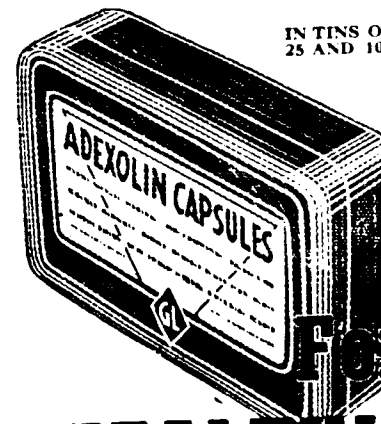


MEDICO-SURGICAL SUGGESTIONS

Vol. VI.

MARCH 1937

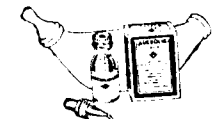
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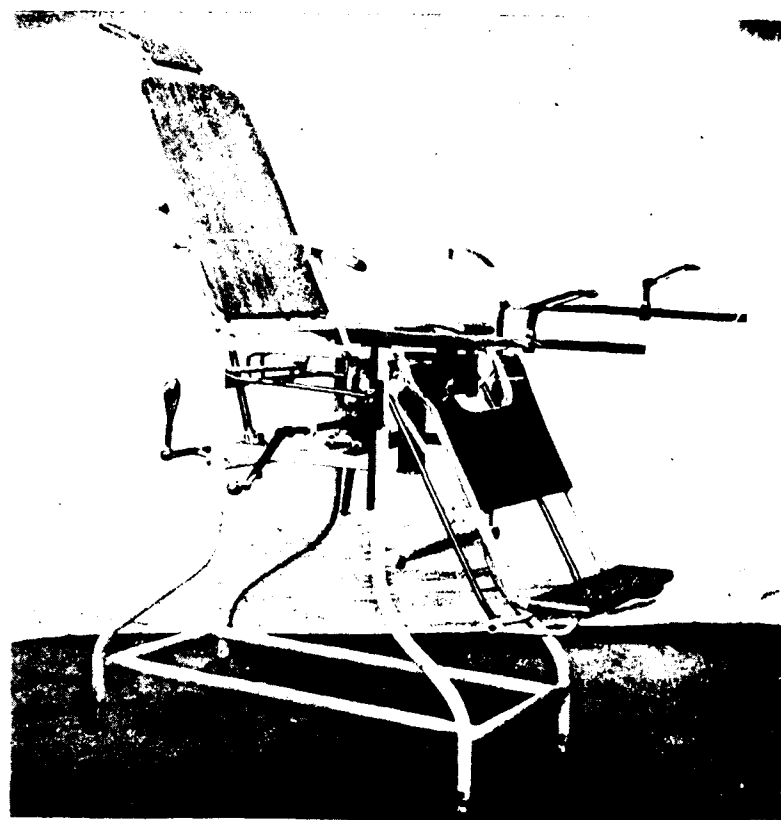
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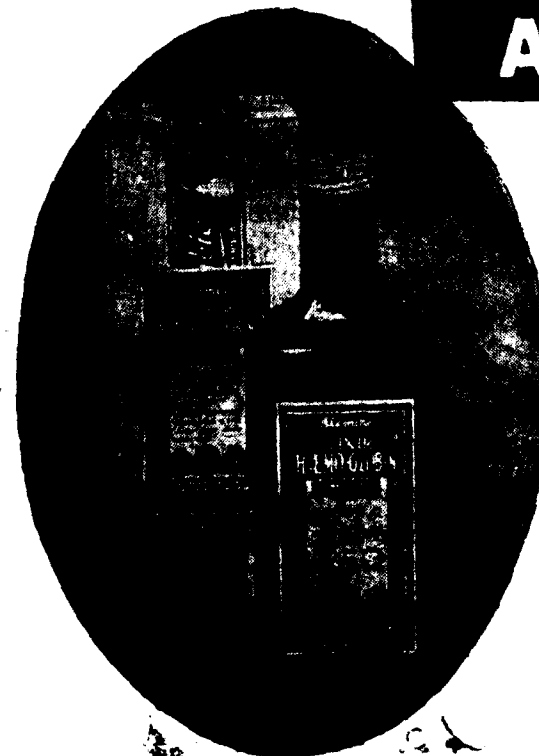
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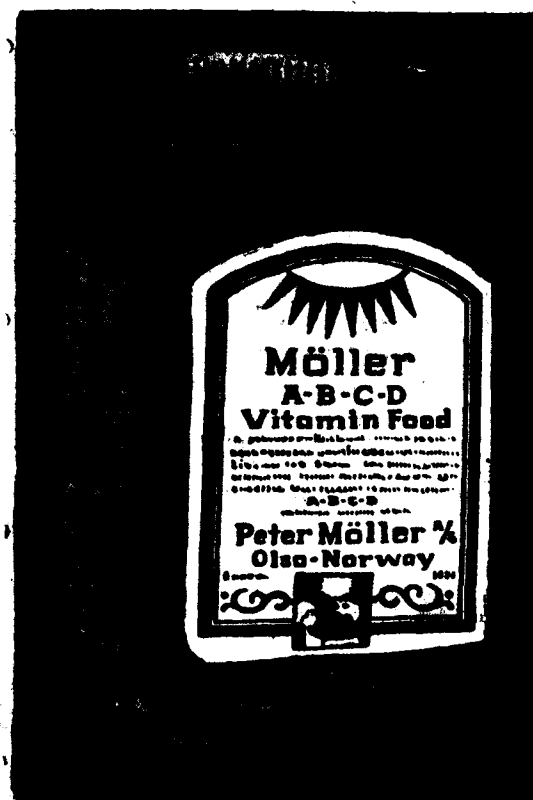


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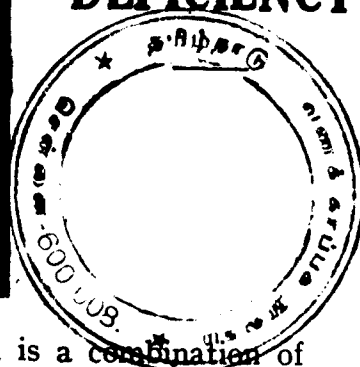
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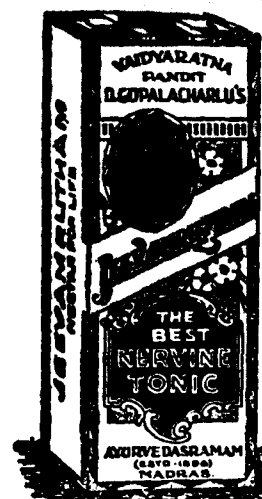
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Original Article ABSCESS LUNG

BY DR. B. JAYARAM, M.B., B.S., L.R.C.P. AND S., (EDIN). T.D.D. (WALES),
AND DR. V. N. ANANDATHIRTHA, L.M.P.,
P.K.T. SANATORIUM, MYSORE.

The term 'Abscess Lung' is applied to a circumscribed collection of pus in the lung tissue excluding tuberculous cavities.

Most often, abscesses of the lung arise as sequelæ of Pneumonia or Influenza. The pneumonic consolidation sometimes breaks down due to central necrosis from pressure, which gets infected by pyogenic bacteria resulting in an abscess. Such abscesses are nearly always single. Out of 14 cases treated in this sanatorium for the past three years as many as 8 of them had a previous history of Pneumonia. The temperature subsided after about 10 to 15 days but the cough persisted. The patients returned about 6 months later with a history of severe cough, with foul sputum and fetid breath, and occasional rises of temperature.

Aspiration of foreign bodies is also a common cause. Once a patient was brought to the sanatorium with a history of severe cough and foul smelling sputum. On further enquiry into the history it was ascertained that the patient while chewing *pan-supary* had an attack of cough and became breathless and cyanosed. Six months later she developed severe cough with foul smelling sputum and fetid breath. It was diagnosed as a case of Bronchiectasis with Abscess Lung arising by aspiration of a piece of arecanut into the lung during that attack of cough.

Another cause for this ailment is injury to the chest wall which may be either penetrating or non-penetrating. The non-penetrating injuries may be with or without fracture of ribs. They produce hæmatoma in the lung which might heal or suppurate and if it suppurates, it leads to abscess formation.

In other cases, this condition is secondary to bronchiectasis, infected emboli, Freidlander's pneumo-bacillus, spirochaetal infection, echinococcus cysts, tumour of the lung or adjacent tissue breaking into the lung and later getting infected with pyogenic

organisms, liver abscess bursting into the lung, caries of the ribs or vertebræ and lastly some acute infectious diseases as small-pox, measles etc.

PATHOLOGY

The tissue injury and subsequent inflammatory reaction leading to abscess formation is primarily an interstitial suppuration. Later on as the process extends, necrosis and liquefaction occur, leading to the involvement of alveoli and bronchioles. It is after the destruction of the bigger bronchioles that the evacuation of pus through the bronchii and trachea takes place. After some time the surrounding tissue reacts to the pus, bacilli, etc., and fibrosis takes place, and now the term chronic abscess is applied to this condition.

The signs and symptoms of the disease vary according to the stage. In early stages there is dry cough with little or no sputum which is mucoid. The patient usually complains of pain in the chest. There may be loss of weight and appetite. At the end of severe fit of cough he looks anxious and cyanosed. But during later stages when the abscess cavity is of a fairly big size and communicates with one of the main bronchioles, the quantity of sputum is copious with foul smell and the patient's breath is fetid. The quantity of sputum varies from 15 to 30 ozs. a day and sometimes more. On keeping the sputum in a conical glass for some time, it separates distinctly into three layers, the upper one consisting of a frothy fluid, an opalescent middle stratum and the bottom one consisting of thick yellowish, greenish or brownish pus. Sometimes it may contain a little blood. The smell diminishes on standing. The patient may or may not complain of dyspnoea. The temperature varies according to the quantity of sputum contained in the abscess cavity. If the pus is pent up the temperature is hectic in type. If, on the other hand the cavity is empty, the temperature is normal.

The physical signs vary according to the stage and time of examination. Early cases show signs of consolidation. Percussion note is impaired and sometimes there may be medium sized rales on auscultation. When a big abscess cavity has formed and is full of pus the signs are, impairment of note on percussion and bubbling provoked rales on auscultation. If the cavity is empty the signs simulate those of a tuberculous cavity.

