remained approximately the same as had been taken for months or years, the insulin treatment, in spite of persisting glycosuria (scarcely diminished), has improved the general condition and the bodily and mental activity in a surprising manner. In mind, and especially in early cases of diabetes dietetic treatment alone, before its combination with insulin, is to be preferred for a time.

Herpangina.—Under the name of "herpangina", Dr. John Zahorsky, of St. Louis, describes a specific febrile disease characterised by the appearance of minute papules, vesicles and ulcers in the throat. The disease occurs only in the summer months and affects children mainly between the ages of 3 and 10, though a few examples were seen in children between 12 and 15. The epidemic nature of the disease is shown by the affection occurring in the groups. In family practice one child after another contracts the sore-throat. On bacteriological examination the same organisms are found as those which are usually present in ordinary sore-throat. The incubation period is from four to ten days. The disease begins with a sudden rise of temperature to 102° 105° F. Vomiting is very common, but not persistent. Headache and pains in the back of the neck are frequent. Nothing is seen on physical examination except the following characteristic appearances of the throat. There are minute vesicles from the size of a millet seed to that of a small pea on the anterior pillars or along the free margin of the soft palate, occasionally on the posterior part of the buccal mucosa or roof of the mouth but much more frequently on the tonsils or pharyngeal mucous membrane. The vesicles rupture and leave punched-out ulcers, which become covered with a thin exudate. The lesions are never numerous. In most cases the tonsils present a considerable inflammatory reaction. There is a slight leucocytosis. An irregular fever continues for two to four days, and then the temperature falls by lysis and the other symptoms subside. There are no complications or sequelæ.

Rupture of the Spleen from Therapeutic Malaria.—There is one aspect of the treatment of general paralysis of the insane by the artificial induction of malaria which has not yet received the attention it deserves. The subjects of general paralysis are often debilitated, feeble creatures, incapable of withstanding diseases which even the young and robust find most exhausting. In many countries in which malaria is endemic and syphilis is common, general paralysis is comparatively rare, and our knowledge of the action of one disease on the other is, therefore, very incomplete. We shall soon know of this interaction, after more cases of general paralysis have been treated by the artificial induction of malaria. Together with encouraging results, a few disquieting accounts have been published of the effects of tertian malaria on the subjects of general paralysis. In *Le Scalpel* for May 10th, Dr. M. Alexander records the case of a man, aged 50, admitted to hospital on Feb. 8th 1924, suffering from general paralysis. For several months there had been progressive mental deterioration, with great irritability and incoherency. He looked much older than he was, he was easily fatigued, the tendon reflexes were exaggerated, and the skin reflexes diminished. The examination of the cerebro-spinal fluid confirmed the clinical diagnosis, and on April 9th he was given a subcutaneous injection of 5 c. cm. of blood from a patient suffering from tertian malaria. Ten days later a bout of fever developed, but it did not conform to type, a rise of temperature occurring every second day. The patient underwent with apparent impunity and ease eight attacks of fever, the temperature reaching 39°C. After the eighth attack he was seen to turn pale and to collapse on his bed, where he was found to be dead. The necropsy confirmed the diagnosis of general paralysis without, however, revealing any lesion of the brain. The kidneys were intact, whereas there was some cardio-arterial sclerosis. The abdominal cavity was full of blood derived from a soft spleen which had ruptured, the appearance of the spleen suggesting a veritable explosion within it. As long as such an incident is isolated it need not be regarded as more than a clinical curiosity. General paralysis of the insane is such a terrible disease that it is justifiable to take even great risks in the attempt to check its progress, but if the incident just described recurs frequently, it is conceivable that treatment with malaria may have to be confined to those cases of general paralysis in

which there is a fair margin of general vitality recuperative power. In Denmark advanced cases of general paralysis have been used as human thermostats in order to keep a strain of tertian malaria alive by frequent passage, and it will be interesting to learn what effect the malaria has had on these incurable cases.

Decomposition of Urine and Its Prevention.—It is often desirable to collect the urine that is passed during the 24 hours in order that the analysis of such an abnormal constituent as sugar may give correct information as to the daily output of sugar. To trust to a random sample of urine passed at any hour of the day is to correct gross inaccuracy. But the collection of all the urine passed in the 24 hours does not get over this difficulty unless its decomposition is prevented by some means or other, for ammoniacal decomposition and changes in the sugar content of the urine are apt to stultify the results of an analysis. In a paper in *Norsk Magazine for Logevidenskaben* for June, Dr. T. Brandt and Dr. R. C. Stokstad have published investigations throwing light on this problem and providing a simple solution to it. They have tested a variety of disinfectants and have found that many of the most common, such as formalin and carbolic acid, are unsuitable because of their capacity to reduce sugar. They have found Toluol act satisfactorily, but not longer than 24 hours. The same could be said of thymol. Xylol proved to be an unsatisfactory disinfectant, and so did chloroform, probably because it was too volatile for the purpose. Perchloride of mercury in a strength of 0·5 per 1000 prevented decomposition even for 48 hours, and Toluol prevented decomposition for 24 hours, when 15 c. m. were added to a litre and a half of urine and thoroughly shaken. The same effect could be obtained with 15 c. cm. of a 10 per cent. solution of thymol in alcohol. But most of these disinfectants possess certain disqualifications. Either they are too expensive for routine hospital work or they are (with the exception of perchloride of mercury) inadequately soluble in the urine, which has to be shaken vigorously to obtain the desired result. Another objection to Toluol is its inflammable properties, and the greasy coating it leaves on the test-tube. In view of all this, the authors have abandoned the idea of preventing decomposition of urine with the help of disinfectants, and they have done so the more willingly as they have come to the conclusion that the problem is one of chemistry and physics as well as of bacteriology. For, as they point out, the rate of decomposition of various urines is far from uniform, even when the bacterial contamination is uniform. Their investigations have shown that the best solution to this problem is to be found in a study of the hydrogenion concentration of the urine, a sample with a pH under 5·0 showing practically no ammoniacal

decomposition even after 24 hours in a thermostat. All that is therefore needed to prevent decomposition of urine is to render it highly acid, and for this purpose the authors recommend the addition of about 15 c. cm. of HCl to every litre and a half of urine. Any other acid will serve the same purpose except nitric acid, which destroys various organic substances.

Serum Therapy in Pneumonia:—G. ETIENNE AND M. BRAUN, (Rev. Med. de l'Est, April, 1924, p. 211) are convinced of the efficacy of serum therapy in pneumonia. They record 25 cases treated by a serum of the Pasteur Institute prepared by M. Cotoni. In 13 lobar pneumonias so treated there was a rapid resolution of fever by crisis in from one to seven days—twice by a single fall of temperature and three times with intermediate rises. The ages of the patients ranged from 17 to 63 years, and all were suffering from marked pneumonia, with grave symptoms in most instances. In 2 cases the first injection acted almost immediately, in others a steady fall by lysis was observed, whilst in one case, although there was no effect on the temperature, the general condition strikingly improved. The serum injections were instituted from the second to the fifth day. In 6 cases of broncho-pneumonia rapid lysis was produced in 4 instances, generally in four waves, and commenced within thirty-six hours in 3 cases. Treatment was begun from the second to the sixth day and, in one patient, on the twenty-first day. Several of these cases were of a profound toxic type—one girl of 17 years seemed moribund when first seen, but recovered. Four types of reaction to the injections of serum were noted; (1) reduction of temperature by crisis in 54 per cent. of the cases; (2) early fall of temperature by lysis in 30 per cent.—these were the earlier observed cases treated with doses obviously too small; (3) early fall of temperature followed by defervescence in a series of large oscillations; (4) the general condition markedly improved without obvious effect on the course of the fever. It is noted that favourable modification of the symptoms was general, and was often even the initial and most striking result observed; it occurred within twelve hours in 5 of the cases. The authors particularly stress the constancy of the effect on the blood. From the first injection the leucocyte count rapidly fell, and this steadily continued. An accompanying lymphocytosis was regarded as of favourable prognostic import. The authors regard the diminution in the number of leucocytes as corresponding to a reduced call on the defensive mechanism of the body. They note the apparent discrepancy between the general improvement and the fact that the local lesion remained practically unaltered in the majority of the cases. In their series there was only one fatal case, and the results in broncho-pneumonia were as good as in the

lobar type. They would employ the treatment in all cases of the former, whilst they do not consider it should be reserved only for very serious cases of the latter and when danger is threatening. In their experience immediate reaction is by no means certain; in fact, it did not occur till as late as sixty hours in some of the cases. A dose of 80 c.cm. is recommended, or in less severe cases 60 c. cm.; smaller doses do not produce such a rapid fall of temperature. Daily injections should be given, according to the effect obtained, sometimes for two or three days. If reduction of fever is slow another injection is advised. Where relapse occurs after ten days' apyrexia further injections have been found to produce a favourable serum reaction without anaphylaxis.

Microsporidia as the Cause of Rabies.—The ætiological agent of rabies has been the subject of numerous researches, and several claimants are in the field without any one of them being generally accepted at the present time. The latest suggestion is that of Y. Manouelian and J. Viala, who describe a protozoon of the microsporidia genus in the tissues of affected subjects. The possibility of a protozoal parasite was long ago suggested, and the question whether the well-known Negri bodies, small corpuscular formations found within the cells of the nervous system, especially in the large cells of the hippocampal region, are to be looked upon as protozoa, which is the view of many authorities, or merely as post hoc degeneration products of the diseased cell, which is perhaps the more favoured view, has not yet been definitely settled. The findings of Manouelian and Viala undoubtedly have their origin in the disputes which have arisen over the causation of lethargic encephalitis. Discordant findings in the experimental investigation of this disease in rabbits has led to the discovery of the existence of a spontaneous form of encephalitis in the rabbit, whose existence was first described in this country by F. W. Twort. C. Levaditi, whose positive results with human encephalitis material have been at variance with the results of C. Kling, H. Davide, and F. Liljenquist in Sweden, investigated the lesions in the rabbit's brain in the spontaneous disease, and has described the formation of small spore-containing cysts of a parasite which he has named *Encephalitozoon cuniculi*. The step from these findings to the suggestion that a like cause may operate in so similar a disease as rabies is a short one, and such a suggestion was actually made by Levaditi soon after the description and figuring of the parasite we have just mentioned. He put forward the view that the Negri bodies are spore-containing cysts which represent only one phase in the life-history of a protozoal parasite of which the individual units are, at another stage, so minute as to be ultra-microscopic and filterable. Failure, adequately to observe the intimate structure of the Negri bodies is, in his opinion, due to the impermeability of

the capsule to chromatin stains, a property which can be modified by the use of acid fixatives. This suggestion has apparently borne fruit in the work of the two French investigators, which has appeared in a recent number of the *Annales de l' Institute Pasteur*. By the use of a special technique, which involves the employment of an acid-fixing solution, they have demonstrated the presence of small elongated or oval bodies, occurring in various parts of the nervous system, both accompanying and appearing independent of the Negri bodies, which they resemble in being usually intracellular, but in size are very much smaller. The figured appearances of these "parasites" is very striking, as is also their similarity to the bodies described by Levaditi in the encephalitis of rabbits to which we have just alluded. The relationship of the newly described formations to the Negri bodies is not clear, the authors of the present paper considering the latter to consist of accumulated and degenerated masses of the smaller parasite. The parasites are also described as being present in the salivary glands. It is not possible to pronounce any definite opinion upon this interesting piece of work, but, whilst waiting for further results, it may be pointed out that the newly described parasite does not in any way appear to resemble bodies figured by Noguchi in 1913, which he then claimed to have cultivated by the special technique associated with his name and suggested as the causal factor of rabies. It is also interesting to note that on that occasion the claim was associated with the then prominent investigations upon poliomyelitis, whilst the present one comes obviously in the train of the investigation of encephalitis.

Complications of Insulin Treatment.—K. Faber (Ugeskrift for Laeger, March 27th, 1924, p. 265) has observed several cases of sepsis following injections of insulin, although the greatest care was taken to give them under aseptic conditions. In one case, in which a benign mitral stenosis had existed for a long time, acute sepsis following an injection of insulin was associated with ulcerative endocarditis, which proved fatal. In two other cases one abscess after another developed, but the infection was ultimately arrested. In addition to these hospital cases there were others in which abscesses developed when the treatment was continued at home after discharge from hospital. In the case of a patient who had been treated for four months in hospital without developing, eight abscesses formed after discharge. Another patient was admitted to hospital with a severe phlegmonous gangrene in the region of the hip, which had developed as a sequel to the injections. The author notes that there is considerable reticence with regard to such cases, and he advocates greater publicity. Probably the frequency of insulin abscesses is dwindling; some time ago

comparatively "raw" insulin was injected in the hope that its action would be more prolonged than that of purer preparations. Another complication to which the author refers is pulmonary œdema, a case of which he has observed. It is due to retention of water occurring early in insulin treatment which has suddenly counteracted severe acidosis. Reference is also made to the well-known symptoms of hypoglycaemia following insulin treatment.

Oxaluria Simulating Renal Colic.—E. Bernaheim (Deut. Med. Woch., April 11th, 1924, p. 462) gives an account of three cases simulating renal colic due to calculi. Two were men, and the ages of the three were 23, 22 and 50. In each case there was a history of bouts of pain referred to one side or other of the abdomen and described in one case as excruciatingly severe, the patient requiring an injection of morphine. On the same side as the pain there was unilateral tenderness in the kidney or ureter region. The urine contained no sugar or albumin, but in the sediment there were a few leucocytes, epithelial cells, red blood cells, and much calcium oxalate. Functional tests of the kidneys, cystoscopic examinations, and skiagrams failed to show any sign of renal disease or of calculi in the urinary tract. Treatment directed to the oxaluria was completely and permanently successful, no recurrence of the symptoms being observed during an observation period, in the most recent case, of a year and a half. The author notes that all three patients showed signs of neuropathy, and he suggests that there is a connection between neuropathic and an oxalate diathesis. It may be that the excretion of oxalates by robust persons gives rise to no symptoms, whereas the neuropathic experiences sensations very difficult to distinguish from those of a calculus in the urinary tract.

The Fate of Iron given by the Mouth.—E. O. FOLKMAR and S ULRICH (*Ugeskrift for Lægar*, December 27th, 1923, p. 957) draw attention to the parodoxical finding that the physiological needs of the organism are satisfied by about 10 mg. of iron per diem, and yet about 200 times this quantity is needed to obtain the optimum results in certain forms of anæmia. Earlier investigations have shown that iron is absorbed mainly by the duodenum and upper section of the small intestine, and is excreted mainly by the cæcum and colon, the excretion of iron by the kidneys being negligible and not increased when the dosage of iron is raised. It follows that practically all the iron given by the mouth reappears in the fæces. To ascertain how much of the iron given by the mouth passes direct through the gut, and how much is absorbed and then excreted by the gut, the authors have separated the two portions of iron in the fæces with the help

of an electro-magnet. They gave by the mouth reduced iron which consisted of metallic iron and oxides of iron—both magnetic. The iron which is absorbed and then excreted by the gut is non-magnetic. To test their technique the authors first experimented with a known quantity of magnetic iron in an emulsion of fæces, and they found that all could be recovered with the help of the electro-magnet. The cases investigated were classified according as large doses of iron failed to increase the percentage of hæmoglobin or increased it. In the first class from 68 to 83 per cent. of the iron given by the mouth was found unchanged in the fæces. But among the patients whose hæmoglobin was increased by large doses of iron the discharge of unchanged iron in the fæces was up to 18 per cent. less than the first class. The authors anticipated that they would find considerable differences according as the patients had, or had not, free hydrochloric acid in the gastric juice; but they failed to do so. Another surprising finding, which they cannot explain, was that the amount of unchanged iron found in the fæces was the same whether large or small doses of reduced iron were given. They conclude that the best therapeutic results can be obtained with large doses.—*The British Medical Journal.*

Anti-rhachitic Properties of Cow's Milk.—THERE has been much difference of opinion as to whether cow's milk possesses any specific anti-rhachitic properties and, if so, to what extent these may vary in degree according to the diet of the cow and the season of the year. M. A. Boas and H. Chick (*Biochemical Journal*, 1924, XVIII., No. 2) have investigated this question by observing the deposition of calcium in rats receiving a daily ration of milk from a cow kept under different conditions. The diet of the rats was, apart from the milk, deficient in fat soluble vitamines, but adequate in other respects, including vitamines B. and C. When the cow was kept in a dark stall and received either dry fodder or fresh green food, the milk was found to be defective in calcium-depositing properties, while under the influence of pasture feeding, a combination of green food, sunshine and fresh air, she yielded a milk which given in a small daily ration induced normal calcium retention and calcification of bones. They are inclined to attribute the difference to the effect of sunlight upon the cow. In the rats fed on milk from the cow during the time it was kept in a dark stall the retention of phosphorus was also affected, but to a less degree than the calcium. In these animals the ratio of calcium retained to phosphorus retained was found to decrease steadily during the early weeks of life, whereas in normal animals the ratio shows a steady increase. The influence of cod liver oil upon calcium deposition is not to be attributed to specific properties peculiar to that substance, but to its high content of fat soluble vitamins, as a similar effect upon calcium deposition can by

demonstrated in the case of cow's milk, the degree depending upon the diet of the cow and the amount of sunlight to which she is exposed.

