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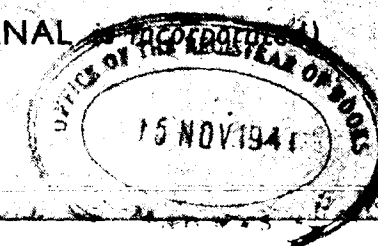
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Journal of the All-India Medical Licentiates' Association

(With which THE AGRA MEDICAL CLUB JOURNAL is incorporated)

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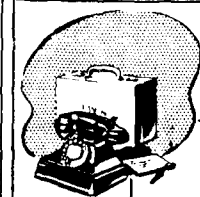
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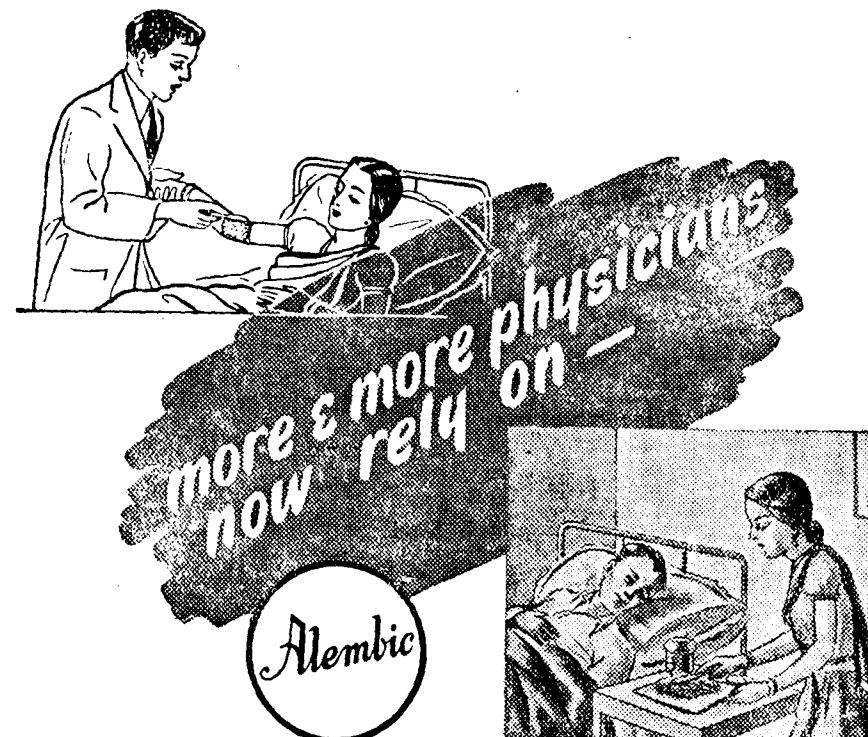
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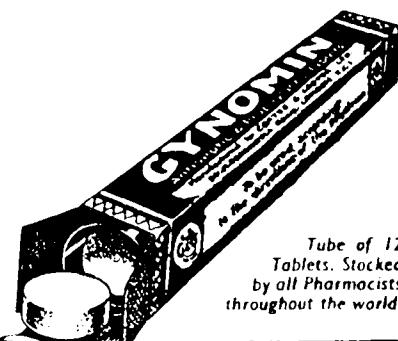
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1. Diagnosis and treatment of Epistaxis
2. Diagnosis and treatment of Hemoptysis
3. The causes and treatment of Retropharyngeal Abscess
4. Management of Pleural Effusion of sudden onset
5. Causes and treatment of Pulmonary Embolism
6. Compression and Concussion of the brain as a result of cranial injuries
7. The diagnosis of Acute Abdomen
8. Causes and treatment of Retention of Urine
9. Paracentesis of Thorax and Abdomen—when and how to do it
10. The position of specific anti-sera in serious surgical infections

Each contribution should not exceed 10 foolscap sheets (typed on one side only with double spacing and with sufficient margin on the left).

Long quotations should be avoided, and all references should be checked before submission.

It would be greatly convenient if the manuscript is sent to reach this office on or before 30th April 1942.

The best one among the contributions received will be awarded a prize of Rs. 15/-, and given a place of honour in this Special Number.

The following special numbers have been issued since 1936, and press opinions on some of them are recorded below. Those marked with asterisks are still available for sale at Re. 1/- per copy, post free.

CEREBRO-SPINAL MENINGITIS—January 1936

"The Indian Medical Journal is a monthly periodical corresponding to our Practitioner and like that Journal it issues symposia on specified subjects. The number for January 1936 deals with Cerebro-Spinal Meningitis. There are 13 articles covering all aspects of Cerebro-Spinal Meningitis.....the first three deal with incidence in part of India and give us matter which is new to us....."—Medical Officer, London, April 4, 1936, p. 134.

LEPROSY—July 1936

"The Leprosy Special Number of the Indian Medical Journal, July 1936 contains no fewer than 23 articles.....this symposium is open to little criticism and much praise, and we congratulate the Indian Medical Journal on the energy and enterprise that have gone into its production."—Lancet, London, September 1936, p. 699.

* BLINDNESS IN INDIA—April 1937

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"The whole magazine is most interesting and I think you have done well in the various contributions that you have received."—W. F. T. Haultain, Edinburgh, August 4, 1937.

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NUTRITION—December, 1938

"I am very glad to have the copy of the Nutrition symposium which is most interesting and will prove to be a great value to me for reference."—F. J. G. Lishman, Gloucestershire, January 23, 1939.

HISTORY OF MEDICINE—April 1939

"I feel that the historical presentations of scientific medical subjects have a definite value."—Prof. E. W. H. Cruickshank, Aberdeen, May 15, 1939.

* DYSENTERIES IN INDIA—September 1939

* CHOLERA IN INDIA—October 1939

* TYPHOID IN INDIA—June 1940

"An excellent account of typhoid fever is given in the issue of the Indian Medical Journal for June 1940."—Prescriber, Edinburgh, January 4, p. 17.

* DIABETES MELLITUS—December 1940

Referred to by 'Prescriber,' June 1941, pp. 126 and 133.

* MEDICAL EMERGENCIES—July 1941

* OBSTETRIC EMERGENCIES—Octr. 1941

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ADDRESSES AND ARTICLES

Tarsectomy in Trachoma

• **Dr. M. K. Gupta, L.O. (Madras), Zeug. (Vienna),**
(Eye Specialist, Public Mohan Eye Hospital, Aligarh)

The pathological researches of many authors have proved that in later stages of trachoma, the entire tarsus with the overlying conjunctiva, and the meibomian glands with their excretory ducts are all diseased and it is not possible to bring them once again into a healthy condition, though the constant use of copper will, to some extent, relieve the patient of some troublesome symptoms.