X-ray examination confirms the diagnosis. Early cases show a dense shadow in the suspected region. Later the cavity can be easily made out with a horizontal fluid level with air above. On screening, the fluid level varies according to the change of position of the patient. Radiograms in different postures will be of value in locating the exact position of the abscess cavity, particularly from the point of view of undertaking a surgical treatment.

The distinguishing feature between lung abscess and bronchiectasis is that in the former the quantity of sputum in proportion to the size of the lesion is much less than in the latter. The reason

being that the secreting surface of the many dilated and tortuous mucus lined passages of bronchiectasis is much greater than the simple discharging wall of the abscess cavity. Microscopically the sputum of abscess lung shows pus cells in plenty, elastic tissue and perhaps small bits of necrotic tissue, whereas in bronchiectasis the sputum may not show any elastic tissue, and pus cells may be much less in number. It is not difficult to distinguish this condition from tuberculosis of the lung, since in tuberculosis the sputum is T. B. positive. Secondly, the tuberculous cavity is situated more towards the apex, whereas in abscess lung it is more at the base or in the middle zone, besides being associated with the characteristic fetid breath and the large quantity of foul smelling sputum.

TREATMENT.

The treatment is directed towards eliminating the cause; if the lesion is due to a foreign body an attempt should be made to remove it; if the condition is due to a specific organism, treatment should be directed against the same. After this the general course of treatment is adopted varying with the stage at which the patient is admitted and also with the pathological condition, i. e. whether the abscess is single or multiple. Early cases do very well with rest and open air treatment. In some cases graduated sun-ray exposures are also given. The Sanatorium is the best place for such patients. More advanced cases require postural treatment depending upon the position of the abscess cavity. If the abscess cavity is towards the apex which is extremely rare or towards the hilum, the sitting posture with a bed rest will assist proper drainage; if towards the periphery the patient should be advised to lie with the diseased side up; if at the base he is asked to lie with the anterior part of the chest in apposition with the bed, two pillows being placed between the chest wall and the bed, and the head made to hang down. This will greatly facilitate proper drainage. For cough—the ordinary codein linctus is enough. This treatment should be given a fair trial in every case and where it fails it may be necessary to resort to surgical methods.

Out of the 14 cases that were treated in the Sanatorium, 4 underwent phrenicectomy, 2 artificial pneumothorax, 1 combined A. P. and phrenicectomy 2 phrenicectomy and thoracoplasty and 5 rib-resection and drainage. Of all the methods rib-resection and drainage proved to be the best course of treatment. Of the 4 cases that underwent phrenicectomy 3 improved and 1 died. Of the 2 cases of pneumothorax both of which had single abscess cavities, neither of them showed any improvement. The case of combined A. P. and phrenicectomy did not improve. The 2 cases of combined phrenicectomy and thoracoplasty are still in the Sanatorium and are making rapid improvement. Out of the 5 cases of rib-resection and drainage, 4 were discharged completely cured and 1 is still an

inpatient. Combined phrenicectomy and thoracoplasty is the best treatment for multiple abscesses which do not improve with mere rest. Text books describe bronchoscopy and lobectomy as other courses of treatment.

We do not like to enumerate the details of phrenicectomy, thoracoplasty and A.P., but we would like to mention a few words about rib-resection and drainage. This procedure is adopted with advantage in cases of single abscesses of fairly big size, preferably situated at the base and periphery of the lung. The exact position of the cavity is ascertained by taking radiograms in different postures, antero-posterior and true lateral. After ascertaining the position of the cavity an incision is made at the point, and about 2" of 1 or 2 ribs, as the case may be, are removed.

Care is taken to see that adhesions have formed between the parietal and visceral layer of the pleura. If adhesions have not formed, a long strip of sterile vaseline gauze is plugged into the open wound and dressings applied. Three days later the plug is removed by which time adhesions will have formed. The ordinary 10 cc. syringe with a needle of fairly big calibre is introduced into the lung to make sure that one is in the position of the abscess cavity. After ascertaining this a puncture is made by forcing the tip of a pair of closed scissors and widening it. All the pus is drained out, a drainage tube is inserted and the patient is dressed daily. Thus the wound will granulate and heal from below. Care should however be taken that the drainage tube is properly inserted into the cavity every day. Otherwise the wound may heal superficially, the abscess being left as it was and there will be absolutely no use in having done the operation. This treatment is perhaps by far the best in cases of single abscesses.

—*Bulletin, Mysore Medical Association.*

THE DENUDED PENIS AFTER OPERATION FOR ELEPHANTOID SCROTUM

BY LT.-COL. M. M. CRUICKSHANK, I.M.S., *General Hospital, Madras.*

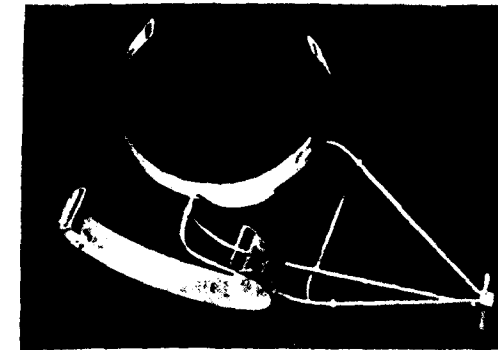
The treatment of the penis entirely denuded of skin after operative treatment for elephantoid conditions of the penis and scrotum has never proved satisfactory. Several lines of treatment have been advised.

The application of a Thiersh graft, the usual procedure, results in a penis which is simply tucked down to the pubic region by a tight collar of fibrous tissue, the stretched penis, upon which the grafts have been laid, collapsing inside the bandage, the moment tension ceases, the grafts merely tucking up round its base.

Connell (1932) states that Thiersch's method appears to be unsuitable and that he personally has never used it. His method of dealing with the raw penis is by threading it through a subcutaneous

tunnel on the inner aspect of the thigh and liberating it some ten days later by means of a simple flap incision.

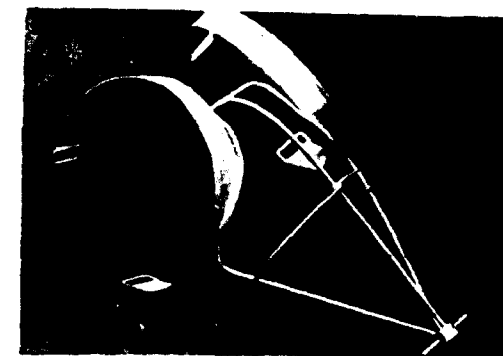
This flap, which must be broad when dissected up, gives the penis an abnormally bulky covering of skin and subcutaneous tissue. The result, however, is not always a happy one, because, unless broad, the flap may become gangrenous, may not fit round the penis without a certain amount of tension, and, as a result, a considerable amount of scar tissue forms on the penis which tends to vitiate results which at the best cannot be termed anaesthetic.



In an endeavour to avoid death of parts of the flap, I have dissected up and clothed the penis, short sections at a time. The ultimate result is no better, because the organ, due to the vagaries of fibrosis, is misshapen and requires several plastic operations to render it more or less straight and central.

Again I have tried making use of a pedicle graft from the thigh with which to clothe the penis. The results are about the same as those obtained by the 'tunnel' operation.

Such disheartening results might, I thought, be obviated could the penis but be kept extended for a time sufficient to allow pedicle flaps or Thiersch grafts to 'take'.



With this object in view I had made a splint on the lines of a Cabot splint, with bands encircling the thighs, by means of which it

could be fixed in one position, these bands lying in the groin along Poupart's ligament, so that even if the patient pulled his knees up in bed yet the apex of the splint remained approximately in the same position. The penis is extended by means of a silk suture passed deeply through the region of the fraenum and tied to the small cross bar at the apex of the splint.

So positioned, movements of the thighs are not transmitted to the splint in any degree sufficient to pull out the extending suture. Long Thiersch grafts are now cut from the thigh—one or two will suffice—and applied like a roller bandage to the penis from the corona to the base, care being taken to see that at the base the graft is made to lie snugly under the thick pubic skin.

At points along its course the graft is tucked down to its edge by fine catgut sutures. This prevents any movement on the part of the graft, which is simply covered with a piece of gauze soaked in sterile liquid paraffin applied as a small roller bandage. I have tried applying the grafts vertically along the penis but better results have followed in those cases where the graft or grafts have been applied as one would a roller bandage. The post-operative result, both from cosmetic and utilitarian view-points, is far superior to that obtained by the methods mentioned above where no splint is used. That some shrinkage of these grafts will take place cannot be denied, but, judging from results a month after operation, I feel sure that the final result will be very satisfactory.

It now remains to be seen, whether or not, using this splint, better results will follow the use of a Thiersch graft or a full thickness pedicle graft.

The splint has been made for me by Messrs. Hebbar Brothers, Ltd., 246, Thambu Chetty Street, Madras.

To Dr. Hebbar I am much indebted for the help he has afforded me in making various models of the splint.

—*The Indian Medical Gazette.*

Selected Articles

THE MEDICAL ASPECT OF GONORRHOEAL RHEUMATISM.

Philip Bayer says in an article in "Journal of South African Medical Association" for February 8, 1936: It is now recognised without doubt that gonorrhoeal rheumatism is a metastatic condition, that is, it is caused by the spread into the blood-stream of the organism, which finally settles down in a joint or tendon, etc. Such being the case, it is obvious that the essential factor in the treatment of this condition is what steps one can and must take to prevent the organism from gaining access to the blood-stream.

The first point is the question of the neglect of the so-called mild cases of gonorrhoeal urethritis. There has been a tendency to neglect this type of case. Fortunately in our present era, with a wider and much more humane outlook on venereal disease, the gonorrhoeal patient now much more frequently seeks medical aid early in the disease.

The second point is the question of exercise. It seems to be generally recognised that strenuous exercise during the acute stage of gonorrhoeal urethritis is often responsible for rheumatism. I think that the subject of exercise has been somewhat over-emphasised. Dr. Gluckman has been kind enough to give me the following figures. Out of 6,000 cases of gonorrhoea treated at the Special Treatment Centre here in Johannesburg during the past five years, only about 30 cases ($\frac{1}{2}$ per cent.) developed rheumatism. Now, if you bear in mind that the vast majority of these cases were patients of the artisan class, who have often to do very strenuous work in the mines, or cycle long distances to come to the Centre, it is obvious that, in view of the small percentage of patients who developed rheumatism, exercise cannot play such a very prominent part.