Iron and Fat in Anæmia.—J. M. D. SCOTT (*Biochemical Journal*, 1924, XVIII, No. 2) has studied the effect of the administration of inorganic iron salts and the effect of dietary deficiencies in the recovery from anæmia. The anæmia was developed in rats by feeding with a diet comparatively poor in iron. On this diet natural cure occurs slowly as the animals get older. Since this is so and since the sole addition of iron to the diet results in a hastening of the natural process of cure, it may be concluded that the anæmia is due to deficiency of iron in the diet. It is therefore another deficiency disease. In the case of rats fed on bread and milk with or without the addition of iron the milk, fat or something associated with it is necessary for blood regeneration, but the evidence is insufficient to allow a decision whether its absence or the diminished supply of vitamine A. leads to a state of chronic under nutrition whether its function lies in facilitating absorption of iron or whether it is necessary for the functioning of the hæmopoietic tissues directly for the construction of the hæmoglobin mole-cule. Vitamine-free fat—palm kernel oil—does not supply the deficiency.. The administration of inorganic iron, though efficacious if the diet is otherwise sufficient, is in no way superior to feeding natural foods containing iron and the latter have the great advantage of also containing vitamine A.

Antiscorbutic Properties of Lemon Juice.—S.S. ZILVA (*Biochemical Journal*, May, 1923) deals with the conservation of potency of concentrated antiscorbutic preparations and in a second paper with the importance of reaction upon the destruction by oxidation of antiscorbutic potency. The author has had occasion to prepare concentrated decitrated lemon juice solutions found to be successful in the treatment of acute infantile scurvy. These solutions have kept for three months without any loss in potency. They have been made by treating 2.5 litres of lemon juice with carbonate of lime and three volumes of absolute alcohol. The filtrate is concentrated to one-tenth its bulk and acidified. It has been preserved under a bell jar over alkaline pyrogallic acid. The potency was tested upon guinea pigs. About 1·5 cubic centimetres was necessary daily to protect a guinea pig against the onset of scurvy. The author finds that decitrated lemon juice loses 80% of its antiscorbutic potency in thirty minutes when exposed to air provided its alkalinity is raised to pH = 12·5. When decitrated lemon juice is kept in the presence of air its acidity increases. When air is bubbled through decitrated lemon juice, its antiscorbutic potency is increased if the pH is raised to 2·2.

MEDICAL TOPICS.

IN THE MADRAS LEGISLATIVE COUNCIL.

The following is the full text of the speech delivered by Dr. U. Rama Row, M. L. C., during the debate on the motion re-Lee Commission's recommendations in the Madras Legislative Council, on the 23rd August '24, touching the Medical Services:—

Rao Sahib U. RAMA RAO:—"Mr. President, Sir, I rise to support the resolution moved by my Honorable friend Mr. Ramalinga Chettiyar and supported by others. Instead of wasting the time of this House, I shall confine my remarks to the recommendations of the Lee Commission on the Medical Services. Sir, unfortunately the Lee Commission has not taken into consideration, when they submitted their report, the fact that the services exist for India and not India for the services. ('Hear, hear' from Diwan Bahadur P. Kesava Pillai.) All the appointments in the Medical Department can now be easily filled by Indians, who, in addition to being equally qualified professionally, are much more suited to the needs of the people as they are familiar with the language, customs and habits of the people. Apart from that, those European servants who retire go out of this country carrying away with them the enormous amount of experience they have gained in India, but if those appointments were filled by Indians all that experience will remain in the country. Then again, Sir, employment of Europeans of ordinary ability when abler Indians are available in the country is a waste of Indian money and creates more difficulties for those responsible for good Government.

"If the Lee Commission could be reputed to have done any appreciable good to India, it is their unanimous verdict of a 'good-bye' to the Indian Medical Service, and I am glad to say that I, representing the Medical Profession in this Province, am in entire agreement with this proposal. The Indian Medical Service is responsible for the introduction of what I may call 'the caste system' in the subordinate Medical Services, such as the L.M.P. or Sub-Assistant Surgeon, the Civil Apothecary, the Military Assistant Surgeon, the L.M.S., the M.B. & C.M., or now, the M.B.B.S., the Lady Assistant Surgeon, and so on. The Indian Medical Service men gave them only such knowledge and instruction in medical schools and colleges where they always reigned supreme, as to enable them to render a helping hand in their professional work and never made them soar high in the field of medical service or profession. At the same time, it must be admitted that the Indian Medical Service had done excellent service in the past and had contributed materially to the advancement of Western Medical Science in India. The time has now come that this purely military ridden service shall have nothing to do with the civil population. The R.A.M.C., which should absorb the present Indian Medical Service, should consist of two separate units, the European medical men to look after the European Army and the Indian men, purely and exclusively, the Indian Army. The Lee Commission report, for obvious reasons, is silent on the point and unless such an arrangement is made, I am afraid, there would be room for incessant complaints.

"The abolition of the Indian Medical Service raises the important question of providing a distinct medical department on the civil side and this the Commission proposes to meet by the constitution of a separate civil medical department for each province. This is as it should be. But I strongly urge that the recruitment for this Service should be in India and not in England. No doubt, as the Commission suggests, it should be part of the terms of contract that every officer of the Civil Medical Service should be liable for service with the R.A.M.C (India) in the event of a war involving a general mobilization.

"I am very strongly opposed to any increase of pay or allowance of the Indian Medical Service and to the grant of family passage allowances to the European members of the service. Indeed the pay of the service should be reduced in 1924 as promised by the Secretary of State, because the cost of living both in India and England has come down at least 20 per cent since 1920 when the last increase of pay was granted. The country can bear no more burden. I strongly oppose any discrimination between an Indian and a European member of the Indian Medical Service in the grant not only of pay but also allowances of any kind now or hereafter.

"With regard to the Commission's proposal to maintain a minimum number of British officers in the Civil Medical Service to meet the medical needs of British officers in civil services and their families and their consequential recommendations (1) for grouping of districts for that purpose and posting a medical officer to one station in each group within easy reach of each district, (2) for meeting the travelling allowances of the officers and their families in stations where their are no British medical officers, (3) in the alternative, to pay the travelling allowances to the British medical officers themselves, I consider, that they constitute a curious departure and are calculated to create feelings of jealousy and animosity between Indian and European members of the profession and at the same time adversely affect the interests of the British civilian patient in times of sudden illness, necessitating immediate medical aid. I am, therefore, strongly of opinion that the above recommendations should be thrown out.

"Europeans coming to India should be prepared to submit to treatment by Indian doctors. No Indian doctor has been appointed in England to look after Indian officers and other Indian residents in England of whom there are several thousands, and there are several Indian doctors settled in England who have extensive practice exclusively among English people.

"An Indian life is as valuable as a European life; and if a European is entitled to a European doctor, the millions of Indian people in this Presidency are equally entitled to Indian doctors.

"With reference to medical instruction and the appointment of professorial chairs in the medical institutions, I am of opinion that the best men—the pick of the profession—to whatever race or clime they may belong, ought to be chosen, and if need be, to be specially recruited. I have no objection to their being paid very attractive and tempting salaries which they really deserve. All that I want is that the best possible instruction should be made available to the students in medicine and that the present unsatisfactory method should be given a speedy go-by.

"The last point is about appointment of Hon. Physicians and Surgeons which the Commission has scrupulously left untouched in their report. The scheme of appointing Hon. Physicians and Surgeons should be enlarged, with a view to the speedy formation and development of an independent medical profession. The present half-hearted and haphazard method of appointing these Hon. Physicians and Surgeons gives rise to grave doubt as to the success of the scheme. It must be our aim to see that all our medical institutions are manned by Hon. Physicians and Surgeons as is the case in other parts of the world, so that medical relief in India may be as cheap and as easily obtainable as in other parts of the world.

"The South Indian Medical Union is in entire agreement with the Medical Unions of Bombay and suggests that honorary system of staffing the Civil hospitals with private medical practitioners as in the United Kingdom should be extensively adopted.

"The Union puts forward the suggestion—I entirely agree—that all further recruitment to the Medical Services, both the R. A. M. C. and the Provincial Medical Service, should be stopped. The existing members of these Services should continue to serve their time, and, as they retire or otherwise vacate their posts, their places should be gradually replaced by private medical practitioners as Honorary Physicians or Surgeons, the paid staff in the Civil hospitals being entirely composed of House Physicians and House Surgeons appointed every six months, and these latter are freshly qualified young doctors, resident in the hospital premises with free board, lodging and laundry supplied, and a small honorariu n given.

"The Union is strongly opposed to the creation of any new superior Provincial Service, in addition to the already existing Provincial Service. Although they do not advocate the immediate abolition of the existing Provincial Service, they certainly feel convinced that all further recruitment to it on service basis should stop and the scheme of honorary workers brought in gradually as vacancies arise. The Union feels convinced that a large number of fully qualified and efficient practitioners will be willing to offer their services for such honorary appointments in the hospitals and medical schools and this will not only stimulate the free growth of the independent medical profession, but also help to maintain a higher standard of scientific methods in their medical work both inside and outside these institutions. The result is that the public at large, and not merely the sick that need institutional treatment, are thus provided with a highly efficient, up-to-date and skilful set of medical men and women.

"At a meeting of the South Indian Medical Association recently held in Madras it was resolved that the recommendations of the Lee Commission with regard to the Medical Services are drastic and extravagant and that they should not be given effect to. I voice forth their feelings to-day and I hope the Council will not overlook independent Indian medical opinion in this matter, conveyed in these resolutions."

BOOK REVIEWS.

MODERN METHODS IN THE DIAGNOSIS AND TREATMENT OF GLYCOSURIA AND DIABETES.

By HUGH MACLEAN, M.D., D. Sc., Professor of Medicine, University of London, Honorary Consulting Physician to the Ministry of Pensions &c. &c. 191 pages with 19 charts and 9 figures, second edition, revised and enlarged. 1924. Constable and Co., Ltd., London, Bombay and Sydney.

Professor Maclean's name has been so intimately connected with recent researches in Diabetes that it is in the proper order of things he should publish a monograph aiming at giving the busy general practitioner a short and concise account of our present knowledge of, together with recent advances and researches in, diabetes. The present book is a second and revised edition containing full details regarding the use and dosage of insulin. In his preface Professor Maclean strikes a warning note to all practitioners, and we think rightly too, with a view to impress them with the urgent necessity of mastering insulin technique as the fact that patients are still dying from diabetic coma without any attempt being made to save them by insulin, is a condition of affairs for which there is no real excuse. Commencing with a few general observations on Diabetes, the professor proceeds to study the blood sugar in health and in diabetes, and the effects of carbohydrate infestion on them. The methods of estimation and prognostic value of estimations of Ammonia co efficient, dissolved carbonic acid of the blood, sodium bicarbonate of the blood and of Co2 in the alveolar air, are all very clearly described. Mention is made of Rothera's test, Gerhardt's test, Van Slyke's method of estimating sodium bicarbonate in plasma and Stellard's test. An exhaustive referent is made to the Allen treatment of diabetes in which is given a list of specimen diets per day as used in the St. Thomas's Hospital and also to the Insulin treatment of Diabetes. The professor has also devoted a full chapter to the very common, but little known and understood, subject of Coma, Ketonuria &c. in which he gives a few general rules for the treatment of a case of Coma. The other chapters worth reading are those on blood sugar estimations and on sugar tolerance tests. The work is the most up-to-date and exhaustive study of the subject. No student of medicine or general practitioner who wants to know anything about Diabetes can afford to pass over this monumental work.

A TREATISE ON HYGIENE AND PUBLIC HEALTH.

By BIRENDRA NATH GHOSH, F.R.F.P. & S. (Glasg.) Examiner in Hygiene and Pharmacology, University of Calcutta. Fifth edition. Pages 566. Illustrated. Published by Hilton and Co., Calcutta.

A text book on Hygiene and Public Health with special reference to the conditions existing in the tropical countries like India, has been wanting. Dr. Ghosh's book deals with the subject in a concise and well-arranged form. Extensive discussions are given on the nature of water influencing health; air and ventilation; occupational diseases and offensive trades; Features of soil in reference to climate and disease; Construction of houses; food and diseases connected with it, especially in India with due reference to vegetable foods; Beverages and condiments; Removal and disposal of refuse, sewage and the dead; Personal and School Hygiene; Infection and prevention of diseases; Maternity and Child-welfare; sanitation of villages, fairs and religious festivals. Every chapter is written with special care, giving the latest informations. The illustrations are diagramatic and educative. We may recommend this book as a reliable and up-to-date text book for the students going for the examinations and as a reference book for those who are interested in Public Health. *B.G.R.A.*

MODERN METHODS OF TREATMENT.

By LOGAN CLENDING, M. D., Asst. Professor of Medicine and Lecturer on Therapeutics of the University of Kansas; with Chapters on special subjects by H. C. Anderson, M. D. and others. Pages 692. Illustrated. Price : $ 9.0. Published by C. V. Mosby Co., *St Louis.*

Logan Clending presents in his book an adequate discussion of the present day methods of treatment. The subjects are dealt with in a quite detailed fashion, and they are well-balanced. On perusal of the book, the student will find the simplicity of the style and the excellent way of dealing with Pathology and Therapeutics showing their relationship. The author has taken great pains to show how certain simple remedies which are under our very nose are completely forgotten and how they can be best made use of. The book deals quite in detail with the therapeutic action, the uses and the methods of administration of some of the important drugs. The Chapter on Biologic therapy and Prophylaxis is very interesting. The chapters on Dietetics, Hydrotherapy, Radiotherapy, Psychotherapy, Arotherapy, Heliotherapy, etc. are worth reading. The last part of the book deals in a short and simple manner about most of the diseases that ail the human body, system by system, excepting the therapeutics of the eye, the ear and other similar special diseases. On the whole it is a book for study as well as for reference to the eager student and the busy practitioner. *B. G. R. A.*

NOTES ON THE MEDICAL TREATMENT OF DISEASE.

By ROBERT DAWSON RUDOLF C.B.E., M.D. (Edin) F.R.C.P., Professor of Therapeutics in the University of Toronto etc, *Published by*—McCleland and Stewart, Toronto.

This is an excellent book for reference to a student of medicine or a budding young practitioner. Every line of the book contains valuable suggestions and informations The book deals with a summary of the routine in the management of the sick generally as well as with the treatment of specific infectious diseases, Respiratory and Circulatory diseases, Diseases of the blood, of the digestive system, the Kidneys, Metabolism, the Endocrine organs, the Nervous system and the functional nervous disorders. The author also dedicates two small chapters for the therapeutic use of oxygen and the present position of venesection in the treatment of diseases. Every chapter deals with a short summary of the main signs and symptoms, diagnosis and environment of the patient, diet, specific and symptomatic treatment with an explanation of the therapeutic action of the particular drugs. Some of the details and special treatments are largely omitted or only limited, which it is very difficult to deal within such a small volume as this. The student will not find in it a complete text book; but surely it will be of great practical use in many of the difficulties that arise in daily practice. B.G.R.A.

CONSTRUCTIVE CONSCIOUS CONTROL OF THE INDIVIDUAL.

By F. MATHIAS ALEXANDER "Author of Man's Supreme Inheritance" pages 317. Second Edition. Published by Methuen & Co. Ltd., Essex St., W. C. London.

This work of Mathias Alexander, we may venture to say, is one of the rarest productions on the subject. The book deals with man's evolutionary development, sensory appreciation in its relation to hearing, in relation to man's needs and in relation to happiness. The author deals with the different human defects, peculiarities, etc, with a wide range of more or less generally accepted statements and principles. The reader will have full satisfaction that the author has given due consideration to the essential parts of the subject, with practical procedures and illustrations. B.G.R.A.

THE CARE AND CURE OF CRIPPLE CHILDREN.

By G. R. Girdlestone, F.R.C.S., Published by Messrs. John Wright Sons Ltd., Bristol. Price 2-6 net.

This book narrates in detail the noble and untiring efforts made in England for the provision of Hospitals and open air schools for Cripple Children of whom there are 80,000 to 100,000 in that country at the present day. The necessity for a special organization and establishment of hospitals is fully explained therein and the method of treatment also exhaustively outlined. Part II of the volume compiled by Miss Hey Groves is a valuable record of the existing Hospital Schools and other institutions for Cripple Children in England. The book is neatly got up and nicely illustrated and will serve as a good guide to those who are interested in the welfare of the crippled children in our own country, who are countless and woefully neglected.

A MANUAL OF TRAINING FOR NURSES.

By H. R. Dutton, Lt. Col. I.M.S., Publishers Messrs. Butterworth and Co. (India) Ltd., Calcutta.

It is a matter of common knowledg that proper nursing and tending to the sick contribute in a large measure to the speedy recovery of a patient and the nurse therefore plays a prominent part in the field of medicine. In the interests of both the patient and the profession, it is highly essential that the nurse should possess a kind heart, gentle and amiable disposition, stern discipline and, above all, a thorough grasp and a detailed knowledge of the technic, and of her profession. This neat little volume will prove to be an invaluable help to the profession and will we hope, be very much appreciated by it.

RACE CULTURE BY CHANDRA CHAKRABERTY.

By Provella Chandra Chatterjee.—At the Bengal Printers Ltd., 66, Maniktollah Street, Calcutta. Price Rs. 1-4-0.—This interesting and instructive little book treats about (1) the Racial Elements in India (2) Principles of Heredity (3) Selection of mate (4) Birth Control (5) Contraceptives and (6) Sexual Hygiene, all put in a nut-shell as it were, having for its main object the diffusion of a correct knowledge and understanding of the many intricate race, sex and social problems that confront modern India. The author deplores the existing social evils in India at the present day and very rightly observes that the Hindu is a dying or a dead race if ere long radical reconstruction of society does not take place on eugenic and authentic principles. The book specially deserves to be in the hands of those who are interested in social reform and those working for the economic uplift of India. We congratulate the author on his bold and lucid exposition of the subject.