The statistics of the number of outpatients of every eye clinic show that the village population seeks special aid only in most difficult cases of trachoma when recurrent attacks of corneal ulceration, epiphora, photophobia, blepharospasm and gradual diminution of vision deprive the patient of the possibility of work. On examining such a patient one may see that the tarsus is very greatly thickened and the conjunctiva hypertrophied with advancing pannus and greatly reduced vision. Most commonly advanced trachoma is among those diseases in which the period of treatment is very long and where the medicaments and radiotherapy have almost failed to give a permanent cure. It is, therefore, that a surgical treatment becomes absolutely necessary in well advanced cases of trachoma.

The operative treatment in such cases of trachoma as recommended by many eminent surgeons differ widely, but the application of combined Heisrath-Huhnit tarsus excision as described below has been found most suitable in our practice. It has no sudden and recent beginning; on the other hand, the present technique has been the outcome of at least a century's work and modifications of various authors. In its present form the operation was first devised by Prof. Heisrath of Königsberg and then modified by Prof. Huhnit. Since then it has been practised in various countries. In India it is not practised so often, but if adopted it will produce excellent results, provided the selection is a good one, and the operation is done at a suitable time. It may be mentioned that one should not be in a hurry to perform this operation on those eyes which are in a state of acute congestion, or there is corneal ulceration. The best time to do the operation is when the eye is very quiet and the stage of acute conjunctivitis or ulceration has passed off.

Technique of the Operation

Instruments required:—A sharp scalpel, half bent scissors, needle holder, three fixation forceps, Yæger's horn spatula, three silk sutures No. 4 for drawing up the lid, three silk sutures No. 0 with very fine sharp ophthalmic needles at each end for three loop sutures.

Anæsthesia:—1½ c.c. of 2% Novocain + Adrenalin ½ c.c. is injected under the skin of the lid border, and 1 c.c. is injected under the conjunctiva of the upper fornix.

The Operation

First step—Inserting three sutures and drawing the upper lid on Yæger's spatula (Fig. 1).

The eye is cocainised with local instillations of 1% pantocain drops. A subcutaneous injection of 2% novocain solution + a few drops of adrenalin is given along the lid margin to prevent any pain whilst passing the three sutures along the lid. Now three sutures are passed just along the lid border—one in the centre, and two along the canthi. These three sutures are very convenient for strong retraction of the lid turned upwards on Yæger's spatula. The upper lid is then everted and a subconjunctival injection is given along the upper border of the tarsus so as to balloon out the upper fornix.

Second step—Incision of the fornix conjunctiva along its whole length and separating it off carefully from the underlying tissues by means of blunt headed scissors, and scalpel (Fig. 2).

The incision is made 1 mm. below the demarcation line, dividing the affected tarsus from the healthy conjunctiva of the fornix along its whole length. The line of demarcation of the healthy conjunctiva of the fornix anesthetised with novocain-adrenalin stands out clearly, if the lid is drawn tightly on Yæger's spatula. The undermining of the conjunctiva is done towards the limbus. The conjunctiva thus separated should be thin and not contain any underlying tissue. This separation of healthy fornix conjunctiva should be continued by means of blunt headed scissors so as not to make any holes in it, and it should be deep enough so that the conjunctiva may freely cover the surface from where the diseased tarsus has been completely removed. Now this deeply separated off healthy conjunctiva fornix is allowed to fall back till sutured to the lid margin.

Third step—The entire removal of the diseased tarsus along with its overlying conjunctiva (Fig. 3).

Supporting the everted lid on the lid plate, a deep incision about 2 mm. from the lid margin is made in the tarsal groove from one end to the other so that this incision and the former one done in the fornix meet at both the ends. The entire tarsus affected with trachoma along with the conjunctiva over it is gently severed from the lid taking care not to injure the levator muscle. The tarsus with its conjunctiva is thus completely severed from all its attachments to the lid. If this step is properly done there will be no bleeding and no danger of subsequent ptosis.

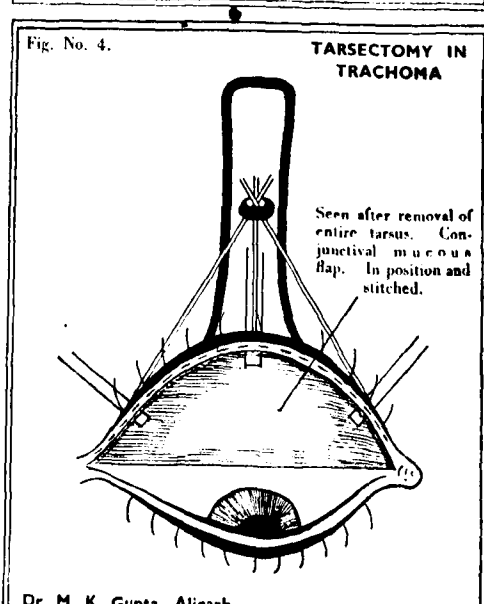
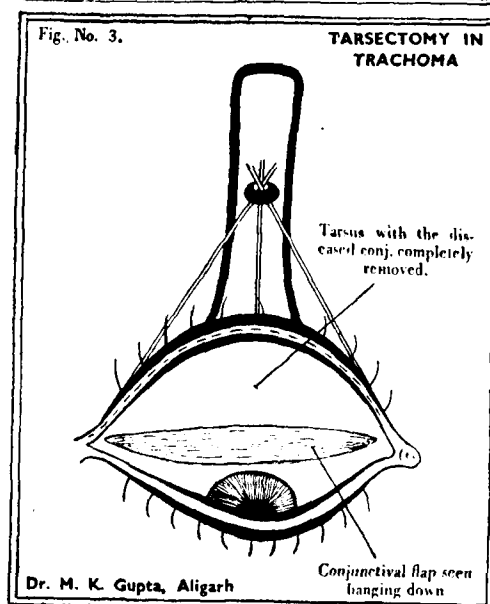
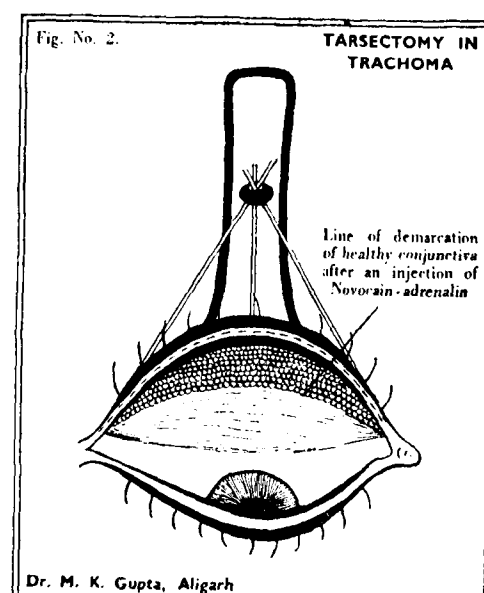
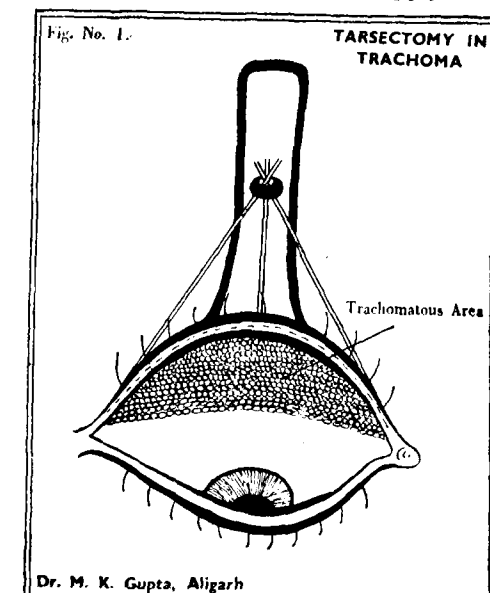
Fourth step—Carrying three stitches from the cut margin of the fornix conjunctiva through the lid margin. (Fig. 4).