Thirdly, trauma is by far the most important predisposing cause of the condition. The passage of instruments, injudicious massage of the prostate, too rigorous treatment and employment of strong chemicals—these are some of the traumatic factors which can prove very harmful. As a well-known writer has said, with proper control of the infected, and an appropriate degree of gentleness in treatment, the incidence of the condition can easily be reduced and probably almost obliterated.

I now come to the treatment of the disease proper. Gonorrhoeal rheumatism is rather a vague term, and at this stage I should like to state that it includes, not only arthritic joint conditions, but also tenosynovitis, bursitis, myositis and periostitis.

It is most unfortunate that in our present state of knowledge no specific cure exists, and so, as always happens, many different remedies have been employed from time to time. If we examine the literature on the subject we find that, not only do the various authorities differ very widely in their treatments, but even hold views diametrically opposed. One author strongly recommends complete fixation in plaster, while another condemns it. Yet another factor which makes it so difficult to assess the true value of any particular treatment is that the disease is so largely dependent upon the patient's own curative responses, and thus we see how enthusiasm may arise for one particular type of treatment, which gives dramatic results in one case, only to register dismal failure in another.

Among a host of remedies, the best-known are probably vaccines, agents producing protein shock therapy, diathermy, hydrotherapy, heat, cold, serum therapy and oral medication. Each one in its turn finds its own supporters. About the only things universally agreed on are rest, relief of pain, and such general measures as apply to any patient with an infective condition.

REST.

Complete rest is obviously one of the best measures we can employ, but in this condition, in addition to all the difficulties that may attend any patient who is ordered complete rest, another serious problem arises. As long as your gonorrhoeal patient remains ambulatory, it is easy for him to guard his secret, but once he is put to bed or ordered to a nursing home it is a very different matter. Thus often it may be very difficult, or almost impossible, in a particular patient, to obtain the necessary rest. The effect of rest is three-fold, not only by giving the affected part the best protection, but very considerably relieving pain and greatly assisting the general condition of the patient, much lowered in these cases.

RELIEF OF PAIN.

Pain is the most distressing symptom present. It may be very severe, and sometimes lasts for a considerable period. Complete rest with appropriate immobilisation will give almost complete relief in the majority of cases.

The method of immobilisation I shall discuss later. Unfortunately, in most of the severer cases, pain can become so acute as to render the use of drugs imperative. I should like to call attention to the importance of using mild drugs as long as possible, because of the danger of the drug habit. Some years ago I had the misfortune to have to treat a practitioner for morphinism, the habit having been acquired during a severe attack of gonorrhoeal rheumatism affecting the spine some years previously. It is most unfortunate that sodium salicylate (our great standby for most rheumatic conditions) is of practically no help; it has certainly no effect on the joint condition, and I doubt if it is as efficacious as

ordinary aspirin for pain. There are a number of other measures employed successfully in the relief of pain. Heat, applied either in the form of hot fomentations, electric lamps, diathermy or poultices, is often very effective. I have very little faith in the effectiveness of local applications, such as ichthyol, antiphlogistin, etc., but one must not forget that these remedies have their soothing effect, if not on the mind of the patient, at least on the minds of the relatives.

VACCINES.

In the vaccine era in which we are at present living it is not to be wondered at that every conceivable type of vaccine has been employed. Most conflicting views are held with regard to the value of vaccines. Given early, it is possible that vaccines may help to abort the disease. At a later stage their value is considerably lessened, and if used injudiciously may actually prove harmful. Detoxicated vaccines appear to find most favour, in view of the danger of setting up too much reaction. Attempts have recently been made to obtain a vaccine containing as many strains of gonococci as possible. Compligon, a bacterial antigen, has lately come on to the market, and seems to be finding favour in the eyes of several important authorities in Germany and America.

In conjunction with vaccines, many remedies have been employed from time to time to produce protein shock. As you know, protein shock was for many years one of the standard methods of treating ordinary rheumatism, and so it was given a thorough trial in gonorrhoeal rheumatism. Intramine, originally introduced by McDonagh, was quite popular at one time, but it produced such a severe reaction that, fortunately, it has long since been discarded. It was rapidly followed by such remedies as T. A. B. vaccine, milk injections, manganese butyrate, contramine, etc. It has been proved, without doubt, that all these drugs producing protein shock are most erratic in their action, but may be useful when employed with some of the measures I have just mentioned, and particularly when vaccines fail.

TREATMENT OF THE LOCAL URETHRAL CONDITION.

One of the most important advances in post-war medicine was the treatment of focal sepsis. In all cases of diseases of infective origin we were told and taught most religiously that the great maxim was to find the focal cause and remove it. Although this idea of treatment had many successes, it very often failed because it was impossible to locate the source of infection; unfortunately, it also failed in this condition for yet another reason. In gonorrhoeal rheumatism, the finding of the source of infection, in a vast majority of cases, is not only easy but obvious, and its removal also, not infrequently, a matter of comparative simplicity; but, in spite of these two factors, local treatment in this condition has often proved most disappointing. The reason is that in gonorrhoeal rheumatism

it is not the site of infection which continues to feed the blood-stream (and consequently affected part) with gonococci; if that were so, the local treatment would soon have a dramatic effect. Actually it appears as if an original shower of gonococci gets into the blood-stream and finds its way to the effected part, continuing to do damage until eradicated. At the same time it would be entirely wrong to suggest that no local treatment is necessary in gonorrhoeal rheumatism. Local treatment, provided it is entirely free from traumatic possibilities, should be undertaken in all cases.

The point I particularly wish to make is the great care that should be taken in carrying out local treatment. In chronic resistant cases, where the infection is locked up in the vesicle and prostate, vasotomy, as Dr. Gluckman has pointed out, has at times given excellent results.

Although I have left to the last what I consider two of the most important measures, immobilisation and physio-therapy, that must not in any way detract from their enormous value in treatment.

When the gonococcus attacks a joint or tendon, it produces a serous exudate which leads to fibrous tissue formation, and even bony ankylosis has been known to occur. This knowledge is of the utmost importance, as it establishes beyond a vestige of doubt the necessity of doing everything in our power to avoid adhesions and contracture leading to permanent dysfunction.

IMMOBILISATION.

The method of immobilisation employed varies in individual cases; the principles remain the same. The affected part must be put in such a position as to take off the strain from the wasted muscles. Even more important is the fact that we should bear in mind the possibility of permanent adhesions, and so, if contracture has taken place, fix the part in such a position as to serve of greatest usefulness afterwards.

Now immobilisation has its danger as well as its usefulness. If a particular joint is rested too long, we increase the danger of adhesions and contracture. It is impossible to lay down exact rules. Each individual case must be treated on its merits. Naturally the sooner one can start active and passive movements the better, and the less chance of contractures.

PHYSIO-THERAPY.

Of all measures of treatment I place my greatest faith physio-therapy. Massage, passive movement, and later active movement, are of infinite help. For chronic cases, diathermy and ionisation methods give excellent results.

Summarising the whole position, the following points stand out clear:—

1. There is no specific treatment.
2. Measures must be taken to relieve pain.

3. Complete rest must be obtained whenever possible.
4. Attempts should be made to improve the general condition of the patient.
5. Immobilisation of the affected parts, and, in severe or long-standing cases, the advice and help of the orthopaedist.
6. Vaccines should be given a fair trial, but if they have no success, some of the simpler methods of producing protein shock should be employed.
7. Employment of physio-therapeutic measures early on in the disease.
8. Most careful judgment in the management of the local urethral condition.
9. Last, but not least, remember the great predisposing causes—trauma, and too energetic measures of treatment.

—*The General Practitioner April 15, 1936.*

EXAMINATION OF PROSTATE

RUDOLPH BELL, M.D., *Thomasville.*

In placing the proper emphasis upon the desirability of making rectal examinations, one can do no better than to repeat Osler's well known dictum that "The difference between a good doctor and a poor doctor is that a good doctor knows how to make a rectal examination." The extent of the examination to be made on the prostate depends on the leading symptoms and the findings noted on rectal examination.

The resection era has focused a great deal of attention to the prostate with particular reference to the type of gland suitable for resection. However, it has fallen short of calling sufficient attention to the endless chain of symptoms and disabilities produced by the various types of pathologic prostates. To do this, it is imperative that the structures of the posterior urethra, vesical neck, trigone, seminal vesicles and prostatic secretion be included in the examination of the prostate.

DIGITAL EXAMINATION.

The insertion of the gloved finger into the rectum is for the purpose of recording the sense of touch in its proper place of the structure felt on examination, and not to hastily reach the prostate and apply hard pressure with the tip of the finger to see if secretion can be punched from that area. For the benefit of the patient the anus, anal sphincter, and rectum should be carefully examined and if haemorrhoids, fissures, ulcers, etc., are noted the patient should be advised of such and sent through his selective channel for treatment. On further inserting the finger one encounters the perineum, Cowper's glands and triangular ligament, lateral and medium portions of the prostate, seminal vesicles and the spaces around the seminal vesicles and prostate.

Any change in the consistency of the prostate from that of its normal elasticity implies that one is dealing with an abnormal gland. The enlarged, hot, boggy prostate indicates that the gland is acutely inflamed. An enlargement with definite areas of fluctuation is indicative of prostatic abscess. Adhesions on either side of the prostate are suggestive of inflammation of the prostate and seminal vesicles of long standing. When the distended vesicles can not be stripped easily they show severe infection. The nodular prostate is often a "bugaboo" because the physician wants to convince himself as to its nature before proceeding with treatment. The diagnosis should be made much easier by considering separately the four conditions that will produce a nodular prostate, namely, (1) inflammation, (2) stone, (3) cancer and, (4) tuberculosis. I prefer to consider the tuberculous nodule separately from the nodule produced by all other types of inflammation.