DRUG REVIEW.

SYPHILIS SULPARSENOL.

Salvarsan has at last succeeded in so far as a highly efficient, non-toxic compound is available to Say and what is of great comfort to the patient is the fact, administered by a Doctor, it is a simple Injection, almost painless and without dreadful after effects. Its reputation has been backed by learned and earnest Professors of Europe and America.

BOOKS RECEIVED.

The following books have been received and the courtsey 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, at the Publisher's 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.

"Constructive Conscious Control of the Individual."—By F. Matthias Alexander, author of "Man's Supreme inheritance," etc. with an introduction by Professor John Dewey, 317 pages second edition. Publishers: Methreen and Co., Ltd., 36, Essex Street, W. C. London.

"Endocrin Glands." (In Health and in Disease)"—By Chandra Chakraberty 150 pages. Published by Omin and Co., New York, 1923.

Malaria."—By Chandra Chakraberty 172 pages, 1924. Publishers Susruta Sangha. Publishers of Medical and Scientific Books, 177, Raja Divendra Street, Calcutta. Price Rs. 2-4-0.

Orations and addresses."—By Sir John Bland Sutton, Consulting Surgeon to the Middlesex Hospital, 161 pages. Publishers: Messrs. Wm. Heinemann (Medical Books) Ltd., 20, Bedford Street, London, W. C.-2 Price sh. 10-6 net.

"Lectures on Gonorrhœa in Women and Children."—By J. Johnston Abraham, C.B.E., D.S.O., M.A., M.D., (Dub.), F.R.C.S., (Eng.) Surgeon, The London Lock Hospitals; Senior Surgeon, The Kensington General Hospital, etc. With 9 illustrations in the text and 4 plates. Messrs. Wm. Heinemann Ltd., London, pages 142. Price sh. 7-6 nett.

"Anæsthesia in Dental Surgery."—By the late Thomas D. Luke, M.D., F.R.C.S., (Edn.) Edited by J. Stuart Ross, M.B., F.R.C.S., (Edn.), Honorary Anæsthetist, Edinburgh, Dental Hospital and Lecturer in Anæsthetics, Edinburgh University, fifth edition, illustrated, 238 pages. Publishers: Wm. Heinemann (Medical Books) Ltd., London. Price sh. 10-6 net.

"Indian Therapeutics."—By Dr. D. V. Sandu, G.P.A.C., L.M. and S. first edition 1923 (91 pages). Published by V. K. Sandu, Manager, Messrs. D. K. Sandu, Bros., Pharmaceutical Works, Chembur, Thana, Bombay.

Letters, Communications, etc., received from:—

Doctors Charles J. Drueck, M.D., Chicago; J. C. Chowdari, L.M. and S., Bogra; Floyd K. Thayer; K. Srinivasa Murthy, L.M.P., Sub-Assistant Surgeon, Kudligi; L. A. Ramaswamy Iyer, Municipal Hospital, Negapatam; Max Thorek, The American Hospital of Chicago, Chicago U.S.A.; M. Anandan, Medical Officer, Perundorai; M. N. Venkata Raman, Madura; Jagadish Chandra Bagete, L.M.F., Durgaganj and K. M. Hiranandani, Dublin.

INDEX TO ADVERTISEMENTS.

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The Antiseptic

A Monthly Medical Journal

EDITED BY
U. RAMA RAU, M. L. C.
AND
U. KRISHNA RAU, M. B., B. S.

CONTENTS.

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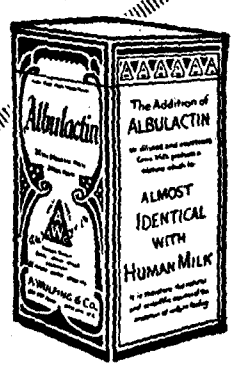

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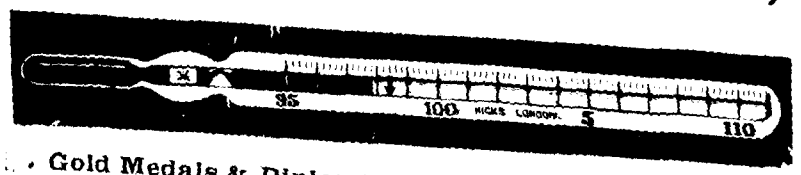

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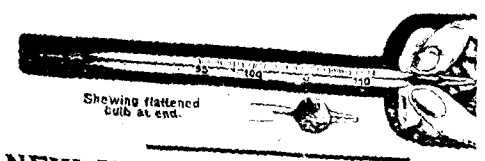

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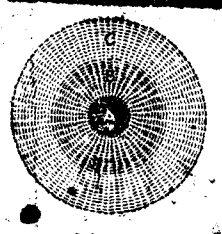

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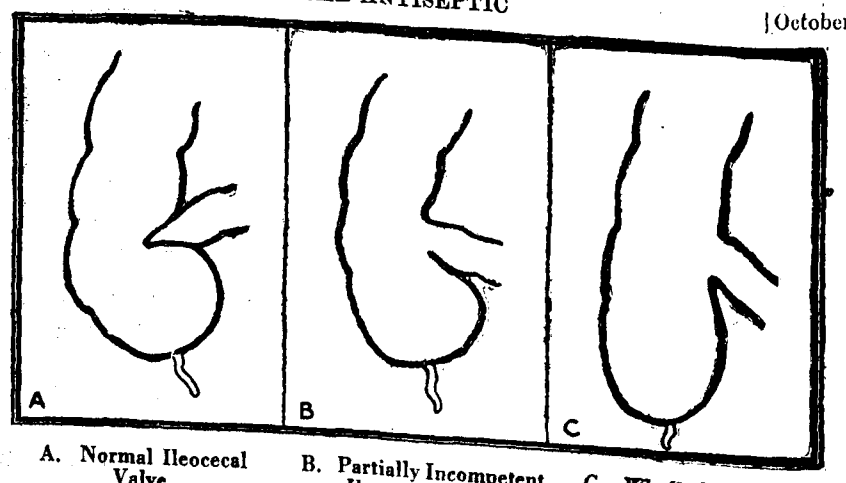

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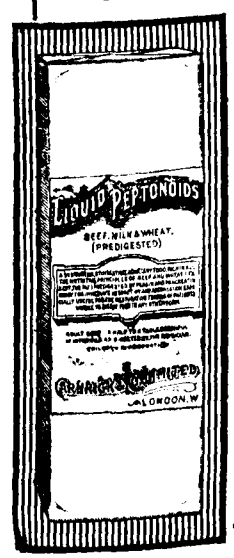

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CARNRICK & Co., Ltd., 183 Acton Vale, LONDON, W. 3, will be pleased to send samples, free of charge to Medical Men.

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The Antiseptic

VOL. XXI No. 10. | OCTOBER, 1924. | ANNUAL SUBSCRIPTION Rs. 5

ORIGINAL ARTICLES.

*MODERN TREATMENT OF ASTHMA

By

SANTOSH KUMAR MUKERJEE, M.B.

Asthma is not a disease but a syndrome in which there is constriction of the lumen of the bronchioles due to different causes. The treatment of a case of asthma, therefore, depends on the underlying cause, which must first of all be found out.

TREATMENT OF THE UNDERLYING CONDITION IN ASTHMA.

1. In cases due to sensitisation to foreign protein:—We know that in urticaria, which is due to sensitiveness to some protein food, there are swellings (wheals) in the skin. Some cases of asthma are also due to protein sensitisation and it is thought that in these cases there is similar swelling of the bronchial mucous membranes, giving rise to difficulty in breathing. So the first thing to be done in a case of asthma is to discover the protein or proteins to which the patient is susceptible and avoid it if possible.

The Irritant protein may be:—*(a)* a food—*e.g.*, cereals (rice, barley, etc.), potatoes, strawberries; cocoa; chocolate; orange, beverages *e. g.*, milk.

(b) dust—*e.g.*, cereal grains, street dust, talcum powder, etc.

(c) pollens (*e.g.*, asthma of hay fever.)

(d) animal emanations from cats, dogs, rabbits, chicken, horse, etc.; from feathers.

(e) bacterial proteins—produced from bacteria which have found a focus of infection in the bronchi, or less frequently in the tonsils, nose,

* Specially contributed to "The Antiseptic".

teeth or intestines. In most cases of constantly recurrent or continuous asthma, there is definite bronchial infection.

Sometimes it is not difficult to find out from history the food which the patient cannot tolerate. If it is not practicable cutaneous test should be done with a series of protein and it will reveal the offending protein. Testing with a single protein is the best method, but it is rather tedious and so a combination of several allied proteins, (*e. g.*, cats, dogs and horse hair into a group with various feathers) is usually used, so that a single test answers for several different proteins. The physician can thus test the patient's susceptibility toward five or six or more of the proteins at once, thus materially economizing his own and patient's time. The protein extracts can be prepared in the form of paste with a glycerin boric acid base.

The skin over the flexor surface of the forearm is cleaned and slightly scarified deep enough to draw serum but not blood. The solution of the protein or a combination of allied proteins is applied over the scarified area by means of a platinum loop or the end of a sterile toothpick. If the protein is a powder and not a paste, a small amount of it is placed upon the scarified area and is rubbed in with a sterile probe and a drop of N/10 sodium hydrate is deposited over it. A separate loop or toothpick should be used for each protein or group of proteins. A reading is made within half an hour and a reaction is considered positive when a distinct urticarial wheal of at least ¼" diameter and surrounded by an area of erythema at least twice that size appears.

(i) *Avoiding the offending protein* :—When the offending protein is found the patient should be advised to avoid it. In cases of sensitiveness to animal hairs, removal of the cat or dog is followed by immediate improvement. When there is sensitiveness to feathers, feather beds, pillows and cushions must be removed from the house and not only from the bed room, and cotton pillows substituted. In cases of horse asthma, horses should be avoided as much as possible during the treatment and, if necessary, the patient should be sent away to the country, as in the towns it is difficult to avoid horse epithelium, sufficient amount of which is floating in air of towns to cause attacks in sensitised persons.

In case of sensitisation to food, it is not so easy to avoid a common food. But when the food is not a common one, such as crabs, etc., or when it is unimportant such as honey or mustard there is no difficulty in avoiding it altogether.

In children sensitive to milk, eggs or wheat, the problem is more difficult. If the child is hypersensitive to only one kind of food, it can be

omitted from the diet, but when two or three of these important foods are involved it would be impossible to give a sufficient diet without them.

(ii) *Specific desensitisation* :—When it is not practicable to remove the offending protien from the patient's food or environment, the next best thing is to make the patient immune to such protein by giving it to him in gradually increasing doses, so that after some time the patient becomes able to tolerate the protein. The offending protein is given orally or better by hypodermic injections beginning with a very small dose to avoid shock and then increasing it gradually.

In case of sensitiveness to animal hairs, the patient is first tested to find out the weakest dilution of it which will give a positive dermal reaction. A solution one-tenth weaker than this is selected and a few minims are injected hypodermically increasing the dose gradually until the strongest dilution is reached.

Desensitisation to food proteins is much less successful and is difficult to carry out. They are usually given by the mouth in pill form, the initial dose being 1/10 gr. In case of children, who are sensitive to cow's milk, goat's milk is usually taken without trouble ; if not, milk proteins fed in gradually increasing doses will immunise the child.

Bronchial asthma due to bacterial origin :—Some cases of asthma are due to sensitisation with bacterial protein, and in such cases the most common seat of injection is the respiratory tract. It should not however be forgotten that an asthma may be caused by focal infection at a distance from the bronchi and a careful examination must be made of the nose and its accessory sinuses, alimentary tract and genito-urinary organs for possible sources of infection.

The treatment of bacterial asthma consists of desensitisation against the offending bacterial protein. As in the case of other proteins, skin tests are used for this purpose and the proteins used for these tests in bacterial asthma are derived from the suspected bacteria from sputum etc. The test is done in the same way.

Another method equally as good in bacterial sensitisation is agglutination test, using the patient's serum and emulsions of a 24 hours' growth of these bacteria.

For the purpose of desensitisation of these patients, vaccines made from the whole bacterial body should be used. When the respiratory group of bacteria is the offender, an autogenous vaccine should be prepared from the sputum collected in a sterile container during an attack, if possible, or from swabs passed through the anterior nares into the nasopharynx or from the nasopharynx directly. The material should be sent to the laboratory

within two hours at most with instruction to isolate the predominating organisms and make a vaccine from it.

To obtain good results from vaccine in asthma it must be remembered that we are dealing with protein hypersensibility, and that in administering this protein, we must keep below the patient's maximum tolerance. The initial dosage must be very small—not more than, say 100 millions of the bacteria, and the increase should be slow and gradual, about 25 millions every 4th day, avoiding any general reaction.

Stock vaccines of the same strain as the organism giving the positive test may also be used where preparation of an autovaccine is not possible.

(iii) *Non-specific protein therapy in undiagnosed cases of asthma*:—In many cases of asthma, the offending protein cannot be discovered in spite of careful examination and skin tests. In such cases non-specific protein therapy has been found to give satisfactory results at least in some patients.

It has been found that many asthmatics react to Witte's peptone developing urticaria or angioneurotic oedema, which shows the close causal relationship of these conditions. According to Auld, its immunising action is directed not against the antigen, but against the antigen-antibody product which is the cause of the anaphylactic shock.

Commercial peptone contains varying proportions of primary and secondary albumoses; while Witte's peptone contains too much primary albumose. Armour's No. 2 peptone solution is a reliable preparation. It is obtained as a 5 per cent. isotonic solution in 1. c. c. and 2 c. c. ampoules. It contains both primary and secondary albumoses and is free from histamine and other toxic substances.

Preparation of peptone solution:—Peptone solution may also be easily prepared by dissolving peptone in normal saline at 56°C. It is carefully neutralized with subnormal caustic soda until the solution is faintly alkaline to litmus. The solution is then sterilised by heating up to 60 °C and 0.5% carbolic acid is added to it as a preservative.

Method of administration:—Armour's No. 2 peptone solution (5 per cent.) is injected intramuscularly twice a week. The initial dose is 0·3 c. c. (5 minims), gradually increased every 4th day by 0·15 c. c. (2½ minims) until 1.3 c. c. (20 minims) is reached at the sixth injection. This dose is continued for six more injections. The aim is to avoid reactions while getting close to the reaction point; that is, the maximum dose for a patient should be one that just fails to give rise to any reaction. The maximum dose is usually 2 to 2·5 c. c.

The temperature should be recorded every four hours after each injection to see whether it is raised and should there be a rise of over 10°F

within 18 hours after injection the subsequent dose should not be increased. Should no improvement be apparent after eight injections the dose is probably small and a test sufficient to produce a mild reaction should be given so as to allow of the dose being adjusted.

It should not be given during a paroxysm of asthma, and should be used with caution as some patients of asthma cannot tolerate it even in small doses.

Some physicians recommend the intravenous injection of 0·5 per cent. solution of Armour's No. 2 peptone. When the injection is given intravenously, it is safer for the patient to be recumbent at the time the injection is given and to remain so for some time after as there may be nausea, abdominal pain, faintness or even collapse.

Intravenous injection of peptone should not be given to children and elderly patients, in whom it is safer to do intramuscular injection of 5% solution of Armour's peptone.

(2) *Reflex Asthma*:—

(i) Psychical stimuli.—

Mental and physical strains *e.g.*, overwork should be avoided. In some patients, the attack may come on only because the patient expects it. In such cases much good may be done by suggestions that the attack will not recur.

(ii) Reflex stimuli may come from.—

(*a*) Nasopharynx—Asthma can certainly arise from obstruction in the nose from polypus etc., particularly with extensive sinus infection.

Most of these cases are relieved though not immediately after operation. Adenoids and diseased tonsils should also be removed.

(*b*) Carious teeth should be extracted.

(*c*) gastrointestinal tracts.

Regular evacuation of the bowels is necessary; and if there is constipation, mild purgation may be produced with small doses of calomel, or 4 drachm doses of liquid paraffin taken one hour before meal.

All indigestible food should be avoided, especially at night, as it is a common cause of asthma. Sweets, meat, greasy soups and alcohol should especially be avoided.

ACCESSORY TREATMENT.

(1) *Climatic treatment*.—Very few cases are cured by a change of residence and there is only momentary benefit. For a time immunity from attacks may be apparent, but finally acclimatisation takes place and the symptoms reappear. A high (about 4,000 feet) dry place free from wind, dust and sudden changes of temperature is the best.

(2) *Treatment of malformation of the thorax (barrel chest)* due to excessive distention which may prevent the expulsion of sufficient amount of tidal air and interfere with oxygenation.

(*a*) To increase nutrition of the muscles of respiration.—The superficial muscles of the chest are massaged, first along the intercostal muscles, then over the large muscles, the deltoids especially, the pressure being exerted along the muscular fibres, toward the arterial trunk.

(*b*) Calisthenic exercise.—The fists are brought up to the shoulders and the elbows are approximated anteriorly as much as possible with each expansion.

(*c*) Respiratory exercises—The respiration is performed more slowly and completely. Breathing exercises (*pranayamam*) are of great value and should be encouraged, unless dyspnoea is caused on exercise because of other factors such as bronchitis and emphysema.

(3) Drug treatment—(*a*) By the mouth—Among the drugs potassium iodide, potassium bromide and liquor arsenicalis have been found useful in preventing an attack of asthma.