The correct application of these three sutures is very important for the cosmetic and therapeutic results of the operation. Three loop sutures are applied equidistant from each other, one in the centre and the other two on the sides on the free border of the fornix conjunctiva, and are passed through the lid about 2 mm. from the lid margin; passed slant-wise so as to go out on the skin surface just above the eyelashes. The ends of these sutures are well stretched and tied round a strip of gauze. After inserting all the six needles we receive three loop sutures. Drawing these sutures up, we draw the healthy fornix conjunctiva forwards on the denuded rough surface.

Another method is that instead of passing loop sutures we can pass three stitches through the healthy conjunctiva fornix and suture them to the cut lid margin directly. In doing so, we must be very careful to give very fine knots, otherwise corneal ulceration will be produced.

After the operation, binocular bandage is put for two days continuously. Later on daily antiseptic dressing is done and both the eyes are bandaged for four days. It is always preferable to apply an emollient

consistently with advantage followed during our practice, in all our cases of persistent trachoma not yielding to any treatment. The steadiness of the therapeutic results obtained, easiness of the performance of the operation, and the short duration of post-operative treatment, all these data, in my opinion, are sufficient to recommend to oculist the application of this operation in severe forms of trachoma with or without pannus, not yielding to any other treatment. The patient is very quickly relieved from the lacrimation, gritty



sterile ointment under the lid so as to prevent any corneal abrasion from the sutures. The stitches are removed on the third day and then the usual dressing is done till redness and watering has completely disappeared. Dark protective glasses are used for some time.

There are different variations in the technique of this operation, but the one described here is, in my opinion, the quickest and the easiest mode of approach without giving rise to any troublesome complication either during or after the operation, and which we have

sensation, and photophobia. The mechanical ptosis disappears together with the tendency to entropion and trichiasis. There is a quick improvement of the corneal complications, and the pannus gets reduced with improvement in vision. Recurrence of acute exacerbations are very uncommon and if at all they occur they are not severe and respond promptly to the usual local treatment. After the operation, anti-trachoma treatment must be continued for at least three months to root out the last traces of infection.

Impotence: Its Aetiology and Treatment

● Dr. M. L. Saxena

(Medical Officer, Pipra Hospital, Gonda)

By impotence is meant the inability to accomplish the sexual act normally. It must be clearly distinguished from sterility, viz., inability to reproduce. An impotent man may be fertile and even father of children.

Aetiology

It will be convenient to divide cases of impotence into: (1) Organic or secondary, and (2) Psychological or primary.

(1) *Organic Impotence*:—In these cases an organic lesion either in the genital tract or outside it interferes with the mechanism of sexual intercourse. Among lesions of genital tract that can cause impotence are congenital malformations of the penis—such as extreme degrees of hypospadias or epispadias and curvature from scarring of the erectile tissue or from fibrous infiltration of the corpora cavernosa penis and corpus cavernosum urethrae. Phimosis may also be a cause of temporary impotence on account of pain resulting from stretching of foreskin when organ is erect. Growths and oedema of the penis may interfere with the penetration, conditions such as large scrotal hernias and elephantiasis of the genitals.

Lesions of prostate and posterior urethra are particularly liable to affect coitus. Chronic or subacute prostatitis generally due to chronic gonorrhoea results in premature ejaculation, the patient being able to obtain an erection but suffering from immediate discharge before he has had time to penetrate.

Impotence may also be secondary to lesions elsewhere in the body particularly in the central nervous system. Cases of paralytic impotence may result from lesions in cerebral cortex, lumbar centres or in peripheral nerves. Sexual weakness associated with melancholia and G. P. I. are examples of impotence due to damage to the higher centres, and tabes and myelitis provide instances of impotence due to injury involving the lumbar centres. The impotence that is occasionally a feature of peripheral neuritis and of post-diphtheritic paralysis illustrates a weakness due to involvement of the peripheral nerves. Sometimes sexual weakness produced by damage to higher centres is preceded by a phase of sexual excitement. The early tabetic not infrequently experiences a period of increased sexual appetite due to irritation of the lumbar centres. In epilepsy, G. P. I. and senile dementia bouts of sexual excitement may be followed by complete impotence.

Loss of sexual capacity may also be due to such conditions as endocrine disturbances, diabetes mellitus, obesity, alcoholism and drug habits. The commonest endocrine disturbance associated with sexual weakness is some form of hypogonadism. All grades of eunuchoidism may be encountered and in its less severe

manifestation the condition may not be incompatible with a mild degree of sexual desire. In many of these cases the testicular deficiency is associated with other endocrine disturbances, particularly of the pituitary, so that if endocrine therapy is undertaken, pluriglandular treatment is likely to be more efficacious than monoglandular. Impotence secondary to diabetes is of bad prognosis. It is seldom that any improvement is noted even when the glycosuria has been completely controlled by diet and insulin. All acute and chronic illnesses have some temporary influence on sexual appetite. In the prodromal stage of an illness desire is frequently increased but during its course and for a long time afterwards virility may be lost. The only chronic illness in which the desire is usually consistently increased is pulmonary tuberculosis.

(2) *Primary Impotence*:—When the inability to perform the sexual act cannot be accounted for by any organic lesion, impotence is referred to as primary or psychological, and this is by far the commonest type of impotence seen in general practice. Even when slightest organic changes are revealed in the genitalia, it is the psychological reaction of the patient to these changes rather than the changes themselves that is responsible for his impotence. A temporary lesion of the genital organs provides an ideal starting point for a sexual neurosis. It is, therefore, to the psychological attitude of the patient to his lesion that special attention must be paid.