The inflammatory nodule has a consistency somewhat similar to that of a thick piece of wet leather, which yields a little to pressure, and is usually located on the lateral aspects of the gland. One usually finds adhesions about the prostate on the corresponding side with the nodule. The early malignant nodule has a third degree, or board-like resistance, and according to Moore is predominantly a lesion of the posterior lobe, but may arise in any other portion of the gland. The consistency of the tuberculous nodule and the stony nodule is similar to that of carcinoma, but is more likely to be in a different locality from that in which carcinoma is found. An x-ray examination is of value in noting the metastases of malignancies and also in demonstrating stones. In cases of suspected malignancies, the biopsy needle is of inestimable value in securing tissue for examination. According to Lowsley and Duff there has been but one case of primary tuberculosis of the prostate gland reported; therefore, one may conclude that the condition is tuberculous only after the acid-fast bacilli have been demonstrated in other portions of the urogenital tract. According to Bell stones should be considered much more often than is commonly thought.

The aforementioned structures may impart nothing on digital examination from that of normal, yet the prostatic secretion may show pathologic changes. The prostatic secretion is best obtained by passing the finger well over the lateral portion on one side of the prostate, applying general pressure, and gradually rotating the finger to the medial aspect of the gland where the pressure is then relieved: the finger is then carried to the opposite side and that portion of the gland dealt with in a similar manner. After these maneuvers one's attention may be diverted to the urethral meatus where the prostatic secretion may be obtained for examination. Vigorous massage is also contraindicated in those few cases where the secretion fails to appear: if the patient is allowed to void, urine

intermingled with the prostatic secretion can be obtained. This compared with the first-glass specimen, which is collected before the massage, gives one a fairly good idea of the contents in the prostatic secretion. No prostate should be massaged on an empty bladder.

CONTENTS OF PROSTATIC SECRETION.

Pus, lecithin and spermatozoa receive first attention on examination of prostatic secretion. The secretion is placed on a slide and covered with a cover glass; examination is made under high power of the microscope. Usually a decrease from that of normal in the amount of lecithin and number of live spermatozoa are accompanied by a high pus cell count. I have observed the absence of spermatozoa and pus with an excessive amount of lecithin in some cases seeking to ascertain the causes for sterility.

Not all prostates containing pus reveal an abnormal amount on first examination. It may require two or more massages to open the inflamed prostatic ducts sufficiently to allow the escape of the clumped pus. Any gland revealing more than ten pus cells per high power field may be considered pathologic, and sometimes a culture should be grown from the secretion to ascertain the causative organism.

It should be remembered that the prostate is subject to ascending and descending infection, and to the blood and lymph stream routes of infection. Proportioning the strong sex to the general population, the prostate is more likely to be the source of a foci of infection than are the teeth and tonsils. Knowing this, one can readily see that it is just as essential to examine the prostatic secretion of an adult male as it is to examine the urine.

URINARY OBSTRUCTION.

In considering the obstruction to the urinary outflow produced by the prostate one should learn not to rely too much on the size of the gland as felt per rectum. A very large prostate may not produce any urinary symptoms; on the other hand, a prostate that feels no larger than that of the usual size to digital examination may produce acute urinary retention. One case was referred to me while the patient was in an acute urinary retention. On examining the prostate per rectum it felt very small. On further examination the gland proved to be an extremely large one. One peculiar fact noted on rectal examination was that the lateral lobes of the gland could not be felt, and the area of the sulcus, or prostatic urethra, was distended with a portion of the prostate giving it a round appearance. The prostate was found to lie almost entirely in the bladder cavity.

A simple procedure to give one an idea of the amount of prostatic obstruction present is to instruct the patient to void and then pass a catheter and withdraw the residual urine. Immediately after the amount of residual urine is determined, several syringes full of a clear solution should be injected through the catheter and then

withdrawn so as to determine the amount of pus that has collected on the floor of the bladder in front of the prostatic obstruction. It should be remembered that digestive disturbances, headaches, weakness and cardio-respiratory symptoms often overshadow the urinary symptoms, as a result of which the outstanding symptoms are treated symptomatically, and no attention paid to the underlying factor. To illustrate that all patients with residual urine do not have urinary symptoms. I should like to cite a case reported by Young: "In one of my patients with over 2,000 cc. of residual urine, micturition occurred at normal intervals and he did not have to get up at night. The residual urine was 2,100 cc. the bladder capacity 2,600 cc. He had, therefore, a functioning bladder of 500 cc. which was normal."

A cysto-urethrogram is at times of great aid in locating the obstruction and in differential diagnosis, but to determine accurately the condition of the posterior urethra and the degree of obstruction one has to resort to urethroscopy.

URETHROSCOPY.

Although urethroscopy and cystoscopy have justly acquired a renown reputation for being a painful procedure, they can and should be done with very little discomfort to the patient.

After introducing the urethroscope, the bladder should be inspected. A trabeculated bladder wall and hypertrophied trigone are indicative of an obstruction to the lower urinary outflow. An inflamed trigone without any evidence of upper urinary tract infection is conclusive proof of an infected posterior urethra. As the instrument is slowly withdrawn and rotated, the vesical portion of the prostate and the neck of the bladder can be inspected. Any intrusion into the bladder or inflammation of the prostate can be readily determined. The classification of prostatic hypertrophies has been so thoroughly covered that one only has to review the literature of recent years to acquire a knowledge of their grouping. However, the unilateral intrusion and the protrusion that is not uniform should receive some consideration at this time. It is true that the markedly enlarged prostate may not protrude uniformly, but this protrusion can be readily determined as being composed of prostatic tissue. A case that I was called in to see had a protrusion from the space between the middle lobe and the right lateral lobe which fluctuated as the instrument was pressed over it. From rectal examination there were no signs of prostatic abscess, but while I was trying to determine the nature of the intrusion it ruptured; about two drachms of pus drained from it. Such abscesses about the vesical portion of the prostate are not uncommon. Cysts are found more often than is commonly thought; they can be transilluminated as the urethroscope is slowly withdrawn and the light pressed against them.

On urethroscopic examination, the areas of the prostatic urethra about the verumontanum should receive very close attention, for it

is in this area that numerous pathologic conditions of obscure origin arise and produce untold anguish. The verumontanum may be enlarged or contain a polyp. Its base may contain granulation tissue, the ejaculatory ducts may be obstructed or numerous other conditions that are commonly found but which respond readily to local treatment. An example of the anguish one may suffer in connection with diseases in the area of the verumontanum may be related by citing one of my recent cases. A man 26 years old had nocturnal incontinence periodically for the past two years and had not had a complete intercourse for the past year and a half. Urologic examination revealed a boggy prostate two and one-half times the usual size. Prostatic secretion showed an abundance of pus and no spermatozoa. A polyp on the verumontanum had produced a partial obstruction to the urinary outflow causing a trabeculated bladder and hypertrophied trigone similar to the type found in advanced prostatic hypertrophies of aged men. Regardless of the fact the patient had been advised to have his prostate out, his symptoms subsided after a few local treatments, and the patient stated "I am beginning to feel like a man again." Usually there are structural changes about the region of the verumontanum in cases where the prostatic secretion shows an abundance of pus.

In advanced cases of carcinoma of the prostate the diagnosis, if it has not been made, can usually be made by the characteristic resistance of the posterior urethra to the urethroscope. After passing the membranous urethra the instrument imparts the sensation that it is not being passed through soft tissue, but rather that it is being passed through an opening walled with boards and if the lumen is not large enough to accommodate the instrument it can not be dilated. If introduced into the bladder the light end of the instrument is elevated, and a grayish firm and usually nodular mass can be seen. A slight rigidity can usually be detected when passing the instrument over an early malignant nodule and as the instrument is slowly withdrawn the surface of the nodule can be seen on the floor of the posterior urethra. In exogenous stones there is a grating as the urethroscope is introduced. Introducing the finger into the rectum and pressing the nodule as it comes in view with the aid of the urethroscope is very diagnostic. In fact the prostate can not be examined without introducing a finger into the rectum, it is a simple procedure, and one that any physician is capable of doing. Why not prevent untold suffering and save countless lives with the information that can be obtained by examining the prostate of all adult males?

SUMMARY.

1. No examination of an adult male is complete without a digital rectal examination of the prostate.
2. One can not determine the degree of prostatic obstruction to the urinary outflow from rectal examination alone.

3. An obliteration of the sulcus, or prostatic urethra, is indicative of a very large prostate
4. It is just as essential to examine the prostatic secretion of an adult male as it is to examine the urine.
5. Pus in the prostatic secretion is accompanied by pathologic changes in the posterior urethra which can be determined only with the aid of the urethroscope.
6. An inflamed trigone with no evidence of upper urinary tract infection is conclusive proof of infection in the posterior urethra.

—*The Journal of the Medical Association of Georgia.*

EYE COMPLICATIONS OF THE ACUTE EXANTHEMATA IN CHILDREN

RICHARD C. GAMBLE, M.D., CHICAGO.

The ocular complications of the exanthematous diseases may in a general way be considered in two groups. In the first group may be placed the various types of inflammation of the lids, conjunctiva and cornea caused by the specific skin eruption involving these structures. In general, complications of this type are common, they occur early in the course of the disease and their presence is quite obvious. In the second group we find inflammations of the intraocular structures, of the orbit and of the optic nerve. These conditions are less common, they occur later in the course of the disease, they are more serious and the diagnosis may be much more difficult. As a rule, the complications in this second group result from secondary bacteremia of pyogenic organisms and not from the virus of the specific exanthematous disease.

In the past, smallpox was responsible for many cases of blindness. In some instances the pustules appear on the cornea and lead to perforation or at best to very dense opacities. In other cases the marked lid swelling, the profuse purulent conjunctival discharge and the lowered resistance of the patient results in corneal ulceration. Fortunately, these cases are now extremely rare. Mention should perhaps be made of vaccinia of the eyelids which is acquired by unwittingly transferring smallpox vaccine or the material from a vaccination bleb to the eyelids by the fingers. Erysipelas less frequently produces corneal ulceration. In measles there is less lid swelling so that corneal ulcer is rare even though there is a profuse discharge from the conjunctiva. Quite frequently, however, phlyctenular keratitis follows measles, and abscess of the lids due to infection of the meibomian glands is frequently seen during convalescence.