Potassium iodide is especially useful in the bacterial than in the sensitive cases. When bronchial lesion is present iodides apparently contribute something to diminishing the frequency of the seizures and minimising their intensity. A course of iodide should be given in such cases beginning with 5 grs. and gradually increasing the dose to 30 grs. thrice daily. To avoid gastric disturbance the patient should take a glass of water after taking the drug when larger doses are given. Fowler's solution 3 minims thrice daily counteracts the unpleasant effects of potassium iodide, and should be given simultaneously.

The following prescription may be used in cases of asthma in the interval between the attacks.

Rx. Pot. Iodide. gr. iii
Liq. arsenicalis m. iii
Tr. Belladonna m. iii
Tr. Lobelia ætheris m. X
Aqua Chloroform ad 3 vi.
M. Ft. Mist. one, Send 8 such.
Sig. One to be taken twice daily.

(*b*) Injection of soamin:—Soamin has been found to be of great value in bronchial asthma. It is given in 1 gr. doses intramuscularly at first twice a week and latter on only once a week. The dose may be gradually increased up to 3 grs. When 40 grs. have been given in this way, the injections should be stopped for four weeks. Contra-indications

to arsenic should however be kept in mind and the drug should not be given to patients suffering from kidney or liver disease, arterio-sclerosis and in old patients.

MEASURES TO GIVE RELIEF TO THE PATIENT DURING AN ATTACK OF ASTHMA.

(1) Hot baths may sometimes stop an attack.

(2) Inhalation of drugs.

(*a*) amyl nitrite

(*b*) Chloroform.

(*c*) fumes made by burning equal parts of potassium nitrate, lobelia, and stramonium leaves and anise fruits.

(*d*) Smoking cigarettes containing stramonium leaves.

But this sort of inhalation of fumes or cigarette smoking, though a popular method of treatment, cannot be recommended, as frequent inhalation of these fumes irritates the bronchi and aggravating any bronchitis which may be present, only predisposes to future attacks.

(3) Sprays:—In cases in which adrenaline fails to check an attack, relief may often be obtained by using a spray of dionin in 2 per cent solution. But the spray should never be prescribed for home use, but should be used by the physician himself or for him by a trusted nurse.

(4) Drugs:—

(*a*) Tr. lobelia ætheris—an expectorant and slightly narcotic.

(*b*) Ext. Grindelia liq—reduces the rate and force of paroxysms It should be given with hot milk.

(*c*) Tr. Belladonna.

(*d*) Tr. Stramonium,

(*e*) Nitrites or nitroglycerin.

The following prescriptions may be used for treating an attack of asthma.

Rx. Pot. Iodide gr. iii.
Pot. Bromide gr. iii.
Liq. Trinitrini m. i.
Tr. Lobelia ætheris m. v.
Ext. Euphorbia prunifolia liq. m. iii.
Syrup Tolu 3 p.
Aqua chloroform ad. oz. i.
M. Ft. mist. one.

* * *

Pot. Iodide gr. iii.
Tr. Euphorbia mx.

Ext. Grindelia liq. m x.
Syr. Acacie 3p.
Spt. Ammon aromat m. xv.
Aqua chloroform ad. oz. i.
M. Ft. mist. one.

* * *

Liq. Trinitrini m. i.
Sol. Adrenaline m x.
(1 in. 1000)
Glycothymolineim xv.
Aqua chloroform ad. oz i.
M. Ft. mist. one.

(5) Injection of adrenaline—Adrenaline is a semi-specific for anaphylaxis, of which asthma is a manifestation. A severe attack of fright may relieve an attack of asthma as the result of stimulation of the sympathetic and of the adrenaline secretion produced by the fright. The suprarenal effect may be produced by injection of adrenaline chloride solution (1 in 1000) at the beginning of an attack. It must be given at the onset of the seizure and not when it has fully developed. The earlier the injection is given after the onset of the spasm, the more likely it is to be effective, although in some cases it does not produce any good result.

An intramuscular injection of 5 to 8 minims of a 1 in 1000 soultion of adrenaline chloride is sufficient to cut short an attack as if by magic. It is often unnecessary to repeat the injection, but in case the effect is not immediate, the injection may be repeated once or twice at 4 to 6 hours intervals.

Adrenaline is sometimes given on the tongue and allowed to be absorbed there, but this means or any other oral administration is seldom effective.

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* SOME THEORETICAL CONSIDERATIONS ON THE MODE OF THERAPEUTIC ACTION OF CERTAIN DRUGS IN PROTOZOAL DISEASE

By

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In considering the effects of the action of these drugs in protozoal disease due consideration must be given to the fact that in protozoal disease immunological reactions are developed tending to cause destruction of these

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parasites and neutralization of their noxious action on the cells and tissues of the host. We have therefore protozoal disease treated with these drugs to consider the effect of the conjoint action of two factors adverse to the parasite, *i.e.*, the toxic action of the drug on the action of the immunological reactions. According to the degree to which the anti-protozoal reactions are naturally developed, protozoal diseases in man and other vertebrates may be divided into three classes. The first class is of such diseases as small-pox, yellow-fever, relapsing fever, etc., in man, in which naturally, without any drug treatment, in many cases, complete spontaneous cure is effected with apparently complete destruction of parasites in the tissues of the host, at least in such cases as do not end fatally through initial severity of the infection and toxaemia and in which sufficient opportunity and time are given for the development and action of the immune reactions. We may suppose that in such diseases there is a strong natural tendency to the intensive production of immune bodies and most favourable conditions for their action against the parasite and its toxins. The third class is of such diseases as Kala-azar, Trypanosomiasis etc., in man in which there is without any drug treatment naturally hardly any tendency to spontaneous cure and which if left to nature practically always end fatally. In this class of disease parasites are present in the tissues of the infected animal till the time of death which is caused by the disease and we may reasonably suppose that in this class there is hardly any effective tendency for the production of immune bodies and hardly any favourable conditions for their action. The second class is intermediate between these two other classes and is of such diseases as malaria in man, in which, naturally, without any drug treatment, perhaps after a period of clinical pathogenicity, the infection though still persitent in the tissues fails to produce the same intensity of toxic effects and becomes clinically apathogenic. We may suppose that in these diseases the immune reactions are naturally developed in time to such degree and act under such favourable conditions as to prevent marked pathogenic effects of the parasite on the host, but are not so intensive and do not act under such conditions as to cause complete destruction of the parasite. What is called latent malaria is an example of such a clinically non-pathogenic infection. In this condition the patient who had once suffered from acute malaria still harbours in his system malarial parasites in small numbers, which parasites go through the normal cycles of development in the tissues but are prevented by the immune reactions from multiplying to such an extent as to produce pathogenic effects. Should however his immunological resistance be lowered by such factors as privation, illness, fatigue, exposure to cold etc., the infection may once again become clinically pathogenic. To be able to understand the reasons why

different protozoal infections produce such different degrees of clinical pathogenicity or immunity, we must consider the pathogenic effects a particular protozoal infection tends to produce naturally in a particular animal and the nature of the opposing immune reactions and the conditions determining their action.

Pathogenic effects in protozoal diseases are produced partly by the direct local effect of the growth of the parasite into the tissues and partly by the action of the toxic substances liberated into the tissues and system of the infected animal and formed as a result of the growth of the parasite and its action on the tissues. The mode of the nutrition of the parasite in the tissues of the host may be of two sorts. One mode is by the external secretion by the parasite of digestive ferments which dissolve the substances of the cells and tissues converting them in soluble diffusible substance easily absorbed and assimilated by the parasite. This method is therefore by the direct destruction and at the expense of cells and tissues and may be called the digestive mode of nutrition. The other method is by the simple absorption of soluble easily diffusible substance as amino acids, glucose salts, etc., which substances are normally present in small amounts in the fluids of cells and tissues, without any external secretion of digestive ferments by the parasite. This mode of nutrition may be called absorptive. The toxic substances formed and liberated into the tissues and general system as a result of protozoal growth in the tissues may be either secretions or excretions by the protazoal parasite, the altered substances of cells and tissues acted upon by the protozoal secretions, and in some cases the unaltered substances of cells whose cell membrane has been destroyed as a result of protozoal action, direct and indirect. In the tissues protozoal parasites may be found either as extra-cellular or intracellular bodies. Some like Entamœba Histolytica or Balanatidium coli are wholly extracellular. Others, like the malaria parasites, have both intracellular and extracellular forms. The intracellular form of such parasite is the form in which the parasite undergoes tropic development increasing in size and number and developing either in sexual reproductive bodies or into gametocytes. The extracellular form of such parasites is found free in the matrix of the blood and tissues and is usually an actively motile body and is in many cases an asexual reproductive form which has become extracellular only to pass from the cell in which it has developed into a fresh cell of the same type in which the parasite continues another cycle of tropic development. The intracellular parasite becomes extracellular by causing rupture or disintegration of the cell membrane, and this rupture causes liberation into the tissues and system of altered and unaltered cell substances and the accumulated secretions and excretions of the parasite according to

the mode of nutrition. The pathogenic effects caused by the protozoal parasite and the toxic substances generated by its agency may be classified as local and remote, direct and indirect. The local effects are those which occur in the cell and tissues which are the seat of protozoal infection; there may be destruction of cells and tissues, inflammation, hyperplasia, fibrosis degeneration etc., etc. The remote effects are those produced by the toxæmia in tissues and cells which are not the seat of infection; they may be pyrexia, degenerative changes in cells caused by the toxins etc. The direct effects and those caused immediately by the parasite and the toxins; and the indirect effects, those secondary to the direct effects. Thus if the parasite secretes a hæmolytic toxin, hæmolysis would be a direct effect, and suppression of urine, an indirect effect. Besides these general pathogenic factors, there may be in some protozoal infections some special pathogenic feature. Thus in malignant malaria the tendency the mature schizonts possess of actively adhering to the capillary endothelium of the internal organs introduces a special pathogenic feature which distinguishes this type of malaria from others. If cancer is a protozoal disease (epitheliomal contagiosa in fowls has been proved so), such a special pathogenic feature would be the apparent power the parasite possesses of inducing hyperplasia of the infected cells. A very important factor tending to determine pathogenicity would be the rate at which the parasites tend naturally to multiply in the tissues of the host. The greater the natural rate of multiplication, the greater would tend to be the sum total of the pathogenic effects a particular protozoal infection would tend to cause in a particular animal. The rate at which dissemination of the infection into the infected system occurs is another factor determining pathogenicity.

The tendency to the production of these pathogenic effects of protozoal infection is counteracted by the development of specific immune reactions whose action is to prevent the parasites and the toxins producing pathogenic effects and by the natural recuperative forces of the body whose action is to repair the damage done by the protozoal infection. The immune reaction may be classified as antiprotozoal and antitoxic according as they act against the parasite or against the toxins. The antiprotozoal reactions may here be considered as three only, *i.e.*, agglutination, cytolysis, and phagocytic ingestion and digestion. (The immune reactions of tissue inflammation will not be considered here. This will be done when the action of Iodides are considered.) Agglutination is a reaction caused by a specific immune body called agglutinin which may be present in the fluid of cells or tissue and which acting together with complement cause inhibition of active movements of the parasite and aggregration into groups. Loss of motility and aggregration resulting from agglutination facilitates the reactions of cytolysis

and phagocytic ingestion and digestion. These two reactions cause disintegration of the parasitic cell and death of the protozoal. They may therefore be called protozoicidal reactions. Cytolysis is dependent upon the presence of a specific antibody called cytolysin in the fluids of cells and tissues which acting in presence of complement causes solution of the protozoal cell wall and membrane. As the physical integrity of the protozoal cell is dependent on the presence of its cell-membrane, the result of this reaction is to cause total physical disintegration of the protozoal cell. Phagocytic ingestion and digestion are two distinct processes which need not necessarily follow one another. The first is apparently a phenomenon of a chemiotactic nature due to the presence of a specific immune body called opsonin which causes the phagocyte to approach and engulf mechanically the parasite. The second process, phagocytic digestion, is apparently the result of an intracellular cytolysis which causes disintegration of the ingested parasite. These two processes need not follow one another. In kala-azar ingested parasites may be seen in the phagocytes, but so far from being digested by the phagocyte, the parasite seems to be developing at the expense of the phagocyte. The phagocytic cells in the human system are large mononuclear and polymorphonuclear leucocytes, endothelial cells in the spleen and liver and elsewhere and various connective tissue corpuscles. The effective action of these anti-protozoal reactions is conditioned largely by the position of the parasite with relation to the cells, by the presence or absence of the immune substances in the fluids of the cells and tissues. If the parasite is intracellular so long as the cell membrane of the infected cell is undamaged, the phagocytes cannot attack the intracellular parasite. If however an intracellular agglutinin or cytolysin is present in the fluid of the infected cell together with complement, the parasite may be acted upon by these corresponding reactions. If the infected cell membrane is damaged the phagocytes may attack first the cell and then the parasite. When the parasite is extracellularly free in the blood or matrix of tissues, if a specific opsonin is present in these situations, the phagocytes can ingest the parasite and digest it, if a specific phagocytic cytolysin has been developed. The extracellular parasite may also be acted upon by an extracellular agglutination and cytolysis, if these corresponding immune bodies have been developed and are present extracellularly in the infected tissue with complement. The longer the parasite remains extracellular, the better would be the opportunity for the action of these three extracellular antiprotozoal immune reactions. Digestive ferments secreted externally by the parasite may have a similar destructive action on these immune bodies, complement and the phagocytes, as they have on the substances of the cells and tissues they infect and may thus create conditions unfavourable for

the effective action of these immune bodies. Some parasites become encysted in cells and tissues. The cyst wall may prevent cytolysis and phagocytic destruction. Intensive non-phagocytic round-cell infiltration will also prevent phagocytosis.

The pathogenic effects of the toxins of protozoal infection are prevented by the development of antitoxic amboceptors. Acting in conjunction with complement these antibodies probably cause precipitation and chemical disintegration of these toxins, in this way protecting the cells and tissues from their noxious action. (Antigen and antibody, whether bacterial cell and specific bacteriolysm, or toxin and antitoxin, first form an absorption compound, but to complete the immune reaction complement is perhaps necessary in both cases.) When the cell-membrane of the protozoal parasite is destroyed, the protozoal intracellular substances are liberated and may cause toxic effects. The toxic action of these endotoxins is also prevented by the development of specific antitoxic immune bodies, which however probably cannot act on the intracellular protozoal substances so long as the protozoal cell membrane is intact, as this intact cell membrane would physiologically prevent diffusion of antibody and complement into the cell. The antitoxic immune reactions in protozoal disease counteract the noxious effects therefore either of the protozoal endotoxins, toxic secretion and excretions and the toxic altered and unaltered substances of disintegrated cells and tissues. The intensity of the development of these antitoxic reaction plays a great part in determining the pathogenicity of a protozoal infection. Some vertebrates can harbour heavy infections of a protozoal parasite without showing any ill-effects, (for example trypanosomiasis leroisi in rats). Non-pathogenicity of such infections is probably due to effective neutralization of the toxins. When this fails, the infection becomes pathogenic. (In the preceding pages it has been assumed that the toxins of protozoal infection are all antigenic in nature. Some of the toxins may be non-antigenic in nature. The vertebrate system however is capable of acquiring a certain degree of tolerance to such toxic substances also.)

The natural recuperative and reparative powers of the system of the infected host tends to repair the damage done by the parasites and the toxins. This reparative process is conditioned largely by the nature of the tissue damaged and the extent of the damage. Some cells, for instance nerve cells, once damaged totally, can never be replaced; other cells can easily be replaced by increased production of new cells. The extent to which the cell is damaged also determines whether recuperation can take place or not. If the nuclear substances and structures are so damaged as to be quiet

altered, repair of the cell cannot take place. If the nucleus is intact repair of the cell can usually take place easily.

The natural pathogenicity of a particular protozoal infection in a particular animal is then determined by the counteraction of two opposing sets of forces, on one hand by the natural tendency to protozoal infection to cause pathogenic effects and the nature of these pathogenic effects local and remote, direct and indirect, on the other hand by the action of the immunological reactions which tend to prevent those pathogenic effects by causing destruction of the parasites and neutralization of toxins (the action of these reactions being conditioned by the intensity of their development and the biological conditions of the parasite in the tissues) and by the reparative powers of the body which tend to repair the damage done by the infection. In the treatment of protozoal diseases by these drugs we have to consider the combined effect and interaction of two forces adverse to the infection, the action of the immune reactions developed naturally in these diseases and the toxic action of these drugs on the parasite. Both classes of these drugs, cell narcotics or cell degenerants, acting by either inhibiting or altering the processes of cellular synthesis, would tend to diminish the rate of growth and multiplication of the parasite and of the production of toxic secretions and excretions and would thus consequently diminish the intensity of the pathogenic effects caused by the parasite and its toxins. If the mode of parasitic nutrition is digestive, inhibition by the action of these drugs of the external secretion of digestive ferments from the parasitic cell would mean lessened destruction of complement, antiprotozoal immune ambo-ceptors and the phagocytes present in the vicinity of the parasite and therefore better conditions for the action of these immune reactions against the parasite. Inhibition of the active movements of the parasite effected either by cell-narcosis or cell degeneration would allow better opportunities for the reactions of agglutination, phagocytic ingestion and of cytolysis. In these ways the action of these drugs on the parasite would greatly facilitate the action of these antiprotozoal reactions against the parasite and ensure greater destruction of the infecting organisms.