A glance through the literature of functional impotence shows the difficulty that attends any attempt to classify it, although cases of primary impotence may roughly be grouped according to the prominence of any symptom such as weakness of erection, premature emission, etc.

By far the most frequent cause of impotence is fear, anxiety or disgust linked up in the patient's mind with the subject of sex. Since the sexual function is intimately connected with the emotions, it is not surprising that it is easily upset by emotional disturbances. In general terms it may, therefore, be stated that the main cause of a primary impotence is an inhibitory impulse from higher centre interfering with the normal function of the reflex centres situated in the lumbar enlargement of the cord.

Treatment

The first essential in treatment is that the medical man should gain the patient's confidence, and for this reason a very elaborate examination should be carried out in order that the patient may be assured that his case is being taken seriously. Data not really needed for the diagnosis of the case, viz., B. P. readings, etc. should also be taken simply in order to create faith,—'faith moves mountains', as the saying goes. When the examination has been done he may be told that although the sexual machine is properly developed and healthy the stimulus needed for its proper working is lacking, but assured that there is no reason at all why with proper treatment he should not be completely cured.

(1) *Drugs*:—The whole pharmacopeia has been searched for a cure for impotence and the number of

drugs that have been prescribed at one time or another is an indication of their general inefficiency. Yohimbine was introduced some years ago but has proved disappointing. Strychnine, however, may be a useful adjuvant in cases of weakness of erection. It should not be taken as a routine, but only during the six hours preceding an attempt at intercourse, preferably in the form of pills containing strychnine nitrate or sulphate 1/20 grain. These pills should be taken at two-hourly intervals on an evening on which intercourse is to take place. The patient must, however, clearly understand that the mere fact that he has taken the medicine should not be regarded as an indication that intercourse must of necessity occur. If no urge is felt the attempt must be abandoned until favourable moment, preceded, if possible, by the taking of more pellets. In the case of some individuals of hypothyroid type, thyroid extract may be useful. It is particularly suitable for middle aged men who marry late in life and find that the sexual power is on the wane. The impotency of obesity also yields to small doses of thyroid and regulating of diet. Sexual weakness resulting from alcoholism and drug habit will usually disappear when the habit has been cured. Arsenic and phosphorus have also gained a reputation in the treatment of impotence, but it is unlikely that they exert any action than that of a general tonic. For this reason it is best to prescribe them in conjunction with other tonic drugs such as iron and nuxvomica. Damiana was sometimes considered to have a specific action on the lumbar centre, but according to the experience of most doctors it has not proved to have any special use in the treatment of impotence. Local measures should be adopted in all cases of premature ejaculation associated with an inflammatory reaction in the posterior urethra—for example, prostatitis and vesiculitis. Of these measures the most effective are prostatic massage and instillation of silver nitrate into the posterior urethra. The instillations are carried out through an Utzman catheter, once or twice weekly starting with a few cubic centimeters of a 1-1000 solution and working up, by degrees, to a strength of 1 per cent. In exceptional cases better results are obtained by cauterizing the verumontanum through a posterior urethroscope. An alternative to the instillation is the passage of a cold sound, or better still of a psychophore, or sound allowing of a circulation within it of the passage of cold fluid.

Of other drugs to be used locally cocaine and perine are the most important. Sometimes by applying a weak solution of cocaine hydrochloride to the glans penis before coitus, thereby reducing its sensitivity, premature ejaculation is avoided and the duration of intercourse increased. A 2 per cent. solution of perine has a longer anæsthetising effect than has cocaine and is, therefore, a better application. Sensitiveness in the female is not affected.

Some of the unani and ayurvedic prescriptions for the cure of impotency are no doubt good, but do not satisfy the high claims held by the authors.

Attention to general health, and diets rich in vitamin A and B complex is important.

(2) *Physiotherapy*:—Exercises, baths, and electricity all find a place in the treatment of a case of

impotence. Generally speaking sexual vigour varies with the general health of the patient so that all methods of treatment that increase general bodily efficiency are likely to exert beneficial effect on virility. Exercises particularly of the abdominal and lumbar region and thighs are of great importance, since there appears to be some relation between the tone of these muscles and the sexual vigour. Electricity is also prescribed by a majority of those who deal with impotence. Electricity in any form appeals to the imagination of the patient. Since functional troubles are particularly amenable to psychotherapy, electricity in this sense may be very useful in the treatment of primary impotence. There are various types of electric belts on the market, suiting various purses, and they do a lot of good to the nervous type of patient. Diathermy of the testicles has recently been advocated as a means of increasing the secretion and absorption of the hormone.

(3) *Organotherapy*:—Kenneth Walker states that although he has been experimenting with the oral and parenteral administration of testicular extracts for a good many years, he cannot cite a single case in which positive results have been attained. Doubtless this is because very little capacity of storing the male hormone exists in the human testis. Many observers have shown that a ton of bull's testis are required to produce 20 milligrammes of male hormone. Fortunately other means of obtaining it have been discovered, such as extraction from urine, or by degradation of cholesterol, and therefore male hormone therapy may be used to a greater extent now than hitherto, in the treatment of impotence. What is true of active principle of testis is equally true of the gonadotropic principle of the anterior lobe of the pituitary. The administration of a small quantity of thyroid has long been a practical proposition, and thyroid therapy has a definite place in the treatment of impotence.

(4) *Operative Treatment*:—Surgery has no little scope in the treatment of impotence. When the sexual difficulty is due to an organic lesion, such as a tight prepuce, a large hydrocele, or a hernia, an operation is no doubt necessary for its cure.

The treatment of sexual weakness by vaso-ligature rests on the well known experiments of Ancel and Bouin and on the later work of Stienach. More particularly as the result of his work, rejuvenation operations have been carried out during the last ten years by a large number of practitioners. Vaso-ligature and testicular grafting were extensively done in our country by late Dr. M. A. Ansari of Delhi and according to him, apart from an increase in sexual potency, there was also observed increase in weight, improvement in skin and hair conditions such as obliteration of wrinkles and better pigmented and softer hair, lowering of blood pressure, improvement in sight, increase in appetite, better memory, greater initiative and improved mental conditions, etc.

Recently an ingenious operation for the cure of an impotence characterised by weakness of erection has been advocated by Lowsley and Bray. The operation is based on the idea that the weakness of erection is due to failure on the part of the ischiocavernosus and bulbocavernosus muscles to constrict the efferent veins of the penis. By the insertion of ribbon gut sutures these

muscles are shortened so that when they contract they have a much more powerful action in obstructing the venous outflow from the penis. The operation would appear to be particularly indicated in cases of impotence following traumatic injuries to the perineum.