Intraocular inflammations are fortunately quite rare, but when they do occur they are severe and destructive. Panophthalmitis occurs more frequently from scarlet fever and measles than from the

other diseases. The lids become markedly red and swollen, the eyeball is proptosed and fixed, the vitreous and later the anterior chamber becomes filled with pus, the cornea turns yellow and there is considerable fever. The eyeball will rupture and pus will be discharged unless surgical relief is given. A milder type of inflammation may also occur, metastatic endophthalmitis, such as is sometimes seen in epidemic meningitis. This condition has somewhat the same appearance as panophthalmitis but it does not go on to perforation of the eyeball; after several weeks the acute symptoms subside and the eyeball gradually becomes soft and shrunken.

Actual inflammation of the structures of the orbit is one of the most important and serious complications of scarlet fever. It occurs less frequently after measles and perhaps it is well to add that it is most often caused by acute ethmoiditis resulting from a common cold. In scarlet fever there are two ways in which this type of inflammation may occur, by bacteria being carried by the blood to the periosteum of the orbit, and by severe rhinitis causing infection of the nasal sinuses, usually the ethmoid or antrum, and this infection in turn extending to the orbit. The metastatic type is the more serious of the two because there is no possibility of spontaneous healing by having the pus drain back into the nose, and a child who develops metastatic infection in the orbit may have a similar condition occur in other parts of the body, particularly in the joints, lungs and pleura. When the orbital inflammation is caused by extension of sinus disease it may or may not go on to true abscess formation. Swelling of the lids due to venous obstruction in the ethmoid region may be the only symptom and may subside after a few days. In more severe cases the infection may break through the orbital wall of the ethmoid capsule and form a sub-periosteal abscess. This causes the eyeball to be proptosed and to some extent limits its motility. When the process has gone as far as this it is still possible for it to heal spontaneously by having the pus discharge back into the nose. Quite often, however, the pus dissects its way forward and appears under the skin at the inner angle of the eyelids. Then this abscess either ruptures spontaneously or is opened surgically. While this dissecting process is going on there is possibility of its spreading backward to the meninges or to the cavernous sinus, there is some possibility of its getting through the periosteum into the soft parts of the orbit, and there is considerable hazard to the cornea due to the marked exophthalmos. The greatest danger of all, however, is septicemia, pneumonia and empyema. This is specially true in patients under two years of age and in cases where surgical intervention is done too early before the abscess has had time to become walled off. Treatment of this condition consists in the use of ephedrin or adrenalin in the nose, mild nasal suction, and hot fomentations and perhaps some antiseptic ointment to the eyes.

Many cases recover with this treatment alone. If an abscess forms and shows signs of pointing near the inner canthus it should be opened. Intranasal sinus operations, extensive external sinus operations and blind exploratory incisions into the soft parts of the orbit should be avoided, especially early in the course of the disease.

Optic neuritis is sometimes seen in a case of orbital cellulitis where the infection has broken through the periosteum into the retro-bulbar space. It also occurs rarely as an isolated ocular complication and, of course, is often one of the findings when meningitis or encephalitis follows one of the exanthematous diseases.

—*Illinois Medical Journal* March 36.

X-RAY IN DIAGNOSIS AND TREATMENT.

EDWARD D. GREENBERGER, M.D., MCALESTER.

The immensity of this subject, I am sure, is appreciated by every one here. Almost all of you have witnessed the rapidity with which x-ray has invaded every speciality of medicine and surgery in the last twenty years, both in diagnosis and treatment. X-ray therapy, at first, was given to the hopeless cancer patients and given empirically to the patients who had some lesion of disturbance that the physician or surgeon could not cure or alleviate. Today, x-ray therapy is on a rational basis. I will attempt to outline the rational and the indications of x-ray therapy and attempt to bring to your attention the wide scope of x-ray in diagnosis.

X-RAY THERAPY.

"The rational of modern x-ray therapeutics is not based upon special technics or methods applicable to each different disease, but upon the knowledge of the effect of the rays on the pathology or disease processes. The cells composing the pathological tissues are normal cells which have undergone certain changes, inflammatory or neoplastic; or have assumed abnormal functions with consequent disturbances of the physiologic processes of the individual." X-rays have the power to inhibit and destroy such cells and thus bring about normal functions. The cells or tissues of which the living organism is composed vary in their sensitiveness to radiation. It is this difference in response which forms the basis for our rational approach to therapy. The more embryonic or least differentiated the cells, the greater the response to x-ray. The lymph cell is most sensitive, poly next, then the epithelial cell, etc. The cells and tissues of the body are listed in the following order according to their sensitiveness:

- a. Primitive blood cell.
- b. Germinal cells of ovary and testicle.
- c. Blood forming tissues, including cells of the red bone marrow, lymphatic system and spleen.

- d. Some glands of internal secretion, such as thymus, pituitary, adrenals and thyroid.
- e. The skin and its glands and hair follicles.
- f. Abdominal viscera, including the liver, intestines, pancreas, kidney and uterus.
- g. Connective tissue consisting of muscles, fascia, tendons, cartilage, bone, fat and nerve cell.

Knowing the type of cell or tissue causing the pathology or disease, we can predict the result, determine the preferable intensity to be used and determine whether x-ray should be combined with radium, surgery or other therapeutic agents.

The indications for x-ray therapy based on these principles can be grouped under the following headings:

1. Tumors.
2. Inflammatory conditions.
3. Physiological and nervous system disturbances.
4. Blood dyscrasias.
5. Skin diseases.

TUMORS.

The type of response to x-ray depends, as stated, on the sensitivity of the matrix and its pathological cells and the amount of differentiation of the cell. The most sensitive tumors therefore are:

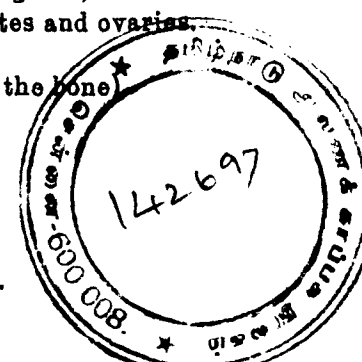
1. Lymphoblastomas (including Hodgkins).
2. Embryonal carcinoma of the testes and ovaries.
3. Wilms tumor of the kidney.
4. Ewing's tumor (endothelioma of the bone).
5. Multiple myeloma.
6. Giant cell tumor of the bone.
7. Hemangioma.
8. Basal cell epithelioma.

Moderately radio-sensitive tumors are:

1. Carcinoma of the uterine cervix.
2. Carcinoma of the thyroid.
3. Carcinoma of the breast.
4. Epithelioma of the mouth and tongue and bronchus.
5. Squamous cell of the skin.

Radio resistant tumors would be those at the end of the above list and those whose cells are more mature, i.e., fibroma, fibro sarcoma, osteogenic sarcoma, adenocarcinoma (except cervix), carcinoma of the stomach, etc. A complete classification of tumors according to sensitivity has been listed by Dr. Desjardins of Mayo Clinic.

The question often raised by a surgeon who contemplates the removal of a malignant growth is, when should x-ray irradiation be applied? The indications for pre-and post-operative irradiation are very clearly stated by the great American surgeon, the late



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Dr. J. C. Bloodgood. A summary of his paper appearing in the *Radiology Journal* in June, 1934, is as follows:

1. Attempt irradiation first in certain operable tumors, the complete removal of which means unusual mutilation, as carcinoma of the rectum, tumor of the kidney etc.
2. Pre-operative and pre-biopsy irradiation of ALL bone tumours, including those of the jaw. In adamantine carcinoma of the lower jaw, for example, irradiation relieves the pain and enables complete resection.
3. All recurrent tumors, operable or not, irrespective of known pathology, as carcinoma of the lip.
4. In regard to carcinoma of the cervix, there has been a complete shift from surgical removal to irradiation alone—both x-ray and radium. Surgery is used as a supplement.
5. Breast tumors:
 - a. Pre-operative irradiation is used in operable carcinoma in patients refusing operation or who are poor risks. Otherwise operation followed by full course of x-ray.
 - b. In all clinically doubtful tumours of the breast. Dr. Bloodgood stated that no harm can occur by waiting while patient is receiving x-ray therapy.
 - c. Inoperable carcinoma of the breast.
 - d. In cases like cancer *en cuirasse*, where it is wisest to perform irradiation before operation.

The statistics on five-year cures of carcinoma of the breast is given by most authorities as 34.3 per cent by surgery alone, 44-plus per cent by combined surgery and x-ray irradiation. Many radiologists, as Arthur C. Christie, of Washington, D. C., are strongly advocating intensive pre-operative x-ray irradiation in an attempt to increase the percentage of cures. Their objection to post-operative irradiation alone is that the cancer has either already been completely removed, or that the cancer has been traumatized and very likely metastasized by the operation.

A reference available to the general practitioner and surgeon in line with the subject of tumors is Dr. Chamberlain's paper appearing in *Journal A. M. A.* on subject "Modern Concepts of Roentgen Therapy in Cancer." In his conclusion he states: "Today the radiologist and the surgeon stand face to face, each in need of the other's help, each ready to do his proper share of the work of combating cancer. The radiologist is just as anxious to avoid taking human life by depriving a patient of the benefits of properly indicated surgery as the surgeon is anxious to avoid the futile mutilation of a patient who might better be treated by irradiation."

X-RAY IN INFLAMMATORY DISEASES.

In every inflammatory condition there is a leukocytic infiltration composed of polys and lymphocytes, very sensitive cells to

x-ray. In the early stages of acute inflammations, x-ray causes resolution of the area involved. In the later stages, it hastens the suppurative process, and enables the surgeon to incise, if necessary, much sooner. Inflammatory diseases are shortened and pain markedly relieved by x-ray irradiation. X-ray has definitely been proven of value in cellulitis, furuncles, carbuncles, lymphadenitis, parotitis, erysipelas, paronychia, synovitis, adenitis, etc. In chronic inflammation, it causes fairly rapid resolution. Some huge non-specific cervical glands in infants and children disappear often within ten days following irradiation. In specific lesions, as tuberculous glands, actinomycosis, blastomycosis, x-ray has proven to be very valuable. Very striking results have been obtained in gas gangrene by using the ordinary hospital portable unit. The oxidizing property of x-ray on gases is supposed to form $H^2 O^2$ and in this medium the anaerobic bacteria are killed.