GLOSSITIS, CHRONIC STREPTOCOCCAL

(PERSISTENTLY PAINFUL TONGUE)

By

HERBERT FRENCH, M.D., F.R.C.P.

Various conditions may cause painful tongue; it is not the purpose of the present article to discuss transient states such as the effects of injury by biting or scalding, abrasions by a jagged tooth or ill-fitting toothplate,

ranula, peptic ulceration, gross presistent lesions such as epithelioma, tuberculous ulceration, or syphilitic affections; but rather to draw fresh attention to a state of affairs in which the patient complains of acute distress from recurrent or persistent pain in the tongue, baffling the physician in his efforts to afford relief, yet associated with no definite ulceration and sometimes with so little visual evidence of any lesion at all that a diagnosis of 'neuralgia of the tongue', has been made in many of the cases.

The condition is doubtless allied to, or even indentical with, that which Sir William Hunter describes in pernicious anæmia; but it would be wrong to suppose that the co-existence of pernicious anæmia is essential. The condition is not uncommon when the patient's blood-state is normal, and pernicious anæmia does not necessarily ensue even when the patient has been watched for years. Moreover, although pernicious anæmia cases may acknowledge that the tongue has sometimes been sore, if they are questioned closely, they seldom volunteer the statement that soreness of or pain in the tongue has been a real trouble to them. The kind of patient of whom one is writing consults one about the tongue, and about the tongue alone.

To begin with, all they have noticed has been a little discomfort, generally about the tip, or along the sides near the tip; attributed perhaps to having sipped some tea or drunk some soup that was unduly hot; but the soreness has not subsided—rather has it spread to a larger area of the dorsum and sides, until the whole tongue may be sore. In a bad case the patient may find it difficult to eat on account of generalized tongue-pain; and some things cannot be taken at all because of the increased pain they give—vinegar, salt, sauces, spiced and hot things. Taste becomes abnormal, relish for food goes; in severe cases there may be acute dread of having to eat at all. The pain, discomfort, and nasty taste in the mouth, are present all the time; life becomes a misery; doctor after doctor is consulted in an endeavour to achieve a cure; none can see much wrong with the tongue; the patient does not get the sympathy deserved; neurosis becomes the label; and the sufferer may give up all doctoring as hopeless, bearing acute misery with what fortitude he or she may.

These cases are not neuroses, but are examples of persistent superficial glossitis, from which *streptococcus pyogenes* is recoverable in nearly every instance. One cannot emphasize too strongly the organic nature of the trouble; it is unjust to speak of neuralgia and neurosis simply because one sees so little the matter. One may illustrate the severity of the condition by narrating the history of a case in which the suffering led to suicide in desperation. The patient was a perfectly sensible lady, the mother of a

with a clean handkerchief; then to take a mouthful of **Chlorine Water**, diluted just sufficiently for it to be bearable, rinsing the tongue round and round in this for ten minutes before the antiseptic is expelled; this process being repeated night and morning and also after each meal. Dr. Curtis Webb, of Cheltenham, claims success from local **Ionization** of the tongue with a zinc salt, a special applicator being made to fit the tongue accurately. My own experience is that cure is extremely difficult to attain when once the condition has reached the stage at which I see it, although I do feel that the use of **Antistreptococcal Serum** locally in the mouth and a long course of **Autogenous Streptococcal Vaccine Therapy** has been helpful sometimes. The main thing is to be familiar with the condition, to diagnose it early, and to recognize that it is really an organic malady and not a neurosis nor a neuralgia glossæ.

MY VISIT TO THE BRITISH EMPIRE EXHIBITION

By

K. M. HIRANANDANI, L.C.P.S., L.M.R.D., DUBLIN.

Just as thousands of people from all over the world are visiting London at this time of the season with the main object of seeing this great Exhibition, so I also thought it worth while paying a visit to it to fill up my brain with knowledge of world wide industries and scientific advancements, never knowing when I will be in Europe again.

The Wembley Exhibition like the British Empire itself is almost too big to be grasped without an actual visit. However the following few facts will help the reader to visualise some of its main features. The Exhibition is opened to the public from 10 A.M. to 11 P.M. on week days.

The Wembley Park lies six miles north of London and is connected with all the main railway lines running in and out of the metropolis, and could be reached in an average time of about 20 minutes from 126 stations in Central London. The tube railways, trams and busses also provide a never ceasing stream of transport for visitors to the Exhibition grounds. The area enclosed is said to be roughly about 216 acres and within this space, the industries, art, science, and mode of life of 460,000,000 people who inhabit the various portions of the British Empire are represented. The grounds are laid out with all the skill known to the modern landscape artist. It is said that never before has an Exhibition on such an elaborate scale been held at a cost exceeding over £10,000,000.

The buildings within the grounds for the purpose of description may be divided into two classes, namely temporary and permanent. The permanent structures comprise of Empire Stadium, Palaces of Engineering and Industry, and the British Government Buildings. The Burmese, Indian, Canadian,

Newfoundland, African, etc. may be taken down, under this category as though they look all very strong, but of these I am neither a good judge nor an architect. Each section of the Exhibition has its own restaurant and is said to have special varieties of food suited to the particular country. One could lunch in India, have tea in Canada, dine in New Zealand and sleep in London, and be back to work next day. (My lunch at India was rather disappointing because all "*uphratas*" were finished, there was such a rush). The Empire Stadium is by far the largest building, facing the entrance providing standing and seating accommodation for about 1,25,000 people. The Boy Scouts are holding a great Jambree, 10,000 scouts from all parts, and on the 1st of August there was a great and grand parade, H.R.H. the Prince of Wales with chief scouts being among them. In most of the main pavilions there is a motion picture theatre where films of great interest of particular country whose pavilion it holds, are shown continuously free of charge to the visitors. The Post Office has an exhibit illustrating the most up-to-date methods in the organisation of postal service as well as the most recent developments in telegraphy, telephony and wireless communications. Various other departments such as agriculture, mines, geology, ordinance and survey etc. are well represented. The two buildings which house the Industrial and Engineering exhibits are probably the largest that have been constructed in ferro-concrete. They cover together a million square feet of floor space and it has been made a striking example of what can be achieved with this type of building material. The Palace of Engineering, which is the larger of the two, is about 300 yards wide. The section devoted to shipbuilding and general engineering forms the finest display and is organised by the British Engineering Association. The Electrical Engineering Section contains a power station which provides electricity for running all the machinery in the various sections of the exhibition, and for lighting the entire exhibition at night, and is represented by the British Electrical and allied associations. Motor, Land, and Sea Transport Sections are also well represented. In the Palace of Engineering the largest exhibition is that given by the Chemical Industry which occupies an area of about 37,500 square feet. The central feature of this display is an exhibit of research in pure Chemistry. Cotton Textiles occupy about 32,157 square feet and has been organised by the Lancashire Association. Cotton plants in every stage of development may be seen in the Sudan Court of East African Pavilion.

The medical and scientific researches are well illustrated and an important exhibit is that relating to tropical health and hygiene. The medical organisation of the exhibition is so arranged as to render early assistance to all cases requiring first aid treatment, and should medical attention be considered necessary, their rapid conveyance by ambulance car to the

main ambulance station is provided, where a medical officer is on duty day and night. First aid cabinets are placed in the exhibition grounds and its important centres. The cabinets are in telephonic communication with each other and with the four ambulance stations, and are staffed by the members of the St. John's Ambulance Brigade and British Red Cross Society. The Council of the Willesden General Hospital has placed thirty beds at the disposal of the medical service of the exhibition. Even arrangements to take radiograms by portable apparatus are provided.

Indians and people of other eastern dependencies are employed in the exhibition, and their sick requiring hospital treatment are sent to the Seamen's Hospital, by motor ambulance. All infectious cases are sent by special motor ambulance car to the local infectious hospital at Acton. Parents visiting the exhibition with infants in arms or children of tender age find provision for their care at the day, nursery having been established in the exhibition grounds. It is organised by the Central Council for Infant and Child Welfare and is conducted under the auspices of the British Red Cross Society. Sanitary inspections of the exhibition buildings restaurants, amusement parks and grounds generally form part of the daily routine of the medical authorities. The medical staff of the exhibition consists of a Director, and four medical officers (one lady Doctor), one of whom is the M.O.H. for Wembley. There are two dispensers, and three ex R.A.M.C. men act as orderlies. The St. John Ambulance Brigade and the British Red Cross Society have provided all the first aid personnel, about 100 men being on duty daily, and also ward equipment, surgical dressings, drugs, etc. The visitors ought to feel grateful to these societies, and congratulate the exhibition authorities for such perfect arrangements.

Having wriggled through the turnstile, I made my way to the Amusement Park to have some fun and recreation, being tired of seeing too much. The amusement park was jolly fine. Having been hurled along various scenic railways, hauled up and shot down the hill of Jack and Jill I wound up the journey with a thrilling experience which I shall not forget. It seemed to me the best cure in the world for a sluggish liver and a seedy mood. I thought I should be needing *aspirin* for my head. Songsters, Buffoons and Beauties of all descriptions could be seen. It seemed to me a charming fete and need pages for description. Besides this one could go down a real coal mine, enjoy the thrills of flying, without any danger—in fact the best fun in the world at the cheapest price. There is a Fellowship of the Empire for which only British subjects are eligible for membership. The cost of the membership is two guineas, and for this the holder receives Certificate of Membership signed by the Prince of Wales, the Badge of Fellowship and free pass for the whole period of the Exhibition (Particular year) and if he is unable to visit, he can nominate a friend, or as an alternative

he could have twenty five single tickets of admission for distribution. I think the Exhibition might last for some years.

A special women's section has been organised for the reception of visitors from the Dominions and Colonies. On its various Committees the first ladies of the land are co-operating with delegates of the chief organisations, concerned with the reception of oversea visitors. Thus the Fellowship brings them into close touch with their kith and kin.

In conclusion, I must say that there is too much to be described, and *not too little to be seen*. Every facility that could be thought of, or desired, from "Brush up to Boot polish has been made", which shows how perfect the whole organisation is. The "B.E.E." with all its sights and sensations is a place where people are apt to lose their way, and a good many of them apparently lose their heads also, not knowing where they are, but still they stick like a "Bee" till the last moment of closing. One could learn more about the different parts of the Empire by spending a day than from reading many books or a year of hard study with best teachers and maps.

But I must admit that a day is too tiring and in order to see it well one must spend some days if not weeks.

CASES AND COMMENTS.

A NUMBER OF PRACTICAL SUGGESTIONS OR THERAPEUTIC NOTES.

By

RAI BAHADUR THAKUR RAM DHARI SINHA, MEDICAL PRACTITIONER, &c. &c., MOTIHARI P. O. (CHAMPARAN.)

(Continued from September isssue.)

41. Hydrastis canadensis is useful in passive hemorrhages, associated with polypi, fibroid tumours, and gastric ulcers, as well as in mild cases of hematuria and epistaxis.

42. A pint of cold water, the first thing in the morning, acts as laxative by adding moisture to the faeces, which it does by being alternately absorbed and eliminated again as it passes down the intestinal canal, stimulating the glands.

43. Caulophyllum (blue cohosh) is a moderate stimulating and relaxing nervine, also possessing antispasmodic, tonic, alterative, diuretic, emmenagogue, parturifacient and anthelmentic properties. Has been used in chronic rheumatism, dropsy, sore throat, cramps, hiccough, epilepsy,

dysmenorrhœa, amenorrhœa, colic and in uterine ills generally with good results.

44. Nuclein, exhibited in ten or fifteen drops doses every three or four hours, will cause the complete disappearance of albumin from the urine even in acute nephritic conditions. The article must be potent and reliable.

45. A glassful of pure cold water, taken half an hour before the principal meals, acts as a real stomachic tonic and appetiser, soothing that morbid craving which impels to excess in eating.

46. Where from any cause there is temporary salivation without actual disease of the salivary glands, Belladonna (or atropina) in small doses, frequently repeated, will be found a most useful remedy, quickly controlling the condition in most cases.

47. In the application of iodine to the skin for any purpose, irritation will be prevented and the stain removed by the external use of a solution of the hyposulphite of sodium on a piece of cheese cloth or gauze.

48. When a patient is suffering from a result of severe muscular strain, or from contusions, or sprains or lacerations, give dram doses of a mixture consisting of 15 minims of tincture of arnica and 4 ounces of camphor water every two hours.

49. For a sensation of heat and burning with pain in the urinary bladder, attended with scanty and frequent micturition, 15 drops of a good tincture of apis mellifica in 4 ounces of cinnamon water, given in dram doses every hour or two, is very useful.

50. As decay of teeth is, for the most part, due to the action of acid secretions in the mouth, so washing of the mouth with an alkaline solution—such as milk of magnesia, chalk etc.—will be very efficacious.

THE TREATMENT OF ACUTE RHEUMATIC FEVER AND ITS SEQUELAE BY INTRAVENOUS INJECTION OF SODIUM SALICYLATE.

By

D. M. Vasavada, Assistant Surgeon, Bhaner.

The treatment of acute Rheumatic Fever and its sequelæ can be summed up in one word "Salicylates". Every physician has his own method of administering this drug in a pleasant form and yet in sufficiently large quantities to be of use. Every one of us too has experienced how difficult it is to achieve this end as large doses upset the stomach and small quantities do not produce the desired effect. The number of synthetic compounds of this drug bears testimony to this failure. The science is however progressing. The stomach which until recently had been the sole gate-way of medicines has given place to the hypodermic method in a good number of cases. This route too is now being superseded by the still more direct method of introducing drugs by the venous channel. It appears not very generally known that Sodium Salicylate can be given intravenously as well with still better and quicker results. It was over a year back that following the suggestions of the American Physicians I tried this method in hospital practice and was astonished to find the rapid effects produced. Patients who had been dosed with large quantities of Salicylates with but poor response fared much better by this method of introduction of the drug. The temperature was soon reduced, the pains relieved and complications were easily controlled. So satisfactory were the results that I have now a days nearly given up the oral route and am using only the venous channel for this drug. Months of experience has confirmed me in my estimation of the real value of this method and have now become perfect adherent to it. My routine in acute cases is to give one injection of 15 grs. in 10 c.c. once a day for about 5 or 6 days consecutively and then on alternate days watching the amelioration of the condition of the patient. The oral method is reserved for pleasanter drinks. The injections are harmless and no untoward results have followed its frequent use. The drug may be reduced with the saturation of the system. The complications are fewer and the patient feels grateful from the very day the treatment starts. Encouraged by these results I have given this method extensive trial in old rheumatic cases as well, but in such cases I have added Sodium Iodide for its resolvent action and I am pleased to state that the results have been much better than expected. Iodide introduced in this way is much more effective and is well tolerated. Iodism is rare. I add 15 grs. of sodium Iodide to 10 c. c. of Sodium Salicylate solution. I confidently recommend this method to my brethren as well worth a trial and I am sure they will not be disappointed in their expectations. When I first used this method I simply boiled the requisite quantity, *i.e.*, 15 grs. of Sodium Salicylate (physiologically pure) to 10 c. c. of double distilled water, with 15 grs. of Sodium Iodide when necessary and used it direct from the test tube or flask. It answered fairly well, but to ease my conscience as to the ascepticity of all the drugs for intravenous use I am of late keeping ampoules of 10 c. c. well sterilised in an autoclave ready for immediate use.

SOME ASPECTS OF TONSELOTOMY

By

Dr. Amarnath Yajnika, M. C. P. S., Jaipur.

Whatever view may be taken as to the uses of the tonsils, it cannot be supposed that Nature gave them to us by haphazard. She placed them in our throats for a definite purpose. And it is for us to be able to give good reasons for taking them out whenever we hold such an intention. This is merely by the way and hints at the possibility that our energies may not always be wisely exercised.

To remove the tonsil is, in most cases, an easy operation. I suppose this is why the operation is so often badly done. The frequency of its performance, and the numerousness of the performers no doubt are accountable for the great number of incidental accidents attaching to the operation.

Of more profit is it to consider errors of a specific character. Perhaps the commonest of these is to remove too little of the tonsillar tissue, to shave off the projecting portion alone with the consequences that crypts remain to earn future trouble by offering refuge to septic materials and the subsequent operation becomes almost difficult. It is not rare after tonsillectomy to find that a shaving has been taken also from the tongue and faeces.

Hæmorrhage, after the operation, seldom gives trouble; however, it sometimes continues in spite of ordinary hæmostatic measures. Sometimes there are even instances where int-carotid artery was wounded with fatal results.

Operations are often performed upon at the age when the teeth of the first dentition are apt to be loose and easily knocked out and care should be taken to avoid doing this with gag.

Sometimes the boy gets suffocated during or after operation and breathing becomes difficult. The face gets cynosed owing to blood having been drawn into the lungs due to deep anesthesia which abolishes the reflexes.

Broncho-pneumonia and bronchitis are the aftermaths. Retropharyngeal abscess occasionally happens as a sequelae. Patients who have quinsy are bad subjects for the operation.

Like other glands, tonsils have two secretions *viz.*, internal and external, therefore it is safe to preserve at least one for the nature's guide. It is often observed that their absence tells very badly upon mentality. Often cases are seen who have had asthma after operation.

SOME THEORIES ABOUT THE PRODUCTION OF BOYS, GIRLS AND HERMAPHRODITES

By

Dr. Manayath Anandan, Medical Officer, Perundural.