(5) *Psychological Treatment*:—It is no exaggeration to say that in the majority of cases of impotence the psychological handling of the patient is the pivot on which the whole treatment turns. This is true even in organic cases since the patient is most certainly suffering from fear and lack of confidence resulting from the discovery that something is wrong with his organs of sex. From the outset the practitioner must endeavour to overcome his patient's distress and despair, for it is more than likely that he has already sought medical help and has been told that there is nothing wrong with him or that his trouble will respond to some simple remedy. If the patient's confidence is to be gained he must feel that his case would be taken seriously. For this reason, if for no other, a very searching examination must be made not only of his genital organs but of his general condition. If at the examination a physical explanation of the sexual debility is not forthcoming, a careful history should be taken in the hope of discovering any important psychological factors. It should be the practitioner's aim to obtain as much insight as possible into the patient's psychological make-up, and a knowledge of his mental attitude towards his trouble. His early sex history, and such questions as masturbation, views on sexual morality, and interest in sex should be investigated. During this interrogation the practitioner should look out for manifestations of fear or anxiety, for, as has already been stated, fear in some form or another is the commonest cause of functional impotence.

Sometimes valuable information can be obtained from an examination of the characters of the patient's sex dreams and masturbation fantasies. These may lead the investigator to the conclusion that the trouble is due to some serious form of sex inversion such as homosexuality. Some experience is, however, necessary for practitioners dealing with such cases. When the patient is married, valuable information may, if possible, be obtained by a subsequent interview with his wife, if she happens to be an educated and cultured lady. She may throw light on her husband's problem, and it may also sometimes become apparent that she herself continues to be his chief difficulty. In order that the patient may be helped some change in his sexual environment may have to be effected and to a married man most important part of his sexual environment is his wife. It is, therefore, always important to obtain her co-operation, before any plan of treatment is initiated. Generally, if this is explained to her, she will be only too willing to assist. Sometimes, however, it becomes obvious that while the patient is married to that particular woman a restoration of sexual capacity is impossible, the case being one of relative impotence.

When a thorough knowledge has been gained of the psychological make-up of the patient and of the causes that have produced his impotence, a scheme of treatment must be outlined. Sometimes all that is required is instruction, for, strange as it may seem, many adults marry in a state of ignorance of sexual function. In other cases treatment will merely consist of reassurance,

instructions, and encouragement. Since, however, it is hard for many patients to realise that their difficulties are the result of psychological rather than of physical causes, physical treatment may often have to be prescribed for purely functional cases. In such circumstances every measure that is conducive to improvement in general health is of use, such as moderate exercise, fresh air, change of scene, cold baths, douching, massage, etc. Alcohol may be prescribed when the patient's attention has been unduly centred on his own organs of sex during intercourse, and when it is difficult for him to free himself of his old associations of failure. In such cases a glass of wine or beer before retiring may produce the confident attitude characteristic of the male during intercourse.

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Radiological Supplement to Clinical Observations on Rickets

● **Dr. A. V. S. Sarma, M.B., B.S., D.C.H.** (London)
(Hon. Asst. Physician, Government Stanley Hospital, Madras)

I made my clinical observations on three cases of rickets in the August issue of the *Journal*. The present article is a radiological supplement to the previous one illustrated by clinical and X-ray photographs which reveal some obvious and overt changes in the skeleton, parts of which have been particularly studied.

Case I—Abdul Khadar (27-7-1940)



The clinical photograph on the left top shows the typical syndrome of the "rickety rosary", pigeon breast and Harrison's sulcus. The X-ray photograph on the right top shows the lower ends of the Ulna and Radius which are fluffy with osteoporosis. The X-ray photograph of leg bones below shows (1) increase in width and translucency in the medullary cavity of both bones, (2) irregular growth and ossification of epiphysis and diaphysis and (3) an ill-defined and widened proliferative zone.

Case II—Raman (28-9-40)



The clinical photograph on the left shows clearly the protuberant abdomen and bow legs. The X-ray picture of wrist in the centre, taken on 28-9-40, shows typical rachitic wrist. The X-ray picture of the same wrist taken on 8-10-40 (picture to the right) shows improvement as revealed by a more distinct epiphysis and increased density of osseous shadow.

Case III—Ramakrishnan (29-9-40)



On the left is the clinical photograph before treatment, and on the right is the one after treatment, taken on 13-10-40. The picture of X-ray wrist (6-9-40) in the centre, shows typical rickety changes, while that on the top (Radius, ulna and wrist taken on 21-9-40) shows almost a final cure as is evident from 'the white line'.

(Note:—The X-ray picture of wrist of Case II belongs to Case III and vice versa. The error is due to the wrong imposing of the photos in the block.)

Acknowledgments

I am greatly indebted to Dr. G. R. Dinker Rau, M.D., Superintendent and First Physician, Government Stanley Hospital, for permitting me to study and report on all the above cases which were in his wards.

Dr. G. S. Das, Malariologist, Gauhati (Assam) writes:—

Reference the case note on "Hepatitis with Cholecystitis" by Dr. L. K. Burman, Bangiya (Assam) published in the *Journal* of April 1941 issue, I may be permitted to point out that there was no justification for administering quinine without blood examination; so also santonin and emetine without the examination of stools. Hepatitis with cholecystitis is quite common in Assam and usually, even in the absence of laboratory facilities, clinical diagnosis is easy without the therapeutic test which Dr. Burman seems to have made unnecessarily in the case under reference. I just make this comment to impress on your readers that therapeutic tests, when clinical diagnosis is easy enough, are not proper, and may even prove dangerous in a few cases.

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The Course of Malaria as seen in the Tea Garden Practice in Assam

● Dr. H. C. Dass, L.M.F.

(Assistant Medical Officer, Keyhung T. E., Hoogrijan, Assam)

The course of malaria differs according to the kind and severity of infection and also according to the organ specially affected by the parasites. In this short paper, I propose to discuss, in brief, the natural course of the disease first; and later I will discuss the course generally taken in the cases under treatment.

Benign and Quartan Infection

(a) *Cold Stage*:—Fever begins with cold and rigor, lasting from a few minutes to an hour or more. There is shivering, chattering of teeth, patient covers himself with blanket, looks paler and anæmic. Sickness, nausea or vomiting may be present. The temperature goes on rising.

(b) *Hot Stage*:—Lasts from 30 minutes to 3 or 4 hours. Sensation of cold is replaced by heat. Skin is hot and burning. Temperature is about 103°F. or more. It usually manifests itself in the fore-noon or early afternoon, rarely in the evening and very exceptionally at night or early morning. Generally in the morning temperature remains down. There is intense headache, pain in the body and limbs, urgent thirst, nausea, sickness or bilious vomiting and sometimes delirium. Spleen is tender. Towards the end of this stage, temperature begins to fall and much of the uneasiness of the patient disappears.