THE PHYSIOLOGICAL DISTURBANCES AND DISEASES RESULTING FROM ENDOCRINE AND NERVOUS SYSTEM INBALANCE.

We know that the endocrine system and autonomic nervous system are closely bound together, both functionally and anatomically. In any dysfunction of either system, we therefore have difficulty in finding the primary source of the physiological disturbance. For example, what causes hyperthyroidism? Most internists agree that the cause is not primarily in the thyroid; many believe the pituitary is at fault. Dr. Crile and numerous other surgeons have cured patients of hyperthyroidism by resection of splanchnic nerves, indicating that the sympathetic is to blame for inbalance or that the sympathetic is a chain in series in the inbalance.

The x-ray therapists in the past few years have applied their efforts to these physiological studies and have obtained some striking and very encouraging results. The methods of administration of treatment and place of attack are still matters of personal opinion and experimentation, as it necessarily would be in so complicated a field. Some investigators have cured hyperthyroidism by irradiation of the pituitary, others direct their rays over the splanchnics and adrenals, but the majority still approach the problem as the surgeon does by direct irradiation of the thyroid.

The following are some of the disturbances ameliorated or cured by x-ray therapy:

1. Hyperthyroidism as mentioned above. Recommended in all cases where surgery is contra-indicated or refused and in recurrences.
2. Menstrual disorders—Metrorrhagia, Menorrhagia. Ovulation controls menstruation. Moderate dosage over the radio-sensitive ovaries causes a decrease in the function and therefore a decrease or temporary cessation of menstrual flow. Large dose over

the ovaries can cause permanent amenorrhea. Radium when inserted into the uterus to control abnormal uterine bleeding, acts directly on the endometrium and uterine wall and indirectly on the ovaries. In menstrual irregularities due to small fibroids, the theory of action of x-ray is its effect on ovaries rather than on hyperplastic fibrous tissue: an artificial menopause is obtained. Let me emphasize that it is perfectly safe to give a moderate dose of x-ray to control abnormal functional bleeding in young women.

3. Hypertension. That this disturbance is due to sympathetic or endocrine dys- or hyperfunction setting up abnormal arterial tension is a generally accepted fact. Dr. Crile has cured many hypertensive cases by resection of the splanchnic nerves. The roentgen therapist has approached the problem on similar bases and has thus far obtained very excellent results. Dr. James Hutton of Chicago University reported in the *Radiology Journal*, March, 1935, his results in one hundred twenty-five cases. He obtained a definite improvement with marked drop in blood pressure in ninety-five cases. In other cases he obtained relief of symptoms. He irradiated the pituitary, adrenals and splanchnic area. At Mankato Clinic, I treated four patients with good results. In one of the Sisters in the Mankato Hospital I obtained a persistent drop in blood pressure from 220/120 to 160/80 in a few months.

4. The roentgen therapist has followed the surgeon in another important group of diseases, i. e., vascular disturbances, Raynaud's disease, Buerger's disease and gangrene of the extremities where the pathology is due to arterial spasm. The surgeon has obtained good results by periarterial sympathectomy. The x-ray therapist has produced similar results in many cases by irradiation of supra-renal area or sympathetics at the involved cord segment. The method here is innocuous, and entirely safe. It is worth while to try x-ray first in these lesions; you can always fall back on surgery, if necessary.

5. In the neuralgias, x-ray has shown to have analgesic effect. Drs. Shuller and Kuyrkendall referred an interesting case to me the other day—an old farmer with supra orbital herpes zoster and most agonizing pain due to trigeminal neuralgia. X-ray irradiation over peripheral nerves and over gasserian produced prompt relief of pain. The literature contains numerous cases of similar results.

Numerous other disturbances due to sympathetic dysfunction are being treated by x-ray, as angina, bronchial asthma, etc., and the scope is continually being increased.

SKIN.

Twenty years ago, Dr. Pusey stated that x-ray is the most powerful aid available to the dermatologist. This statement is even more true today. Often times the dermatologist is accused of hiding his lack of knowledge of the skin lesion by recommending x-ray.

But the etiology of many of our skin lesions are unknown. If x-ray shortens the course and relieves symptoms of these so-called "self-limited" diseases, then why not use it more? The indications of x-ray in dermatology are based on the following proprieties:

1. Its effect on inflammations and neoplasms have been mentioned.
2. In functional or productive over-activity of sebaceous and sweat glands—acne, hyperidrosis.
3. Inhibitory effect on hyperplasias and hypertrophies—lichenification, warts, keloid.
4. Ability to change the metabolism of regional cells or produce an environment that is less favorable for growth and reproduction of bacteria and fungus as in ringworm, skin tuberculosis, etc.
5. Epilation of hair; temporary epilation by a suberythema dose used for tinea barbae, tinea capitis, favus.
6. Relief of puritis, including functional puritis of vulva and ani.

ROENTGEN DIAGNOSIS.

X-ray in diagnosis has made amazing strides in the last ten or fifteen years, a period that can be called the "injection era" of diagnosis or the era of contrast media. Almost every organ in the body can be visualized by x-ray today. Iodide salts or compounds are used chiefly for contrast, as lipiodol, sodium iodide, tetroiodophenophathalein used in gall bladder work, and various organic iodide preparations used for kidney visualization as iopax, skioldan and hippuran. Barium sulphate is used to visualize the G. I. tract.

The following are a few organs visualized by x-ray with the aid of a contrast media:

1. Kidney:
 - a. Intravenous urography—determines the function of both the kidneys, anomalies, calculi in the ureters, and occasionally in the kidneys, constricted or distorted ureters, hydronephrosis, large tumors and ptosis.
 - b. Retrograde urography—this is definitely more accurate than intravenous urography. Small tumors, localized tuberculosis, first and second degree of hydro-nephrosis, etc., can be diagnosed only by this method.
2. Cholecystography. The oral method has supplanted the intravenous administration of the dye in most clinics and hospitals. Drs. Kirklin, Stewart, and others, have shown that cholecystography is accurate in ninety per cent of all their cases.
3. Chest work. Lipiodol is the agent used:
 - a. In visualizing the location and extent of bronchiectasis, tuberculous or inflammatory.
 - b. To locate lung abscess.

- c. In the diagnosis of bronchial tumors.
- d. In locating the origin of a sinus or fistulous tract.

The injection of air in the pleural cavity is often of great diagnostic aid in determining whether an opacity is due to thickened pleura or fluid, or whether an opaque mass within the lung is a growth of the pleura.

4. Gynecology. Lipiodol when injected into the uterus enables us to obtain a film that gives accurate information of the pathology, as uterine tumors, distorted tubes, and any anatomical peculiarities of the uterus and tubes. It is used in preference to the Rubin test by many physicians for sterility studies, for x-ray reveals whether the tubes are open or closed or pathological. Salpingography is no more dangerous than the Rubin inflation test. Several thousand cases have already been reported in literature without any sequella to the patient. An extension of lipiodol into the vessels of the broad ligament is a very rare complication.

5. Brain pathology. Marked advance in brain surgery and neurology has resulted due to accurate localization of brain tumors by injection of air into the spinal canal and ventricles; the procedure is called Encephalography and Ventriculography.

6. Injection of air into the abdomen, called pneumoperitoneum, has been of value in differentiating liver and spleen from abdominal tumor.

7. You are all familiar with the high degree of accuracy by competent radiologists in the diagnosis of lesions of the esophagus, stomach and intestines. Barium meal studies are likewise diagnostic indirectly, in tumors outside the intestines when they cause an extrinsic defect or displacement of the intestines or stomach, as pancreatic cysts, enlarged liver, retro-peritoneal tumors. An esophageal study is often indicated in a correct diagnosis of mediastinal pathology. It should always be done during the fluoroscopic examination of every abnormal heart. Posterior enlargement of the left auricle, for example, can be diagnosed often only by this means.

I'd like to mention just a word before closing of the value of x-ray in the diagnosis of the surgical abdomen. Many a surgeon has operated for appendicitis only to find a renal calculus later on. Many surgeons have delayed in operating a supposedly subacute appendix only to find at operation a strangulated bowel. While you are preparing for an operation or trying to make a definite diagnosis, take the trouble to obtain a flat plate of the abdomen. No preparation is necessary. Intestinal obstruction in most cases can be diagnosed before clinical symptoms become definite. A film is taken in prone and vertical positions to visualize the dilation of the proximal bowel and fluid levels. In perforation of a viscus, a film is taken in the vertical position; the escaped air collects under the diaphragm. A simple flat plate can demonstrate opaque renal and

biliary calculi, often reveals a perinephritic abscess, subphrenic abscess, tuberculous kidney when calcified, etc. Further studies of the suspected pathological organ is continued, if necessary, by the proper use of contrast medium as already indicated.

I have crowded a large number of facts in this small paper. I do hope I have made the rational of x-ray therapy more clear to you, and have shown why and when it is indicated. I hope you will keep in mind the use of contrast media as an aid in obtaining a roentgen demonstration of the pathology in the organ involved.

(*Journal of the Oklahoma State Medical Association.*)

Extracts

THE VALUE OF SERUM REACTIONS IN THE DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES.

(OSMOND, T. E.: *Brit. Jour. of V.D.*, XI, 3, July, 1935.)

In the author's experience the Wassermann reaction (No. 1 method of the Medical Research Council) is the most reliable blood test for syphilis. False positive results are sometimes obtained in yaws, leprosy and glandular fever. Doubtful results are obtained in febrile and other conditions, but in no other conditions than the above has he obtained a falsely positive result.

A single negative test is not sufficient as a test for cure. He gives as his criteria of cure: A minimum amount of treatment, a series of negative blood tests extending over at least two years and a negative cerebrospinal test taken at the end of the second year of observation.

Persons with persistently positive blood reactions should have their cerebrospinal fluids examined—they should be watched throughout their lives.

Treatment should be given until no more improvement is obtained with some reliable quantitative blood tests such as the Sigma.

A case of late or latent syphilis giving negative Wassermann reactions should be given a provocative injection. The blood should be examined on the 3rd, 5th, 7th, 10th, and 14th day following the injection. The seventh day is the most important.

In testing the spinal fluid the author again prefers the Wassermann test.