The essential feature of the process of fertilization is the union of the male and female elements. Sex is fixed as soon as impregnation takes place. One of the theories which at one time claimed wide acceptance is that the secretion of right testicle plus the secretion of the right ovary (in a female) produced boys, and that the organs of the left side produced female sex. This theory was disproved as man having one testicle gave rise to the birth of either sexed children.

Another theory is that only spermatozoa (in the male) had to do with sex formation. The right sided spermatozoa produced boys and the left girls, and that the ovum (in female) had no power to influence determination of sex.

The latest theory is that the sex of the foetus is not due to the male parent, but depends on which ovary (in females) supplied the ovum which was fertilised, and so became that foetus. A male foetus is due to the fertilization of an ovum that came from the right ovary and a female foetus is due to the fertilization of an ovum that came from the left ovary. The female has in her two ovaries the already definitely sexed ova ready for the fertilising action of the male semen, and so it is said that the man fertilises the ripened ovum but does not cause its sex.

Hermaphrodites are persons in whom the external genitals are so imperfectly developed and deformed that it may be difficult to say to which sex they belong to.

There is a common belief among the cow keepers and milk men of Bengal that the moon exercises powerful influence in determining the sex of calves. As the result of long experience extending over several generations, they have come to the conclusion that a cow mated in the "Dark fortnight" (by which is meant the fortnight that commences just after the expiry of the full moon) yields a bull-calf, and that a cow mated in the "Bright fortnight" (by which is meant the fortnight that commences just after the expiry of the new-moon) produces cow-calf (heifer). A cow in a state of rut is therefore not generally permitted insemination as far as possible until the "Dark fortnight" expires. It must be admitted that the natural law regulating the determination of sex is applicable equally to both human beings and animals. The deformity in the hermophrodite is therefore said to be due to its birth in the womb at the juncture of the "Bright and Dark Fortnights" and the embryo partakes of the form and characteristics of both male and female children in proportion to the influence of the phase of

the moon at the time. The external and internal organs are more or less affected and modified.

URETHRAL CALCULUS

By

A. BAYLEY DE'CASTRO, M. O., HADDO HOSPITAL, PORT BLAIR.

In the Antiseptic for July Dr. Bana gives us a very interesting little account about an impacted stone in the urethra, and as I have recently had a somewhat similar case, I take this opportunity to record the same.

No history of an attack of renal colic, or even the passing of gravel could be elicited from the patient, while, on the other hand, the calculus seems to have been growing larger for the past two years.

A Burman convict was admitted to the Haddo Hospital on the forenoon of the 30th June, for the sudden retention of urine, fulness of the bladder, and discomfort in the hypogastrium. He was about 38 years of age. He gave a history of an acute attack of gonorrhœa about two years ago, and subsequent occasional gleet-like discharge. Denies any previous attacks of pain in the bladder, either before or after micturation, of hæmaturia, or having passed gravel.

On examination a small hard lump was felt in the urethra about one and-a-half inches from the meatus. The bladder was distended, and a sound passed into the urethra was obstructed after gliding in for about an inch, this was due to an impermeable stricture, and hence the impossibility to sound the calculus or to extract it per urethrum.

An incision about 3/4 of an inch was made over the hard lump in the middle line and the stone was extracted. This portion of the urethra was found to be very fibrous. A sound was then passed from the meatus and the stricture was forcibly dilated. A silver catheter was then passed into the bladder and retained there.

The stone was pyramidal in shape, weighed 15 grains and was an oxalate. There is nothing further to record except that the convalescence was very prolonged, but this I attribute to the run down condition of the patient.

AN INTERESTING CASE OF TRAUMATIC EMPYEMA WITH 3½ PINTS OF PUS IN THE LEFT PLUERAL CAVITY.

By

G. GANGAYACHARI, L.M.P., SUB-ASSTT. SURGEON, GOVERNMENT DISPENSARY, GAZILBADI, GANJAM AGENCY.

On the morning of the 23rd March '24 at about 7 A. M., I was called by a Khond school boy to see a relative of his, who was said to have come from the interior Agency parts for treatment here and who had been gasping for breath ever since his arrival here. I immediately ran to the spot and, to my surprise, I saw the patient in a high state of dyspnœa, complaining of pain in the region of the heart with quick thready pulse. The patient was in his last moments of life. I at once injected Strychnine Hydrochloride gr. 1/60 and Digitalin gr. 1/100 subcutaneously by which the pulse tension improved considerably. I then directed the relatives of the patient to bring him over the cot on which he was lying which formed a convenient stretcher to the dispensary at once. On his arrival at the dispensary, the following particulars were elicited.

Name.—D. F. Poora. Age 38 years. Sex.—Male. Caste.—Khond. Residence.—Keruvadi in Balliguda Taluk.—Occupation. Kharzi (V. M.) of Keruvadi Village.

History.—The patient complained that he had a quarrel with some of his relatives on some private affairs and that they had all joined and beat him on his chest and back about a couple of months back. The patient at the time only observed some pain in the chest and back which lasted for a week and subsided. Afterwards he never felt anything and was attending to his usual duties. A month after, he felt some heaviness in the left side of his chest, some difficulty in breathing and a little catching pain on coughing, all of which gradually increased resulting in a swelling of a diffusive nature appearing on his left back near the shoulder-blade. No history of specific fevers or T. P.

On Physical Examination.—I found a diffusive swelling with a point in the centre, springing as it were, from between the 4th" and 5th" intercostal space on the left back. The respiratory movements on the left side of the chest were limited. No vocal fremitus could be felt on palpating the side and it was moreover hot to touch. Together with these, a dull note on percussion with absence of breath-sounds on auscultation, excited my doubt as to the existence of pus or other fluid matter in the plueral cavity. *In front*, the heart seemed to have been dislocated, with rapid beating and thready pulse. Temperature was subnormal. Patient was having high grade dyspnoea.

With the above state of things before me I immediately took to the boldness of cutting through the above swelling which nature had shown and, to my great surprise, thick creamy yellow pus ejected through the incision in a flowing stream. The pus evacuated measured 3½ pints. The incision was then enlarged between the intercostal spaces and long strips of gauze were introduced and dressed. No sooner was the pus evacuated the patient felt great relief and his pulse tension improved. All along the patient was kept on stimulant mixture repeated every ½ an hour. No anaesthesia was used during the operation. The dressings were changed three times that day fully soiled with the discharge subsequently twice a day. Special attention was paid to the *firm* packing of gauze through the incision for fear of the pus being pent up in the lung cavity in the event of the early closure of the wound by healing. The patient remained in the dispensary for 25 days and made an uneventful recovery. I had again seen the patient last month in his full vigour and strength.

My object in bringing this to the notice of my professional brothers is, that in a case of empyema, the fluid (let it be pussy or serous) can be drained out by mere incision and drainage without the necessity for resection of a rib, which latter method is impracticable in outlying dispensaries like this, where assistance and the means for the adoption of such operative procedure are scarce. This case treated in the above way proved a success in spite of the enormous amount of pus present in the lung cavity. But the one thing that was kept in view during the whole course of treatment was, that the wound was not allowed to be closed before all the pus was completely drained out, a point though apparently negligible but all the same an essential one tending towards the complete drainage of pus. This was accomplished here by "*firm packing*" of gauze daily so that the incised wound may be delayed in its healing. This point has therefore to be specially paid attention to where simple incision without recourse to the resection of a rib is chosen as the operative proceedure in cases of Empyema.

PRECAUTIONS NECESSARY FOR WORKERS IN X-RAY AND RADIUM DEPARTMENTS

BY

DR. K. M. HIRANANDANI, HOUSE SURGEON, (HON.), CITY OF DUBLIN SKIN AND CANCER HOSPITAL, HUME STREET.

1. All workers should get as much fresh air as possible after finishing the day's work.

2. The X-Ray Tube should be very well surrounded with protective material, equivalent to not less than 2 m. m. of lead.

3. The fluorescent Screen should be fitted with lead-glass equivalent to not less than 2 m. m. of Lead.

4. A protective screen (not less than 2 m. m. of Lead) should be employed between the operator and the X-Ray box; height, 7 feet; width, 3½ feet.

5. The protective value of the gloves should not be less than ½ m. m. of lead; Lead glasses and light lead aprons may be necessary at times, and are of great protective advantage.

6. All manipulations during Screen-examination should be reduced to a minimum.

7. For cleaning Radium Tubes and needles, special forceps are devised (vide "American Journal of Roentogenology," Dec., 1923).

8. Screen-work should be finished as quickly as possible.

9. In case of deep X Ray Therapy, the protective material should not be less than 3 m. m. of Lead.

ELECTRICAL.

10. The floors should have a covering of Wood, Rubber or Cork.

11. Overhead conductors should not be less than 9 feet from the floor-level.

12. The connecting-leads from the overhead-conductors to the X-Ray tube should be brought down in positions as remote as possible from the operator and patient,

13. The **Insulation** should be perfect, sound and substantial.

14. Low hanging wires should be avoided.

15. All metal parts of the apparatus and room should be efficiently earthed.

16. All main and supply switches should be very **accessible** and **distinctly indicated**; it should not be possible to close them accidentally.

17. Double-pole switches should be used in preference to single-pole ones.

18. Fuses no heavier than necessary for the purpose in hand should be used, together with quick-acting, double-pole, circuit-breakers.

19. The spark-gap scales should be in a position easily accessible to the operator.

VENTILATION.

20. **X-Ray Departments should not be below the ground level.**

21. In general, ceilings should not be less than 11 feet in height.

22. The X-Ray Rooms should be kept dry, clean, and polished, and damp avoided.

23. The ventilation of all the rooms should be adequate,—thus preventing accumulation of gases like **Ozone**, etc.,—and plenty of fresh air and sunshine accessible.

24. Radium in any form should be manipulated **with forceps** and **never with hands**, and should be always carried in boxes lined with 1 c. m. of lead.

25. All manipulations with Radium should be carried out as quickly as possible, avoiding at the same time unnecessary presence in the vicinity of Radium.

26. The Radium, when not in use, should be carefully stored under lock and key in a box which should be lined with lead of 8 c.m. thickness.

27. Rubber gloves should be worn in the handling of emanation and the escape of emanation should be guarded against, the room where such emanation is prepared being provided with an exhaust electric fan.

23. All persons working in X-Ray and Radium Departments should, from time to time, look to their general condition **by taking their weight** and, in cases of doubt, have their blood examined and bodily condition attended to.

29. Regular inspection of protective materials, appliances, installations, etc., of X-Ray and Radium Departments should be rigidly adhered to.

30. In fact, there should be a controlling committee to see to the **standardisation** of various necessaries of this branch, so as to ensure the safety both of workers and patients.

SODIUM CACODYLATE

By

ZAHEBR NAQUIRE, L.M.P. FYZABAD.

Syn. Sodii Cacodylas, Sodium Dimethylarsenate. This preparation is the Sodium Salt of the Cacodylic Acid.

Character:—It is a white crystalline powder, alkaline in reaction and with a salty-sweetish-soapy metallic taste, highly deliquescent absorbing moisture from the air when exposed to it and getting liquid. Its solubility is 2 in 1 of water.

Dose:— ·02 to ·15 grm. or 1/3 to 2 grains by mouth, and
·05 to ·15 grm. or ¾ to 2 grains
Subcutaneously or intramuscularly.

Preparation for injection:—
Gram 6·40 Sodium Cacodylate 3 Ss.
Guttæ 10 Alcohol carbolised 1 per cent m iii
Grm 100 Distilled water (Sterile) ad Oz. i

Strength:— ·05 of acid Cacodylic in. 1 grm.

Dose.—1 to 3 c.c. subcutaneously or intramuscularly.

Method of Injection:—Two injections must be given consecutively and then rest for a week, and again repeated in the like manner.

Action and Therapeutics:—It is nonpoisonous and can safely be given over prolonged periods and in comparatively big doses without producing any ill effects.

It appears to bring about congestion of lungs ? uterus and kidneys with a fall of urinary secretion, hence should be given cautiously in pulmonary congestions like pneumonia, in menstruating females and in nephritis. It appears in the urine unaltered.

It is a very powerful excitant of nutrition and assimilation and sharpens appetite and therefore is very beneficial in the 1st and early 2nd stages of phthisis and all other tubercular affections such as Pott's disease, Scrofula and Lupus Vulgaris; I have found it very useful in phthisis cases and a few case-notes will be furnished shortly.

It is also highly efficacious in diphtheria, primary anæmia, malarial cachexia, Leucocythæmia, chorea, neurasthenia, hysteria, and diabetes.

In syphilis it kills spirochæta rapidly and acts charmingly and does good in parasyphilis too.

Last but not the least are the facts that its injections are almost painless, and that it is comparatively cheap and easy to administer. It should always be used subcutaneously.

THERAPEUTIC NOTES ON HARMOTONE.

By

JAGADESH CHANDRA BAGATIS, L. M. P. DURGAGANJ.

In the afternoon of the 12th March 1924, I was called in to see a patient at Shogoomia about 2 miles off from this place. The patient was a multipara and a Mohammadan woman whose age was about 30. She had 2 children (one son and one daughter). Daughter's age was about 2½ years.

What I found after examining the patient and the history taken from her is noted below.

1. *(a)* General condition of her health was good.

(b) She complained of constipation, irregular menses and severe pains in the lower portion of the abdomen. This abdominal pain gave her much trouble.

(c) After palpating the abdominal wall, I felt a ball-like mass (like cricket ball) at the upper part of the uterus. It was semisolid and pitted on pressure. She did not allow me to feel it through the vaginal route.

(*d*) She had got no other trouble.

Treatment :—At first bowel was moved by mist olei Ricini and ergot mixture was given to be taken thrice daily. The severe pain did not subside even after administering these medicines. Then I tried with Pill aloes et myhrr (4 grs. each) thrice daily. This caused the patients to move the bowels and to flow the menstrual blood in large quantity. There was no improvement of the patient.

At last I tried with Harmotone without post pituitary (made by G. W. Carnick & Co., U. S. A.). I gave her only 50 pills which showed me marvellous effects in reducing the ball-like mass and in subsiding the severe pain. After some days I was called in to see her when I felt ¾ of the mass had been reduced and the pain was almost subsided. Then I advised her to take at least 100 pills. She did so. This medicine at last cured her from the troublesome disease.

In my opinion, the case was of uterine tumour. I shall be much pleased if any one writes anything about this case in the " Antiseptic".

Lastly I conclude my little article in mentioning good effects derived from applying Hormotone in the following diseases.

(1) Amenorrhœa.

(2) Dysmenorrhœa.

A PLEA FOR RURAL MATERNITY RELIEF

By

Dr. M. N. VENKATARAMAN, MADURA.

In spite or a very large number of allopathic doctors as private practitioners and plenty of midwives available, people resort to quacks for treatment. Nowadays there are more women quacks than men as they very easily capture the 'Home Government' and they are the cause of many silent murders due to their haphazard and inefficient treatment. A common rule adopted by these women quacks to find out whether a woman in Peurperium is alright is to ask the patient to sit up and make her span with her hand the umbilicus and the chin, *i.e.*, to touch with the little finger of the hand the naval, and the thumb of the same hand touching the chin. For this they give this explanation :—If there is any heaviness in the body and pain in the back the patient won't be able to bend and do the spanning business.

This practice reminds me of a curious case in which a girl aged about 12 years delivered a tiny child and on the 7th day pronounced to be alright subjected to the above test by a quack. I was called in at about 3 P. M. the same day with the complaint that the patient is feeling slightly out of sorts. When I went in the relatives began to ask the patient to get up and walk out of the room! and I persisted in seeing her as she was lying and I found the pulse was unaccountable, the body absolutely cold with clammy perspiration, the hypogastrium bloated, and the temperature 107! To add to this bundles of betels were being forced into the month of the patient. The

patient's condition was very bad to do any exploration of the Uterus and Pituitrin etc., were given to improve the pulse condition and the patient succumbed in 2 hours. In this case if proper aid was taken instead of the quack, much could have been done to save her.

There is more work to be done by the Child and Maternity Welfare authorities not only in training midwives and making them available to the poorest of the poor but also in systematically educating the public by propaganda, lectures, pamphlets etc. to make the people resort to skilled aid in the proper time, thereby preventing many cases of Eclampsias, Peureperal Septicæmias etc. which carry a heavy toll of mortality.

I hope—a forlorn hope—indeed to see a day when there will be a legislation prohibiting these quacks from practising. Also I should like to say a word about our present-day socalled 'trained midwives.' Their training is very poor, and whatever cleanliness they have learnt they soon forget and resort to quackeries to earn popularity among the lay illiterate public. I have seen instances in which these trained midwives using ashes to the parts, castor oil, massaging the abdomen and plunging the hands into the vagina often without any preliminary sterilisation of the hands whatsoever. When we possess in our presidency the 2nd biggest Maternity Hospital in the world, are we not ashamed to face so many poorly trained midwives who are worse than quacks. Even those very few who are maternity hospital trained available in the moffusil are very much handicapped for the supply of proper outfit. Strange to say that one Taluk did not find the necessity of passing the bill of a midwife for a vaginal Nozzle! which costs only a couple of annas. One can as well pull on without any midwife at all than with an ill trained midwife. There should be a reorganisation of these midwives and every midwife should have at least 6 months training in the Maternity Hospital, and happy will be the day when every village can boast of a well-trained midwife. Not only rural medical relief but also rural midwifery relief should engage the attention of the Goverame it and some scheme should be brought forward soon.

THE USE OF PERCHLORIDES OF IRON AND MERCURY IN PYREXIAS OF UNKNOWN ORIGIN

By

Dr. Venkataraman, Madura.