(c) *Sweating Stage*:—Lasts for 2 to 4 hours. Profuse perspiration generally. Temperature gradually falls to normal. Recovery to almost normal condition is thus established. Weakness and anemia persists for sometime.

Total duration of the paroxysm in benign tertian infection is about 7 to 12 hours. In Quartan it is less, generally 4 to 6 hours.

The above is but a typical description of the malarial paroxysm but the clinical manifestations are not always the same. Thus the entire paroxysm may vary from an hour or two to six or eight hours, the cold stage may be transient, even the hot stage may be absent. It is not at all unusual to find the hot stage alone, in Assam, followed by very slight sweating.

The two important clinical symptoms are *Periodicity* and *Intermittency*. In B. T., a single infection by the parasite causes fever every other day, i.e., every forty-eight hours. A double infection will cause fever every day but the maximum daily records will differ in time and fastigium. Majority of B. T. infection occurs in winter in Assam. In Q. T., a single infection causes fever every seventy-two hours or every fourth day. Double infection by two groups of the same parasite will cause two days' fever with one day free from fever, while treble infections by three groups of parasites will cause daily fever. Majority of this infection occurs in the later part of the year in Assam.

Malignant Infection

It is the most common infection in Assam. Majority of infection occurs from late summer to autumn. It may be (i) Intermittent (ii) Remittent.

(i) *Intermittent*:—Paroxysms last from 24 to 40 hours—a longer period than other infections. After initial rise, there may be a remission of a degree or two followed by a second slight rise. Periodicity is not well marked. Fever may occur without chill.

(ii) *Remittent*:—Fever is of continuous type without marked paroxysm and the clinical picture is suggestive of typhoid fever. Very often there is severe headache, flushed face, and enlarged spleen. Temperature ranges from 102°F. to 104°F. or more with remissions and exacerbations like those of enteric fever. Delirium and jaundice may be present. When jaundice is deep it is called *Bilious Remittent* form. The course of remittent M. T. fever is very variable. There are two main types: (a) Algid (b) Comatose.

(a) *Algid Type*:—Begins with sensation of cold, nausea, vomiting and epigastric distress. Prostration is extreme. Pulse feeble and rapid. Respiration is shallow. Very often there is diarrhoea attended with bilious watery stools (malarial enteritis), diminished urine and afterwards subnormal temperature.

(b) *Comatose Type*:—The cerebrum is generally affected by the parasites. Hence it is called also *Cerebral* form. This form begins abruptly with intense headache, acute delirium, stupor deepening into coma. Initial chill may or may not be present. Temperature is generally very high. The patient may die without regaining consciousness. Rarely there may be aphasia, paraplegia, meningitis, etc. *Convulsion* is very common in children. The exceptionally high rate of convulsions among children of the labour class in Assam is suggestive of some other associated factor and that is probably the ascariasis which is also exceptionally common here. Due to very high temperature these ascarides are liable to be irritated which may produce some toxins. These toxins in addition to the toxins produced by the malaria parasites are liable to highly irritate the brain and thus produce many more convulsion cases than would be produced by the parasites alone.

The Course of Untreated Cases

In untreated B. T. Cases, the course of fever will continue. The periodicity lasts from 4 to 10 paroxysms. After this, spontaneous recovery may occur. After 10 to 15 days there will be relapse generally which may last from 4 to 5 paroxysms. After another two weeks there will be another relapse, and finally after two months there may be no fever. Any trauma, excitement or lowered vital condition may effect a new relapse.

There will be progressive anæmia, massive enlargement of spleen and debility. Death may result from complicating diseases such as dysentery, pneumonia, and tuberculosis.

Quartan infection usually runs the same course as benign infection.

In the primary attack of the Malignant Tertian the temperature usually declines on the third day of fever and rises again. On the fourth day there is usually

a secondary attack which generally is of a remittent type till tenth day, when a spontaneous recovery may ensue. In the algid and comatose forms, the patient, unless energetically treated, dies in the course of a few days.

Effect of Treatment

Quinine in malarial fever will always have its effect on the temperature after its use for a week. Usually on the third day after its administration the fever comes down to normal. The action of atebirin on temperature seems to be a little slower. The temperature generally comes down on the fourth or fifth day. In short, all the reputed medicines of malaria if properly

used generally give good result within a week or so. Inadequate and irregular administration causes irregularity in the course of malaria.

Acknowledgments

I am highly indebted to my chief Dr. K. P. Hare, M.B., B.S., L.M.S.S.A. (Lond.), for his kind and valuable advice and guidance in preparing this short paper.

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(A paper read at the Tingri Valley Branch of A. I. M. L. A. on 29-12-40.)

Notes on Rabies in Animals and Men

● Dr. C. S. Bura Thokey, L.S.M.F.

(Berinag Dispensary, Almora)

Rabies is an acute disease of some vertebrate animals. It is mostly found in dogs, jackals and wolves. Even elephants, eagles, tortoise, cats and mongoose have been found to suffer from it.

How Infection is Conveyed

The principal infective agent has been localised in the brain and the salivary glands. The agent of infection is attributed to a virus.

The infection is carried through the skin and mucous membrane, by the bite or licking of the infected animal on abraded skin or mucous membrane. It is not possible for the virus to get in if the skin or mucous membrane is intact and not broken.

Saliva is the main agent in transmitting the virus. If the animal bites, the infection goes into the system through saliva. The saliva of the rabid animal is always infective. It may be infective even seven days before the animal shows actual signs of rabies.

The incubation period is from ten days to six months. If the bite is severe and the dose of virus is large, then the incubation period is short. If the site of bite is nearer to brain, then also the incubation period is short.

The disease if developed in man is called Hydrophobia due to the patient being afraid of drinking water. This symptom, however, is absent in the animals. The popular notion that the infected man barks like a dog and dies, if shown water, is not correct.

Symptoms

IN MAN :—

- Early symptoms* :
- (1) Uneasiness.
 - (2) Headache.
 - (3) Insomnia.
 - (4) Pain at the place of bite.
 - (5) Pyrexia.
 - (6) Moderate spasm of the muscles of deglutition.
 - (7) Hydrophobia.

- Later symptoms* :
- (1) Severe spasms of muscles of deglutition.
 - (2) Irritation by external stimuli.
 - (3) Respiratory troubles.
 - (4) Salivation.
 - (5) Rapid wasting.
 - (6) Maniacal symptoms.
 - (7) General paralysis.
 - (8) General spasm.

IN DOG :—

- Early symptoms* :
- (1) Restlessness.
 - (2) Hallucinations.
 - (3) Dislike to food.
 - (4) Fever.
 - (5) Red conjunctiva.