The colloidal gold test is troublesome to prepare. The colloidal mastic is preferable. These latter tests clear up under treatment before the Wassermann.

Of the flocculation tests he prefers the Khan. In practice he always performs this test in conjunction with the Wassermann.

The complement-fixation test for gonorrhoea is a measure of anti-body production. The test is usually negative in cases of anterior urethritis and positive when the disease involves the posterior urethra or the cervix uteri.

In complications the test is positive in almost 100 per cent. of cases. Vaccines will produce positive results in normal persons. The reactions fall to negative six weeks after the vaccine is discontinued.

F. W. F. P.

URINARY DISORDERS OCCURRING IN THE NEONATAL PERIOD.

(CRAIG: *Arch. of Disease in Childhood*, October, 1935.)

A very complete resume is given of a series of sixty-one cases and compared with a series of healthy newborn infants. Over 200 specimens were obtained from healthy infants to determine the normal microscopical findings in the urine.

Pus cells. Forty-eight cases presented pus cells in each field in numbers varying from 5 to 140. Clumping was noticed in some specimens.

Organisms in the absence of pus cells. Organisms were demonstrated in three cases in the absence of pus cells. All three children were seriously ill and ran high temperatures.

Pyuria with mixed infection was found in seven cases and *B. coli* were found in all seven. In four non-hæmolytic streptococci. In one pyocyanus. In another hæmolytic streptococci. In the seventh case *B. coli*, non-hæmolytic streptococci, *B. proteus* and pus.

Uric acid deposits in the absence of pus cells. Fifteen cases had heavy uric acid deposits in the napkin in association with pyuria. In five cases similar deposits were noted in the absence of pus cells in the urine. Culture of the urine in each case gave a profuse growth of *B. coli*.

Chemical features and their frequency. Fever 80 per cent. Anuria or marked diminution in urinary output 70 per cent. Thirst 70 per cent. Restlessness or irritability 66 per cent. Colour changes 64 per cent. Sweating 59 per cent. Vomiting 51 per cent. Collapse 20 per cent. (Edema 20 per cent. Convulsions 10 per cent. Associated conditions—(1) intestinal irritability 16 per cent.; (2) postnatal intracranial distress 16 per cent.) (3) minor surface infections 26 per cent.

Treatment.—Breast-feeding was employed where the child's condition remained good, and provided there was no sign of collapse and that high fever was not present. Otherwise, cow's milk in various forms was given. Extra fluids and weak tea were given at frequent intervals. Alkalies in the form of sodium or potassium citrate were given: 16 to 20 grains in 24 hours was usually found sufficient to alkalize the urine, but in some cases as much as 80 to 90 grains was necessary. Attention was paid to bowel function. Where intestinal irritability was a feature, small doses of a paraffin preparation were prescribed. Bowel lavage was carried out daily when the motions were fetid or contained mucus. In severe cases an anti

phlogistine poultice was applied to the loins and appeared to have a beneficial effect on kidney excretion. Tepid baths were given when there was maintained hyperpyrexia and small repeated doses of brandy as a stimulant.

A. M. G.

HISTOLOGIC STRUCTURE OF CARCINOMA OF THE CERVIX UTERI AND ITS RELATION TO RADIOSENSITIVITY.

CHARLES C. NORRIS, M.D. *American Journal Roentgenology and Radium Therapy* Vol. 33, No. 3, March, 1935, 332-337.

The author has very concisely put down the conclusions of the article in such a clear manner that further comment is unnecessary. They are of sufficient value to give them in full detail:

- "1. All cervical carcinomas are quite radiosensitive.
- "2. As compared to many other tumors, the difference in sensitivity between the most radiosensitive types of carcinoma of the cervix and the more radioresistant is relatively slight.
- "3. The fact that the final salvage is small is due not to radioresistance on the part of the tumor, but to the difficulty of securing intensive diffuse irradiation of the entire growth including the metastases.
- "4. As compared to many other tumors, all cervical carcinomas are relatively highly malignant.
- "5. In cervical carcinoma the radiosensitivity and the malignancy index tend to run more or less parallel.
- "6. The greater malignancy probably counterbalances the greater radiosensitivity and in part accounts for the relatively slight differences in the five-year salvage of the different types.
- "7. As the normal cervical tissue is capable of withstanding extremely intensive irradiation, and taking into account the relatively high malignancy of all cervical carcinomas, our aim should be to apply as intensive and as diffuse irradiation as possible to all except definitely hopeless cases.
- "8. Histologic examination is neither a very practical nor a reliable guide as to either the prognosis or the radiation dosage. It may be of some use in groups, but means little in the individual case.
- "9. Papillary tumors are generally more radiosensitive than are those of the infiltrating type."

Medical News and Notes

MYSORE MEDICAL CONFERENCE—DR. B. K. NARAYANA RAO'S ADDRESS—SHIMOGA—The Medical and Sanitary Conference resumed its sitting on the 9th March 1937. The surgical Section meeting was first held under the presidency of Rajasevasaktha Dr. B. K. Narayana Rao.

In the course of his address Mr. Narayana Rao said: "With the growth of the basic, physical and biological sciences and consequent rationalisation of medicine, methods of diagnosis were improved and means of treatment multiplied. While admitting the inevitability of specialisations and the obvious advantages resulting therefrom, yet competent observers have noticed the evils of too early specialisation to be on the increases. Unless always counteracted by the correcting influence of habitually re-membering the patient as a human entity, such specialisation tends to restrict attention to but a small part of his physical side. We are often apt to magnify the noses, eyes and ears and gallbladders to the exclusion from view of the whole person seeking relief. This leads neither to efficient diagnosis nor effective treatment. This necessarily includes not only his physical body but also his intellectual and emotional components. With the intensified stress and strain of modern civilised life the study of this aspect of our patients has become more valuable and imperative. Pray, do not misunderstand me as being against true specialisation. Far from it, I believe it to be an excellent thing for every young medico to specialise in some subject or portion of a subject or at least one particular disease—in the sense that he should make a special study of it, make as many observations as he can, scrutinise the literature and draw correct conclusions from his own experience.

NEGLECT OF RESEARCH. "One matter of great regret is the comparative neglect of research in connection with clinical surgery and the surgical specialities. In many Western Surgical clinics which I had the good fortune to visit I found that the surgeon was closely concerned with experimental work in laboratories associated with his department. Many surgical clinics had animal experiment annexes to them in which keen young men and women worked under the guidance of the Chief Surgeon. The value of such provision to keep the intellect keen and the outlook alert cannot be exaggerated. Our surgical problems are many, our opportunities are equally great and it would be a good thing if a beginning were made in this direction of providing experimental laboratories attached to our important surgical clinics.

Modern knowledge of human metabolism, of endocrine secretions, of tropical diseases and of dietetic disorders has revealed to us ways of preventing to a greater or less extent many surgical diseases amenable only to cutting procedures if allowed to develop. As examples, I may mention such diseases as stone in the kidney or bladder, elephantiasis, hydatids, liver abscess, Glaucoma, many gastric and intestinal troubles, thyroid disease and complications of pernicious myopia and a host of complications due to venereal infections. With proper education regarding right living and with well organised public health measures many of these surgical affections

can be either entirely prevented or at least their ill-effects minimised. Perhaps, in the condition of mass suffering and general poverty that we meet with, prevention is of much greater import. With sound knowledge and great faith, the two essentials of a true surgeon, we can serve to even a greater extent in the work common to us all of prevention or relief of human suffering."

Papers were then read and discussed on transplantation of cornea, corneal ulcers and their treatment, common diseases of ear, nose and throat in the general practice and transplantation of ureters.

HEALTH SECTION. In the unavoidable absence of Dr. P. Parthasarathy, Director of Health, who should have presided over the Health Section, his paper on "Public Health" was read by Dr. V.V. Monteiro who occupied the chair. The paper contained a brief survey of the public health conditions in the State and detailed the responsibilities of the several agencies and of the medical profession in particular.

After giving statistics of diseases and deaths and causes of deaths, the paper stated that an analysis of the statistics showed how much of suffering, both mental and material, could have been saved and how many lives could have been saved from deaths due to the avoidable diseases, if necessary improvements had been effected. It was the duty of the community to maintain the physical, mental and moral condition of individuals to maintain their happiness and prosperity of the people. Public Health was the foundation of happiness and prosperity of the people and its promotion was recognised as an important function of Government and the benign Government of His Highness the Maharaja of Mysore had taken all the steps that finance could permit to improve and promote the public health of the subjects. Malarial study stations had been established, anti-malarial operations were carried on, anti-hook-worm campaigns had been started. The Government were giving sufficient encouragement to local bodies to augment their resources, to improve their water-supplies, improve the drainage, to clear the slums and improve the towns. Every attempt should be made by both official and non-official agencies to create public health conscience.

The proceedings came to a close with a tea.

The election of office-bearers for 1937 took place Dr. S. Subba Rao was elected President, Dr. B. K. Narayana Rao, Dr. J. E. Robinson and Dr. P. Parthasarathi Vice-presidents and Dr. K. Sreenivasachar Secretary.

INTERNATIONAL UNION AGAINST TUBERCULOSIS—The Executive Committee of the International Union against Tuberculosis, General Secretary Professor Fernand Bezancon, met in Paris on 9th January 1937 at 2-30 p.m. The main object of this meeting was to come to a decision concerning the date of the 10th Conference of the International Union which should have taken place in Lisbon in September

1936 under the Chairmanship of Professor Lopo de Carvalho and which, owing to unforeseen circumstances, had to be adjourned.

It was agreed that the 10th Conference should take place in September 1937, either at the beginning of the month, should it be possible to meet in Lisbon, or at a date to be decided later should the Conference have to be held in another city.

In their wish to pay due regard to the active and intelligent endeavours of their Portuguese Colleagues who, under normal conditions, would have been entitled to expect a most successful meeting, the Members of the Committee expressed the hope that the Conference could take place in Lisbon next September, the final decision to be taken only towards the end of April or the beginning of May 1937.

The Executive Committee on the other hand decided that the 11th Conference of the International Union against Tuberculosis should meet in 1939, instead of 1938, in Berlin, subject to the statutory approbation of the next General Assembly of the Union.