I read in an edition of the British Medical Journal that Tincture Ferri Perchloride and Liquor Hydrargyri Perchloride in 5 to 15 m doses given combined thrice daily is very useful in Enteric fever by bringing down the temperature to more than a degree.

I tried this in some cases of pyrexias of unknown origin and in fevers closely resembling Typhoid with coated tongue and pain in the right Iliac Fossa and found the temperature rapidly coming to normal in 2 or 3 days. I think the combination if given a fair trial would prove a very useful, cheap and easy remedy for Enteric cases & cases of Pyrexias of unknown origin. Theoretically Iron Perchloride is a tonic, restorative and astringent and mercury is by far the most powerful antiseptic we possess. Hence the combination will be very useful in cases of intestinal intoxication and its sequelae.

The Antiseptic

OCTOBER, 1924.

MEDICAL INSPECTION OF SCHOOLS IN MADRAS.

After, nearly, four years of delay, demur and disappointment, the Honourable the Minister for Education has placed before the public the outlines of his scheme for the medical inspection of schools in this Presidency. A good beginning though, the proposed scheme cannot be said to solve satisfactorily the many intricate and perplexing problems connected with the welfare of the children in general and the school-going population in particular. For, any scheme that starts with the school-children alone, ignoring their health-conditions during infancy or pre-natal period, is bound to fail. Without proper State control or supervision over the birth of children or their health during infancy we are sure to have a large percentage of physical wrecks admitted into schools with the result that the problem of safe-guarding their lives at that stage and making them fit citizens of the future becomes a formidable task. Maternity and Child-welfare, therefore, are necessary and indispensable factors precedent to any scheme of Medical Inspection of schools and care of school-children. The proposed scheme of medical inspection of schools without the formulation and elaboration, previously made, of a scheme for Maternity and Child-Welfare will be something like putting the cart before the horse. So long as the Government have failed to make any real and earnest attempt as yet at instituting sufficient child-welfare centres in rural areas especially, and providing for the safety and well-being during their pre-natal and infant stages, there is no possibility of the appallingly high death-rate among infants now prevalent in this country ever declining, nor of enough vitality or power of resistance to diseases left among the surviving few. In all other civilized countries in the world, Maternity and Child-Welfare

work has made such rapid strides that infant mortality is there now at a very low ebb. A curious incident is reported in the December 1923 issue of "Maternity and Child-Welfare", the official organ of the Central Council for Infant and Child-Welfare, published in London. At the Leicester Bankruptcy Court, an undertaker explained that his failure was due to bad trade and the following pathetic conversation that ensued depicts the sad tale of the undertaker and the triumphant result of the Child-Welfare work in that county.

"*The Official Receiver*:—Do you mean that the Medical Officer of Health has been too much for you?.....Do you seriously mean that people live longer?"

"*The Undertaker*:—Yes, certainly. There used to be certain seasons for babies funerals but the Infant Welfare Campaigns have beaten us."

This is a consummation devoutly to be wished for even in our own country. Would it ever happen, gaurded and guided as we are by the *Steel Frame* of the British—the very nation that has brought about such glorious result in their own homes, is too much for us at present to prophesy. Now, turning to the scheme on hand, the first and foremost defect is that the head of the Medical Department plays a prominent part in the conduct of affairs relating to the Medical Inspection Scheme. So far as we know, the Department of Public Health is the proper authority which holds sway and control over this important and primarily health function. As between the Department of Public Health and the Department of Public Instruction, there is, however, some difference of opinion as to whether school medical inspection should be performed by the Health Department or the School Department, because these two interests bear upon the same problem. No doubt each department can present arguments why medical inspection should be under its supervision. Primarily, a large part of the work (communicable disease control) is solely the function of the Health Department, as the legal authority to do this work is lodged by law exclusively in the health authorities. The Surgeon-General with the Government of Madras who is the chief medical and not the health authority here, has no place whatsoever in the control of this work, beyond, perhaps, supplying the requisite medical officers and the venue of activity should, therefore, be changed to the Department of Public Health.

Secondly, the scheme is defective in that it expects the work to be done by medical officers of the rank of Civil Assistant-Surgeon or Sub-Assistant Surgeon who have no special qulifications for the treatment of children's diseases which are of a peculiar nature. *Defective teeth* is the most frequently encountered physical defect among school-children. Such a condition not only leads directly to a reduction of physical efficiency, but lays the foundation for systemic disorders which may result in premature death in early adult life. So, the school medical officer must necessarily be a bit of a dentist. *Diseased or hypertrophied tonsils and adenoids* are next most frequently encountered. Some large cities in Europe and America maintain special operative Tonsil and Adenoid Clinics for school-children. Travelling clinics are also used effectively in rural parts. Even in this Presidency, such institutions should be maintained at convenient centres, manned by specially qualified medical officers if the system is at all to claim thoroughness and perfection. *Eye and ear defects* follow in frequency. Such defects are impediments to school progress as they directly impair the perceptive faculties. The existing common-place medical officers may not be quite competent to deal with such cases. Specialization in these particular diseases is therefore essential. There are a large number of other miscellaneous defects which it is unnecessary for us to mention here. The medical officers appointed for the medical inspection of schools should undergo some sort of training in these special branches before they can be posted for this duty and must be constituted into a separate cadre independently of the ordinary medical line. In the present depleted state of finance of this Province, it may not be possible to provide special clinics for special diseases but medical officers trained by specialists for a particular period will be found more useful and serviceable.

The third defect in the proposed scheme is that diseased children examined and ousted from schools are left to their own fates and the Government wash off all further responsibility in respect of such children. Simply to discover a defect and call the parents' attention to it will accomplish little. Such a programme can get only a small percentage of defects corrected. There is also the further risk of children discontinuing their studies altogether rather than undergo the ordeal of spending money and correcting the defects before re-admission. Unless the school authorities on whom this duty is imposed also

undertake the task of treating children free, and getting them cured of their ailments before re-admission, there will be witnessed the unhappy spectacle of mere empty benches in schools. It may be said "There are Government Hospitals. Why not seek admission there?" But the whims of parents—their superstitions and *idiosyncracies*—especially of the poor and illiterate class who constitute the major portion of the population in *schools*, will have to be overcome and it is no easy matter. Next comes the question of cost. We have nothing to do with the apportionment of expenditure in respect of the medical inspection of schools between the Government on the one hand and Local and Municipal bodies on the other. All that we object to is the proposal to levy a small fee on each pupil. Already education is costly in India, be it elementary, secondary or higher, and to saddle the poor parent with further expense is highly undesirable. The Government, the Local Boards or the management must find the wherewithal to meet the necessary expenditure connected with the scheme and children should not be taxed for this purpose, however small it may be.

The last point we have to draw the attention of the authorities, is with regard to the condition of the schools themselves. Of course, under the scheme, the Inspecting officer is expected to report on the general sanitary condition of the schools and suggest ways to improve them. But we ask, "Are the existing institutions built on perfectly sanitary and hygienic principles?" Our answer is an emphatic "No." In America, there is an old story told of a traveller driving with a native through a rural district. As they passed through a dilapidated ramshackle old building, the traveller asked: "What place is this?" Oh! said the native, "that is only our school. If you want to see a fine, modern sanitary building, come, look at our jail." Condition of schools in India is no better. Common humanity demands that even law—breakers shall be decently treated while in confinement, but it is absurd to find fine jails and other public buildings and place our children in mean, overcrowded and ill-ventilated quarters for their schooling. Safe, wholesome drinking water is one fundamental requirement of every school and this is seldom provided. The question of housing school-children in sanitary dwellings must be first tackled before any attempt is made to improve their lot, mentally and physically.

We hope the Hon. the Minister for Education will not fail to give this aspect of the problem the prominence and importance it deserves but will first look to the school-house and its surroundings being kept in a perfectly sanitary condition before their inmates are touched.

THE HEALTH MINISTER AND THE OPENING OF THE AYURVEDIC MUNICIPAL DISPENSARY AT MADURA.

On the occasion of the opening ceremony of the Municipal Ayurvedic Dispensary at Madura on the 7th August, the Honourable the Chief Minister in charge of the Medical and Public Health portfolios, while extolling the merits of the Ayurvedic and Unani systems of medicine and deploring at the same time their present state of stagnation, uttered a word of caution to local bodies in their endeavours to extend medical relief within their area by opening more and more Ayurvedic Medical Institutions.

The days of bias and prejudice to the Indigenous systems of medicine are over and the system itself though once condemned as empirical, unreliable and outside the orbit of science is now admitted—to use the Hon. the Chief Minister's own phraseology—"as a system of medical treatment, the result of experimentation and research carried on for centuries and that there are formulæ found in that (Ayurvedic) system, which, though their key is not at present available are the conclusions arrived at after protracted and accurate investigation."

It is not for us now to enter into the relative merits or demerits of the Allopathic and Ayurvedic systems of medicine. Suffice it to mention here that the Government of Madras have been compelled both by public opinion and by means of a resolution passed at a meeting of the Legislative Council to take immediate steps to encourage the indigenous systems of medicine in this Presidency. What has the Chief Minister done to carry out the terms of that resolution and satisfy public opinion? As a first sop a Committee was appointed to investigate and report on the desirability or otherwise of encouraging the indigenous systems of medicine in this Presidency. The report was in favour of the immediate introduction of this system but, unfortunately, that able, elaborate and convincing document of the Committee, framed after due deliberation and a careful and complete

study of the systems throughout India at a heavy cost, had to take its quiet abode in the Secretariat Library and had not seen the dawn of day thereafter. Public opinion, meanwhile, became insistent and a make-shift arrangement to try "*simple remedies*" was devised. This eye-washing experiment did not meet with the approval of the public who clamoured for a more solid and substantial scheme. The establishment of an Ayurvedic College to train men in this line of treatment was suggested and was no doubt a great desideratum. Already we have in Bengal an institution of this kind and unless we can be sure of a number of properly trained Ayurvedic medical men, there is no use in starting Ayurvedic Institutions. But the Government is still halting, hesitating and brooding over the establishment of an Ayurvedic School in Madras. The Honourable the Chief Minister says he is advocating the institution of a Government Ayurvedic Medical School in Madras and whether he will succeed or not in his advocacy of the cause of Ayurveda and when, heaven knows. Financial difficulities often stand in the way of carrying out these schemes and the chances of opening an Ayurvedic School, judging from the present financial position of the Province, are far remote. For, what with the heavy damages caused by recent floods in several districts of this Presidency and what with the impending famine due to draught and failure of monsoon in several others, the financial equillibrium of the Province is sure to be upset next year and the time worn plea of "no funds" will be raised. The Honourable the Chief Minister may at best allow a free hand to such local bodies as can command adequate money and duly qualified Ayurvedic medical men to open more Ayurvedic Dispensaries within their area and thus afford facilities for cheap medical aid, in places where none now exist. But his concluding speech at Madura savours something of the nature of a determent—a scare to frighten away the willing and enthusiastic local bodies anxious to advance the indigenous systems of medicine within their sphere and force them to lull. This is really deplorable. Who can say that, after this performance of the Honourable the Health Minister, he has not sufficiently accommodated himself to the bureaucratic environments and played to the bureaucratic tune in all seriousness and sincerity?

CURRENT TOPICS.

OBSTETRICS AND GYNÆCOLOGY.

Pregnancy and Toxaemia.—E. E. Bunzel, Amer. Journ. of Obstet. and Gynæcol. June, 1924, p. 686, publishes statistics relating to the incidence, character, and prognosis of pregnancy with toxæmia, defined briefly as a complication of pregnancy manifested by head-ache, disturbances of vision, œdema, hypertension, and albuminuria, either with or without convulsions. The cases considered number 465 being 6·3 per cent. of hospital deliveries: and 65 per cent. were admitted from the ante-partum clinic or from private practice. They are classified at (1) mild, with systolic blood pressure less than 145 mm., slight œdema, and albuminuria not greater than 10 per cent.; (2) moderately severe with blood pressure from 145 to 165 mm., pitting œdema, and albuminuria of 10 to 20 per cent.: (3) severe with 165 mm., massive œdema and albuminuria over 20 per cent and (4) convulsive. The four divisions made up respectively 23, 35, 31 and 11 per cent. Experience is increasingly in favour of conservative treatment in all the groups, and operative induction of labour after the fifth month was performed because of toxæmia in only 14 per cent. In the 54 convulsive cases the maternal mortality was 11 per cent. and fœtal mortality 51 per cent.; there were no maternal deaths in the 16 cases of post partum convulsions. In the entire series the maternal mortality was 3 per cent. and 72 per cent. of the babies born left the hospital in good health. An examination of 133 of the mothers was made from ten to twenty-two months after labour; of these, 37·6 per cent. had a systolic blood pressure of 140 mm. or more, and 39·8 had albuminuria. Ninety-two of these patients showed distinct impairment of renal function as tested by phenolphthalien injections; and of those who while in hospital had papillary œdema, retinitis, or hæmorrhage into the fundus oculi, 31 per cent. showed persistence of morbid retinal conditions when examined in the "follow up clinic". No fewer than 41·4 per cent. of patients thus re-examined are described as showing signs of "cardio-vascular renal disturbance."

The Assessment of Fœtal Age.—The danger in medico-legal work of making dogmatic statements with regard to the age of a new or still-born infant is exposed in the course of a critical study by Dr. J. N. Cruickshank and Dr. M. J. Miller of the accuracy of the various accepted methods of estimating the age of fœtus. The three methods commonly employed are: (1) Measurement of body-length and body-weight, (2) examination of the number and dimensions of the centres of ossification, and (3) estimation of the duration of gestation from the maternal menstrual history. In the series of 470 normal foetuses examined, no one method or combination of methods of estimating fœtal age was found to be accurate

in all cases, and the conclusion reached was that there can be no absolute certainty that the age of any individual fœtus has been correctly assessed. Attention is especially drawn to extreme difficulty of estimating fœtal age during the eighth and ninth month. On the whole, body-length has been found more reliable than body-weight; this is of interest in view of the results of recent studies of postnatal development, in which the body-length has been found to be more reliable than body-weight as a guide to the progress of growth. The authors note that in the last three months of intra-uterine life the weight of the fœtus increases at a proportionately greater rate than that of any of the organs studied, except the spleen and thymus. It is during these months that most of the fat is laid on, and they suggest that this may explain the greater proportionate increase of the body-weight. They are cautious, however, in pointing out the limitations of the application of the results obtained from what they regard as too small a number of cases to allow more than tentative conclusions. It is curious that such a detailed and careful study of the normal fœtus has yielded so few positive results; the problem will probably have to be attacked from many different angles. We published last week an attempt on the part of Dr. Lucus Keene and Miss E. E. Hewer, D. Sc., to ascertain by combined chemical and histological methods the period at which the various organs begin to function in the fœtus. The work is suggestive, and may lead in the future to a further means of assessing the age of any individual fœtus.

Pernicious Anæmia of Pregnancy.—V. C. ROWLAND in *the Journal of the American Medical Association*, February 2, 1924 records two instances and discusses the literature on the subject of the pernicious or hæmolytic anæmia of pregnancy. He states that comparatively few cases have been reported; in 1917 only twenty-three causes could be collected from the literature. Since then Osler has reported five and others have added to the list. The condition is insidious in its onset during the latter months of pregnancy and labour is apt to commence prematurely with little bleeding. The blood picture resembles very closely that of pernicious anæmia; no apparent cause has been detected. Some patients have recovered and in these there has been no recurrence of the anæmia. This form of anæmia has to be distinguished from anæmia due to *post partum* hæmorrhages and acute anæmia of *post partum* sepsis. These are excluded by the absence of bleeding and of sepsis. The severe type of anæmia described here may occur during the latter months of pregnancy and be of gradual onset or it may begin within a few weeks of delivery and it often progresses to a fatal issue in from eight to twelve weeks. There is some disagreement as to the blood count, leucocytosis may occur sometimes and occasionally

leucopenia. Treatment consists of rest and the administration of arsenic in the early stages. If the condition becomes worse blood transfusion and the termination of pregnancy are indicated. Transfusion should be repeated until active blood regeneration is apparent by an increased red cell count with large numbers of nucleated and reticulated red cells.