- Later symptoms* :
- (1) Perverted appetite.
 - (2) Fury, biting without provocation.
 - (3) Salivation.
 - (4) Paralysis.
 - (5) Change in bark.
 - (6) Dropped jaw.
 - (7) Difficulty in swallowing.
 - (8) Paralysis of legs.
 - (9) Convulsions.

IN JACKAL :—

As in dog. A jackal attacking a man is always rabid.

IN HORSE, COW AND BUFFALO :—

- (1) Fury.
- (2) Salivation.
- (3) Paralysis.
- (4) Convulsions.

The animals go about biting each and every animal or bite themselves or their attendants. Cows and buffaloes cry, kick and bite themselves and others.

Differential Diagnosis

IN MAN : (1) *Tetanus* :—The tonic contractions of the masseter muscles are absent in Hydrophobia.

(2) *Pseudo-Hydrophobia* :—This may be confused with real hydrophobia. This is an hysterical manifestation, specially if the patient has previously seen a case of hydrophobia. In this, the spasms are not characteristic of hydrophobia and the backward jerking of the head when water is given to drink is absent in Pseudo-Hydrophobia.

IN DOGS : *Distemper* :—This can be differentiated from rabies due to the presence of diarrhoea, discharge from nose, eyes and throat. But in meningeal type of distemper, it is difficult to diagnose.

Laboratory Diagnosis :—Microscopically the Negri bodies are found in the hippocampus region of the brain. Negative result is of no value, as the disease may be in early stage when Negri bodies might not have formed.

Biological Diagnosis :—The emulsion of the brain of the rabid animal is injected into the rabbit. If the rabbit develops the disease then it is positive.

As the laboratory and biological examinations may not show any trace of the disease in very early cases, and as brain of the suspected animal may not reach the laboratory in perfect state and the Negri bodies might, therefore, not be found, we have often to place our reliance on clinical symptoms only.

What to do in case of men bitten by rabid or a suspected rabid animal ?

- (1) The animal should be secured and kept under observation for ten days or more.
- (2) The wound should be thoroughly cleaned and cauterised with carbolic acid or nitric acid or silver nitrate or potassium permanganate or by actual cautery.
- (3) Anti-rabic treatment should be given.

If the animal is rabid and has since died, anti-rabic treatment should be started at once. So also if the suspected animal is already dead.

But if the suspected animal is still living, keep it under observation. If after ten days the animal is found to be healthy, then treatment is not necessary. If, however, the suspected animal cannot be traced, it is safe to give anti-rabic treatment, particularly when the animal has bitten without any provocation.

In no case should the secured animal be destroyed, as by observation many animals are not found to be rabid, and so unnecessary botheration will be saved. If killed and the animal was really not rabid in the beginning, then it may be difficult to find out afterwards whether the animal was really rabid or not.

Treatment of Hydrophobia :—

- (1) Keep the patient in a dark and quiet place.
- (2) Do not disturb the patient.
- (3) If violent give morphia 1/4 gr.
- (4) For spasms give morphia 1/4 gr. b.d. or t.d.s. Major F. Norman White recommends atropin 1/100 gr., and claims good results.
- (5) Give solid hard food, if possible by mouth, otherwise rectal feeding, or glucose intravenously should be given. Fluids should never be given as these stimulate spasms.
- (6) A full course of anti-rabic vaccine should be given.

Treatment of Animals :—

- (1) If not valuable destroy.
- (2) If valuable keep it under observation. Cauterise the wounds as in man and give anti-rabic treatment. The animal should be chained and the attendant should always put on gloves while attending on it.

Precautions

- (1) Milk of a rabid cow or a buffalo should not be taken.
- (2) The contaminated clothes and articles should be disinfected or destroyed.
- (3) A mother suffering from Hydrophobia should not suckle her child.
- (4) Alcohol should not be taken during treatment.
- (5) Vigorous exercise should be stopped.
- (6) Clothings should be loose but warm.
- (7) Constipation should be avoided.

Risk of Bite

Bites on head, face and neck are dangerous. Bites on hands, fingers and legs are less dangerous as these can be treated easily, and are away from the brain. The parts nearer to brain carry the infection sooner and are difficult to deal with. Deep bites are always dangerous. Superficial multiple bites are dangerous. Superficial bites and licks are less risky.

Death rate

Cases of Hydrophobia have bad prognosis. Early cases treated by vaccines show less death rate. Untreated cases are more liable to deaths than treated cases. The recent reports from Kasauli show the following death rate in treated cases :

1900	..	3.1 per cent.
1926	..	1.78 "
1938	..	.34 "

When there is an epidemic of rabies; the stray dogs should all be destroyed. Immigration of the dogs should be stopped. Imported dogs should be kept under strict quarantine. Every case of rabies and hydrophobia should be notified to the authorities concerned. Men dealing with dogs and other animals should put on "puttis" to protect their legs from the bite of any such animals.

Dogs are responsible for most of the cases. Then come jackals, wolves and other animals.

Rabies is a disease which, if properly dealt with in early stages, can be controlled, and many lives can thus be saved.

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Recruitment of Ex-I. M. Ds.

The Government of India, states a press note, have decided that ex-sub-assistant surgeons of the I. M. D. other than permanent civil Government servants, who were discharged or retrenched therefrom without a retiring pension or who resigned from the Department, will be appointed, if they are suitable in all respects, to the emergency branch of the Department (Assistant Surgeons—Indian cadre) on the same terms and conditions as are applicable to private medical practitioners (licentiates) subject to the modification that these ex-sub-assistant surgeons will count all previous service in the rank of jemadar in the I. M. D. towards pay, promotion and seniority.

These ex-sub-assistant surgeons will be junior to regular assistant surgeons of the I. M. D. (Indian cadre) with the same length of service in the ranks.

Etiology and Prevention of Urinary Calculus

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As a result of experimental work much has come to light about the etiology of urinary calculus. The subject is yet complicated indeed, but it is most essential that the medical practitioners should know about it. It will be interesting to note that the old theory of calculus bearing connection with hard water and excessive perspiration is dying out.

Chemical characteristic of urinary calculus has remained the same through the ages. Among the pelvic bones of an Egyptian mummy was found a stone with a nucleus of pure acid and crust of calcium phosphate.

Urinary calculi can now be produced in laboratory animals by:

1. Feeding on diet deficient in vitamin A. Eighty-eight per cent of animals fed on such a deficient diet developed calculi, and no sooner vitamin A was introduced in the diet, formation of calculus was prevented.

2. Infecting the urine with strepto and staphylococci. Renal stones were produced in the animals by injecting specific organisms obtained from cultures of teeth, tonsils, and urine of patients having urinary calculi.