The Members of the Committee were unanimous in expressing their gratitude to the Italian Government for having placed at the Committee's disposal six scholarships at the Carlo Forlanini Institute in Rome.

They approved the Regulations of the Leon Bernard Memorial Fund according to which a prize shall be awarded every other year by the Executive Committee to the author of an essay on tuberculosis from a social point of view, written in French or in English.

Finally it was decided that the Secretariate of the Union would ask the Councillor Members in the different countries to select certain scientific questions which would be proposed for research and which might eventually be inscribed on the agenda of future Conferences of the Union.

THE MEDICAL PRACTITIONERS' ASSOCIATION, NUZVID.—A monthly meeting of the above Association was held at Agenpalli on Sunday the 31st January 1937 at 3-30 p.m. with Dr. S. Hanumantha Rao in the chair. Mr. A. Venkateswara Rau, the local Rural practitioner was at home to the members. The meeting commenced with prayer after which minutes of the previous meeting were read by the Secretary Mr. N. Rama Rau which were duly adopted. The members had a long discussion over several clinical cases of professional interest of which some were the following.

1. Mr. A. Venkateswara Rau read his case notes upon a case of female suffering from chronic suppurative Bronchitis and also another case which he thought to be one of chronic Appendicitis. On discussion, the later case was decided to be one of faecal concretions stimulating Appendicitis.

2. Mr. S. Hanumantha Rau narrated history of a case of T. P. that started with fever typical of Malaria (no blood examination was done) and later on developed cough and lung affection.

Review

Annual Report of the Indian Institute for Medical Research for 1935-36. Issued by the Governing Body, 41, Dharamtala Street, Calcutta.

The first annual report of the Indian Institute for Medical Research shows the successful outcome of small beginnings made, about three years ago, to investigate the special health problems of this country, to provide a centre for the training of research workers, and to apply the knowledge obtained to clinical practice and preventive medicine. The Institute was started on January 1, 1935 with an influential Governing Body presided over by Sir Nilratan Sircar, and a learned Scientific Advisory Board. Like the Pasteur Institute of Paris, the Indian Institute is run partly from donations and endowments and partly from the sale proceeds of a manufacturing annexe (which would undertake the production of standardised biological products such as vaccines and sera) and a diagnostic laboratory. Donations and contributions to the Institute are sure to be well utilised, and the reviewer wholeheartedly joins in the Governing Body's appeal for greater financial assistance.

At present the Institute has a Diagnostic section and four research departments. The Diagnostic Laboratory is under the joint supervision of Dr. H. Ghosh, M.B., M.S.P.E. and Dr. J. C. Ray, M.D., and conducts clinical pathological investigations, as well as serological tests. All complement fixation tests for syphilis have been confirmed by Kahn test. It was found that many treated classes of syphilis were negative in complement fixation test but showed positive reaction in Kahn test. Some new techniques, which were found to yield better results, have been introduced.

In the Department of Bacteriology, under the direction of Dr. H. Ghosh, work has proceeded on the immunity problems connected with cholera and typhoid. A potent anti-cholera serum has been produced and work is being continued to increase the virulence of the toxin still further with a view to get a more potent anti-cholera serum. Investigations with typhoid toxin also indicate the possibility of the production of an effective anti-typhoid serum. Work is proceeding to find if protection can be developed against cholera and typhoid by a simplified method of immunisation through oral administration of the corresponding vaccine.

In the Department of Protozoology, under the direction of Dr. J. C. Ray, a systematic study on problems of protozoal cultivation and protozoal immunity is in progress with reference to malaria, amœbiasis and leishmaniasis, in order to ascertain whether antigens consisting of pure parasitic bodies obtained either by artificial cultivation or by suitable methods of extraction, are capable of conferring

immunity or additional resistance in the body of the host, both for prophylactic and therapeutic purposes. Oriental sore vaccine has been produced and it is the first protozoal vaccine introduced into therapy with success. Leishmania donovani vaccine is also proving useful in post-kala-azar dermal leishmaniasis. The production of prophylactic malarial vaccine is within the realm of possibility. Some work is being done on allergic diseases.

The Department of Biochemistry and Nutrition is directed by Dr. B. C. Guha, D.Sc., Ph. D., and a systematic survey of Indian food-stuffs and dietaries was conducted. It has been shown that the vitamin C content of mothers milk can be very appreciably raised by the ingestion of vitamin C by the mother. Work is now in progress on the anti-infective properties of vitamin C. Biological and chemical analysis of the common dietaries of Bengal has definitely shown that these diets are partially deficient in proteins (especially of high biological value) in vitamins A and B-complex, and in calcium and phosphorus. An extensive investigation on the nutritive values of isolated food-stuffs and of common dietaries is in progress with the object of constructing model dietaries which are nutritionally optimum but would be within the means of the majority of the people of this country.

The Department of Chemistry, Immuno-chemistry and Chemotherapy, under the direction of Dr. B. N. Ghosh, D.Sc., has undertaken an investigation of the mechanism of antigen-antibody combination.

The Institute has done good work within the short time that it was established, thanks to the devotion and efficiency of the workers and helpers. More remains to be done and we hope that finance will not stand in the way of the further development of the activities of the Institute. The Report enumerates the research papers contributed by the workers of the Institute to the various scientific and medical journals. The Institute has started a "National Collection of Type Cultures" which will be placed at the disposal of all research workers and institutions, and it is proposed to undertake the standardization of biological products and drugs. A "Service and Education department" will carry out propaganda among the masses with regard to general hygiene and the practical results of research. The Institute is in need of a library and for this and other projected fields of research ample funds are necessary, and philanthropists all over India would do well to bestow liberally on this promising product of true national enterprise—The Indian Institute of Medical Research.

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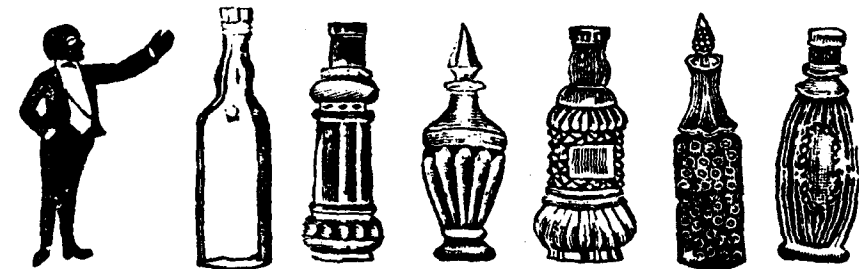
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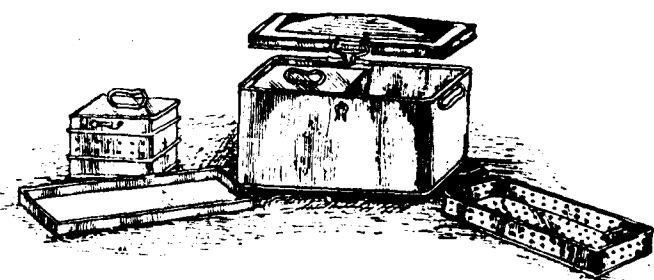
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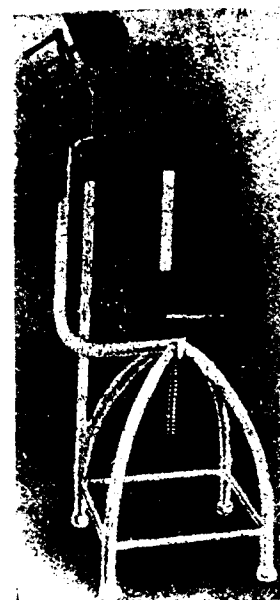


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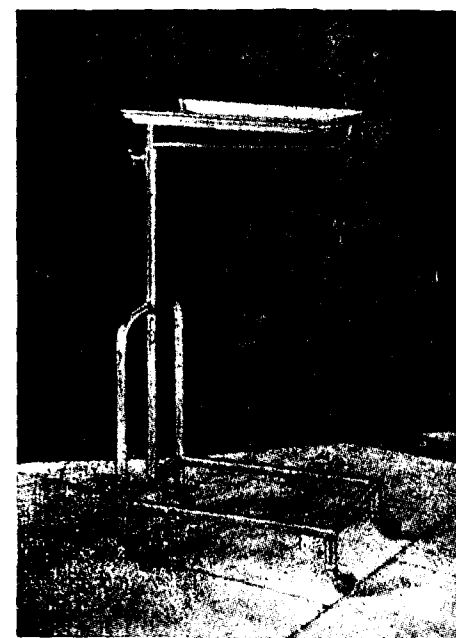
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Specialists' Examination Stool with adjustable head-rest and seat. This piece is very sturdy and useful for a consulting room. Seat and head-rest heavily nickel plated.

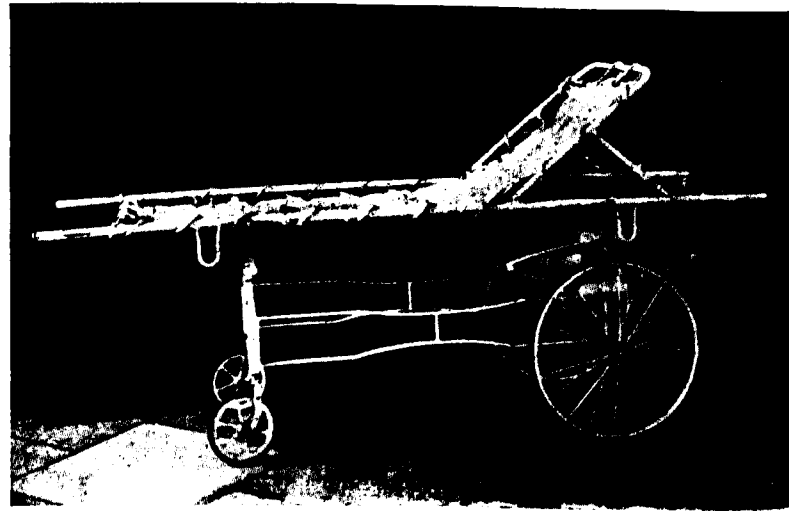
Mayo's Adjustable Instrument Stand to push over operation table, with nickel plated metal tray on cone bearing, rubber tyred castors, made of steel tubing, white enamelled.



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