Dysmenorrhœa.—F. Kalledey extols the action of ovarian extract in dysmenorrhœa and menorrhagia, but claims the best results for it if given intravenously on alternate days for a fortnight, resuming the course after a fortnight's interval and so continuing until the conditions become normal. He advocates the same treatment with rest for chlorosis, amenorrhœa, and climacteric troubles claiming that as they are the results of ovarian dysfunction the ovarian hormone is indicated, at the same time it repairs the balance of the endocrines whose intimate relations are upset in all these conditions. Kalledey points out that the chemical importance of the ovaries is shown by the fact that while their removal is followed by atrophy of the sexual system, if they are merely transplanted no such atrophy occurs and menstruation continues unchecked.—*Leipzig (Zentralblatt fur Gynakologie),*

Uncontrollable Vomiting of Pregancy.—Brandt says that the treatment of this condition in his service has been so uniformly successful that he regarded it as almost infallible, until two recent fatal cases confirmed anew that there is nothing certain in medicine. He keeps the woman in bed, strictly isolated, with rectal drip of 2 or 3 liters of saline, and every evening 3 gm. of sodium bromide in 100 gm. water, by the rectum, with absolutely nothing to eat or drink for a few days, recording the pulse, temperature and amount of urine, and the amount and character of the vomit. As long as the urine total kept above 600 to 800 gm. and the pulse below 100, he was serene. The foetus cannot be incriminated alone for the intoxication was in one of his 2 fatal cases of uncontrollable vomiting, the supposed pregnancy did not exist. Only a hydatidiform mole was found in the uterus of the sextipara. Cachexia of unknown cause dominated the clinical picture in this case; the interval since the last menstruation had been only two months when first seen, but the debility had been noted before this. In another case of uncontrollable vomiting, with impairment of vision and mental confusion, gradual improvement followed induced abortion, but the woman still has multiple neuritis and a tendency to psychoneurosis, and is still in bed, the sixteenth week. In a fourth case, the previously healthy woman began to vomit at the third week of pregnancy, and systematic treatment was begun the eighth week. Her condition did not seem serious; the urine totalled 900 gm. but the sixth day the pulse was 120, and two days later 134. The ninth day she became blind, and then

the uterus was evacuated. She died the next day. The abortion had been delayed too long after the warning of the acceleration of the pulse.—*Norsk Magazian for Lagevidenskhaben, Christiania.*

The Menorrhagias of Puberty.—J. De Torre Blanco (Arch. de med., cir. y esp., April 12, 1924, p. 95) states that disturbance of the menstrual function, both in rhythm and quantity, especially in the form of menorrhagia, often occurs soon after menstruation has commenced in the growing girl. The cause of the menorrhagia is, he considers, to be found in endocrine disturbance, and the situation of the endocrine lesion varies in different cases. In some patients there is a thyroid insufficiency, which responds readily to treatment by thyroidin while in others there are symptoms of defective pituitary function or of a pluriglandular syndrome. The majority of cases, he finds, are due to ovarian disturbance, and in particular to lutein insufficiency. In such cases ergot and its derivatives are useless, and the menorrhagia should be treated by lutein therapy.

Rupture of the Uterus.—D. S. Hillis (Surg. Gyræcol. and Obstet., July, 1924, p. 32) reports four cases of ruptured uterus encountered in eight months. There was a striking similarity between these cases; in all of them the rupture occurred during pregnancy, and occupied the site of a Caesarean section scar. In each case the uterus was removed and the patient recovered. He draws the following conclusions from the study of these cases. The scar of a Caesarean section may rupture not only during the course of labour, but at any time during the last three months of pregnancy. The localization of the placenta over the scar seemed to have no influence: in two cases fragments of syncytium were found over the scar, while in the two other cases no sign of placental tissue could be seen at the site of the scar. In one case there may have been a traumatic cause, since the patient fell down in a faint before the pain began; in three cases severe and sharp pain was the first symptom noted, and in one case the rupture occurred while the patient was asleep. The rupture in the scar allowed the uterus to empty completely, and good contraction and retraction followed, stopping the hæmorrhage. In no case was there external bleeding, because labour had not begun and the cervix was closed. The line of rupture in each case was in the scar tissue, and the contraction of the uterus held the edges of the wound so far apart that they could only be approximated with great difficulty. The author considers it advisable to remove the uterus in those cases, owing to the time required to freshen the scar edges and the danger of a further rupture in a subsequent pregnancy.

Treatment of Progressive Pthisis during Pregnancy.—J. Misgeld (Zentralbl. f. Gynak., June 28, 1924, p. 1438) has followed Bumm's advice, and during the last fifteen years has treated 56 cases of advancing phthisis in pregnant women by hysterectomy and double salpingo-oophorectomy. During the same time 46 patients with pthisis have been treated by induction of abortion, and the results are compared, showing the operative treatment to be markedly the better. Thus the mortality for operative cases was 28·2 per cent. as compared with 37 per cent. for induction; 3 5 per cent. remained unbenefitted after operation, 17 per cent. after induction; only 3·4 per cent. became worse after operation, whereas 35.5 per cent, deteriorated after induction. Post-operative symptoms, such as flushings etc., were not frequent, and in the worst cases lasted for a year at the most. The author states that the condition warrants this somewhat drastic treatment, since pregnancy is the worst complication which can afford the tuberculous woman. This, according to Winter, is due to the increased need of oxygen and nutriment during pregnancy, the frequent accompaniment of hyperemesis, and the increased chances of mechanical spread of infection. During labour tubercle bacilli pass readily from the placental site into the blood, and the loss of blood is a weakening influence. In the puerperium, exhaustion from loss of lochia and blood, and, above all, from lactation, causes the disease to progress rapidly. Pthisis is also aggravated during sexual life, increased sexuality causing rises of temperature. Misgeld adds that the following conditions are to be observed before operation should be undertaken: (1) No cavities must be present in the lungs. (2) The woman must be normal mentally. (3) The pregnancy must be under four months' duration; if over six months operation is contra-indicated, as also is induction. (4) The woman, if possible, should have several living children. With these provisions the author is in entire agreement with Bumm, that hysterectomy, together with the removal of the appendages, is the best method of treatment.

Diagnosis of Ruptured Urinary Bladder.—R. T. Vaughan and D. F. Rudnick (Journ. Amer. Med. Assoc., July 5th, 1924, p. 9) describe a new way of diagnosing rupture of the urinary bladder sufficiently early to forestall peritonitis. A small rubber catheter is passed through the urethra with the usual asepsis. If the bladder is ruptured a few cubic centimetres of blood or blood-stained urine usually escapes. The catheter is fastened temporarily in the urethra by means of adhesive strips, and the patient is examined by X-rays. Air is introduced through the catheter into the bladder by means of a hand bulb, about 50 to 100 c. cm. being ample, though more may be introduced, if desired. In the case of intra-peritoneal

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rupture the air is seen to escape into the abdominal cavity and, with the patient lying on his left side, it accumulates immediately under the peritoneum, allowing the bowel and liver to fall away from the right abdominal wall. If the patient sits up this free air is seen to collect between and the diaphrahm and the liver. In extra-peritoneal rupture the air escapes into the loose tissue around the bladder, and is seen to spread along the fascial planes outside the peritoneal cavity. In cases without rupture the air accumlates in the bladder, distends it, and the regular vesical outline is produced. The authors describe in detail the treatment of five cases, and point out the value of differentiating between intraperitoneal cavity. They do not think that there is any added risk to the patient either from air embolism or from the infection, and no discomfort is caused.

BOOK REVIEWS.

A MANUAL OF GYNÆCOLOGY AND PELVIC SURGERY FOR STUDENTS AND PRACTITIONERS.

By ROLAND E. SKEEL, M.D., A.M., M.S., formerly Associate Clinical Professor of Gynæcology, Medical School of Western Reserve University, etc. Second edition with 281 illustrations. Pages 674. Published by P. Blakistan's Son & Co., 1012 Walnut St., Philadelphia.

This revised edition of Roland E. Skeel's Manual of Gynæcology and Pelvic Surgery furnishes a practical working knowledge of Gynæcology. The book deals with the Anatomy and Physiology of the female generative organs in a condensed form, but sufficiently full and accurate to serve as a ready reference upon any obscure points of practical importance. Almost all the common diseases that ail the female generative system are fairly well discussed, with a special emphasis on diagnosis and treatment. In this new edition many of the practical points in the advance of modern and up-to-date methods of treatment *eg.*, Radium and Rœntgen therapy, are also pointed out. The illustrations are really educative. On the whole the book will give a comprehensive knowledge of every phase of the subject and will be of great use to the medical student, general practitioner as well as the gynæcologist.

THE INDIAN VETERINARY JOURNAL.

EDITED BY MR. P. SRINIVASA RAU, G. M. V. C., Veterinary Surgeon, Madras. Published quarterly.

This is a new venture in the field of journalistic enterprise, which claims encouragement and support not only at the hands of the veterinary profession but also by the landed aristocracy and the middle class landowners who have to make their living by the cattle and the plough. It is a deplorable fact that the Veterinary Department has not as yet been sufficiently organized in this country where agricul-

ture is the main pursuit of the inhabitants and an organ of this kind, therefore, which aims at the safety and well-being of the millions of dumb cattle undergoing life-long misery and encountering premature decay and death for want of proper scientific care and treatment of their many ailments, is a great desideratum and supplies a long-felt want. The journal is also intended to serve as the mouthpiece of the profession, which is sadly lacking at the present moment and without which no advancement is possible—material as well as intellectual. The journal will be published every quarter, for the time being and is cheaply priced. Knowing as we do the editor personally, we have no doubt that under his able direction and management, the journal will steer clear of all shoals and sand-banks in its onward march and enjoy a long lease of life. We wish the journal all success.

EVERY DAY FOOD—ITS RELATION TO HEALTH AND FITNESS.

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

This booklet serves as a good guide to those who are interested in the study of "Dietitics." Modern research and experience have condemned outright the diet of the civilized world of to-day as being unfit, unhealthy and unnatural and what constitutes a natural and healthy diet is given in this tiny volume in a clear, concise and easily understandable style, devoid of all technicalities. We commend this little book to our readers.

A WHIFF OF OLD TIMES.

By John Wishart, M.D., D.Sc., C.M.B., F.L.S. Published by Messrs John Wright & Sons Ltd. Bristol Price 3/-

This is an interesting collection of tit-bits from old literature prior to 1850, mainly pertaining to the medical profession and intended to give the reader an insight into the history of the medical science and the theories held by medical men in good old days. The book is inspiring and amusing to read and well worth perusal.

UNFIRED FOOD IN PRACTICE.

By Stanley Gibbon. Revised by Edgar Saxon. Published by the C. W. Daniel Company, Graham House, Tudor St., E. C. 4. Price 1-6-0 net.

Modern Medical Science is progressing to an alarming extent, so much so we have eminent doctors boldly recommending raw, unfired foods in place of cooked foods—much to the chagrin and disappointment of the civilized world of to-day. But the facts must be faced and a diet of fruits, nuts, leaf and root vegetables, herbs, cereals with honey and pure fruit oils on which our ancients subsisted and led a long and healthy life, is undoubtedly one that gives not only proper nutriment to the body but also saves considerable time and labour. This booklet contains specimen meals and recipes and will prove a valuable guide to those who are eager to effect a change from cooked to uncooked food.

FASTING FOR HEALTH AND LIFE.

By Dr. Josiah Oldfield. Published by the C. W. Daniel Company, Graham House, Tudor St., E. C. 4, London Price 5.

Fasting was considered to be the panacea for all ills in ancient times and was observed as a religious duty by almost all the nations of the old world. With the advance of science and advent of civilization, however, such natural and inexpensive remedies have been given up altogether with the result that at the present day the human system is subject to constant ailments due mostly to wrong-feeding, over-feeding, under-nourishing, &c. But, fortunately, the pendulum of modern scientific thought and research is swinging backwards again to old remedies—to Nature cure, fasting, &c. This book which deals exhaustively on "Fasting" is really interesting and instructive and deserves to be read by those who desire to be posted with detailed historic and scientific knowledge on the subject of fasting We heartily commend this book to our readers.

THE CARE OF INFANTS IN INDIA.

Published by Messrs. George Gill and Sons Ltd., 13 Warwick Lane E. C. London.

The high rate of mortality among infants in India is doubtless a matter of grave concern and anxiety to every parent and more especially to Anglo-Indian parents who have to rear their children amidst a totally different climate and environment. A word of advice, therefore, to Anglo-Indian mothers in the art of upbringing their children in India is a real want, which this little book is intended to supply. The author has taken immense pains to bring home to the Anglo-Indian mother the duties and responsibilities of motherhood in India in as simple, clear, and non-technical language as possible. The book certainly deserves to be in the hands of every Anglo-Indian mother in India, nay, even Indian mothers who can pick up useful hints on child rearing. The fact that the book has already passed through ten editions is proof positive of its popularity.

LECTURES ON GONORRHOEA IN WOMEN AND CHILDREN.

By J. Johnston Abraham, C. B. E., D. S. O., M. A., M. D. (Dub) F. R. C. S. (Eng.) Surgeon, the London Lock Hospitals, etc. Pages 142 with Illustrations and four plates. Published by William Heinemann (Medical books Ltd.) London.

Volumes have been written by various authors on Gonorrhœa in men. But very few books have been written on Gonorrhœa in women and children. We must thank Dr. Johnston for his series of lectures on this much neglected subject which he has published in this book. In his lectures he presents a brief account of the usual manifestations of Gonorrhœa, immediate and remote. He gives a detailed description of the most up todate treatment of the various conditions, especially those lines of treatment of the early curable stages of the disease which can be adopted successfully without any special appliances. He describes from his own experience, the remarkable results that can be obtained by ionization, Diathermy and other forms of Electrotherapy.

HAND BOOK OF SURGERY.

By George L. Chiene. M. B., C. M., F. R. C. S. (Ed.) Surgeon Edinburgh Royal Infirmary, Senior Lecturer and Examiner in Clinical Surgery Edinburgh University, etc, No. of pages 592 with 109 illustrations. Published by E. and S. Livingstone, Edinburgh.

This hand book deals mainly on the more common and important surgical conditions in daily practice, all surgical rarities being carfully avoided due to want of space. Surgical diseases of special organs such as the eye, are omitted. Surgical, Bacteriology and Pathology are not dealt with in detail. The Diagramatic illustrations the simple style and language will help the beginner to grasp the subject much easier, instead of poudering over the pages of a voluminous text book.

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.]

Practitioner (Part I):—By K. C. Ghosh, L. M. S., (Cal. U.). Formerly lecturer in Clinical Medicine and Medical Jurisprudence, College of Physicians and Surgeons of Calcutta, Member of the Executive Committee, Examiner in Medicine, etc., National Medical College of India etc. etc. 178 pages, Price Rs. 2. Published by Nirmal Chandra Ghosh, 98, Manictola Street Calcutta.

"Epidemic Encephalitis" (Encephalitis Lethargica):—By Arthur J. Hall, M.A., M.D., Camb., F.R.C.P., Lond, Professor of Medicine, University of Sheffield, Senior Physician, Sheffield Royal Hospital, with 17 plates (one fully coloured) and other illustrations, 229 pages. Price Sh. 12 net. Publishers John Wright and Sons., Ld., Bristol.

"A Manual of Gynaecology and Pelvic Surgery "for students and practitioners:—By Roland E. Skeel, M.D., A.M., M.S., Second Edition with 281 illustrations, pages 674, Publishers: P. Blackiston's Son and Co., 1012 Walnut Street, Philadelphia.

"Sexual Problems of To-day:—By William J. Robinson, M.D, Twelfth Edition, 1923. Pages 340. Publishers: The Critic and Guide Company, 12, St. Morris Park West, New York.

"Calorimetry in Medicine":—By William S. McCarrn, Associate Professor of Medicine, Associate Physician Johns Hopkins Hospital, 98 pages. Price S. 2.25 Publishers: Williams and Wilkins Company, Baltimore, U.S.A.

The Theory and Practice of the Steinach Operation:—With a report on one hundred cases by Dr. Peter Schmidt (Berlin) and an introduction to the English Edition by J. Johnston Abraham, C.B.E., D.S,O., M.A.M D., (Dub)., F. R. C. S, (Eng)., pages 150. Price Sh. 7.6 net, Publishers: Wm. Heinemann (Medical Books) Ltd, 20, Bedford St., London, W.C.2.

"Basal Metabolism":—By John. T. King, pages 118. Price S. 2·50. Publishers: Williams Wilkins Co., Baltimore, U. S. A

"Hippocrates" Vols. I and II:—With an English Translation by W. H. S. Jones, pages 361. Publishers: Wm. Heinemann Ltd., 20, Bedford St., London W.C.2.

"Organotherapy in General Practice":—253 pages. Price S. 2·00 Publishers; G. W Carnrick Co, 417-421, Canal St. New York, U.S.A.

Galon on the Natural Faculties:—With an English translation by Arthur John Brock, M. D., Edinburgh, Pages 339. Price Sh. 10 nett. London: William Heinemann (Medical Books) Ltd., 20, Bedford St., London. New York: G. P. Putnam's Sons.

The Theory of Decrementless Condition in Narcotised Region of Nerve:—By Garichi Kato, pages 166. Price: S. 3·00. Publishers: Nankodo, Hongo, Tokyo, Japan.

'Physiological Principles in Treatment.":—By Langdon, Brown, M.A, M.D., Cantab. F.R.C.P., Fifth Edition, Pages 511. Price Sh. 10-6 nett. Publishers. Bailliere, Tindall and Cox. 8, Henrietta St, Covent Garden, W. C. 2. 1924.

The HEALTH

A Journal Devoted to Health in Living

EDITED BY, DR U. RAMA RAU, M. L. C.

VOL. II. SEPTEMBER, 1924. No. 9.

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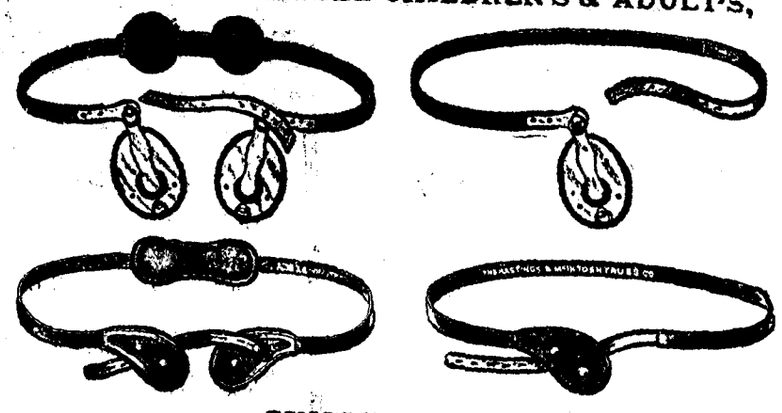

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