3. By administration of excessive dose of parathyroid extract.

4. By presence of foreign body in the urinary tract having previous infection.

5. Injury. Lazarus discusses a case where a patient had an injury to the kidney. That a stone can follow an injury to the kidney is not without medico-legal significance.

6. Hyperparathyroidism. In this there is increased elimination of calcium phosphate in urine. But this is rare. Women are more affected.

7. Prolonged immobilization. This is sure to bring about skeletal calcification and to predispose the patient to urinary calculus. It is found that in a patient with surgical T. B. when immobilization is ordered urinary calculus develops. The average period of recumbency before the stone appeared was ninety-seven weeks.

8. Faulty renal drainage. Stones are generally found in those who have strictures, or any other mechanical obstruction to the passage of urine.

9. Renal infection. When there is precipitation of urine salts infection develops. The nuclei of all urinary calculi have been found to be made up of bacteria, predominating among them being staphylococci and colon bacilli. Randall says that small calculi are sure to be passed out. Urinary salts are deposited on ulcerative lesions in the renal pelvis.

Geographical

Urinary stones are common in North India, North Africa, Arabia, Persia, Mesopotamia. In Europe it is common in Balkan States, in South California in U. S. A., and in Iceland. Stones are becoming more common in Germany and Austria where there is economic distress. In Hungary during the last decade bilateral renal calculi are reported to be of frequent occurrence. Among native population in Johannesburg renal calculi are very

common. In other parts of the world, calculus formation in children has become less frequent due to improved dietetic conditions.

It is certain that diet with deficient vitamin A plays a very important part in the formation of urinary calculi. This deficiency causes serious injury to the renal epithelium. This forms a nidus around which the stone is deposited.

Recurrence of Calculi

This can be divided in two parts. 1. New formation after complete removal of the original stone. Or 2. from a stone which was overlooked at the time of the last operation.

In bilateral urinary calculi recurrence frequently occurs. This gives us a clue to the predisposing factor. Recurrence after removal of small stones is more frequent than after the removal of one large stone. There is no satisfactory explanation for this. In kidneys infected with bacilli, calculi recur with rapidity, enlarge rapidly and ultimately destroy the kidney.

Post-operative Investigations in a Case of Renal Calculi

1. Diet is investigated.
2. Family history is recorded.
3. Thorough physical examination is made to discover parathyroid tumour.
4. If a stone is passed it should be chemically analysed.
5. Complete examination for calcium, phosphates, urea and uric acid should be made. If there is increase in blood calcium there is possibility of parathyroid disease.
6. Examination for vitamin A deficiency should be made.

Post-operative Treatment

Prescribe halival capsules, six daily. Salts are prohibited. So are condiments. Dried fruits, vegetables, spinach, almonds, figs, carrots, cucumber, celery, melon and pine apple are also not allowed. Keep the urine acid. Recurrent stones are composed of calcium, carbonates and oxalates. They form in alkaline urine. If urine is kept acid, the formation of recurrent stone is minimized. To prevent recurrent calculi Albright recommends that fluids should be forced in all cases. In case of uric acid stones, however, the urine should be kept alkaline.

Prevention of Recurrence

When removing a stone satisfactory drainage of the affected kidney should be secured. The stone is analysed so that by proper diet the patient's urine may be rendered unfavourable for the formation of calculi.

Kidney infection should be suitably treated. Bacilli coli are easily eradicated by sulphonamide or mandelic acid. When other measures have failed 1 per cent. solution of phosphoric acid may be employed as an irrigation to the renal pelvis. In urate stones keep the urine alkaline. In phosphate stones keep the urine acid, but see that the patient does not develop acidosis. In oxalates, fluids should be forced. In those who develop stone due to prolonged recumbent position as in tuberculous disease of the hip joint, spine, etc., large amount of fluids should be given. He should be turned from time to time to minimize stasis. Keep the urine acid.



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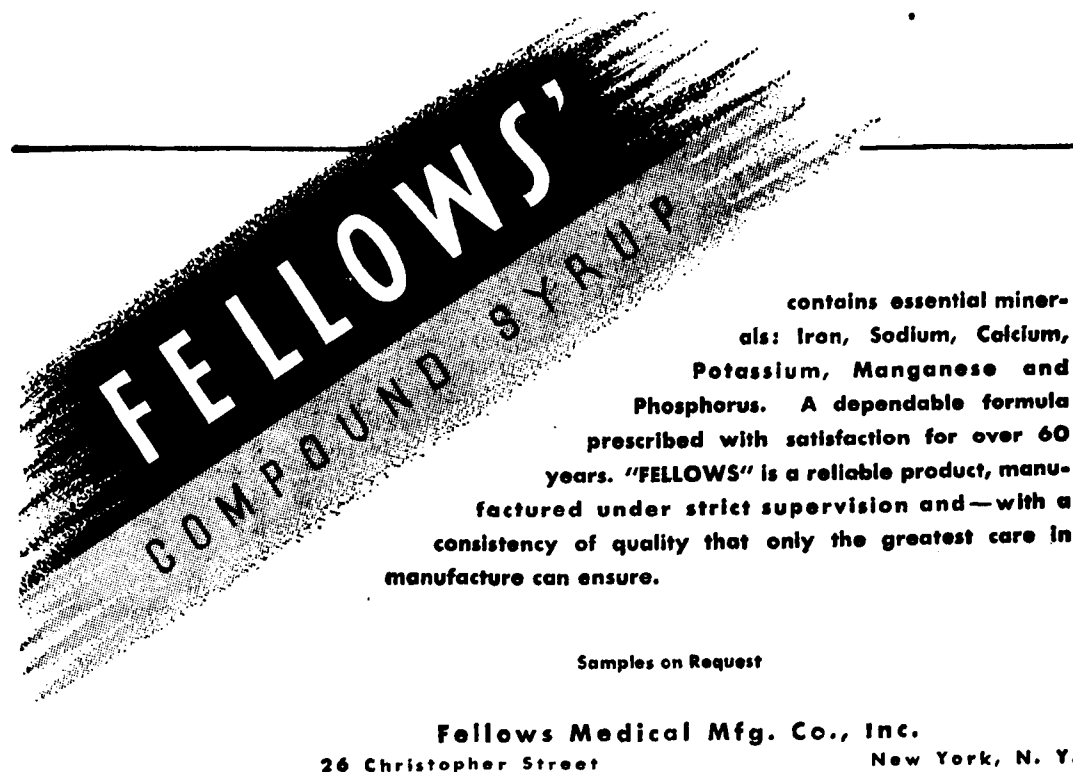


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Mechanism of Blood Pressure

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All the cells and tissues of living beings are in intimate relationship with capillary vessels through which blood is continually flowing. The most important function of blood is to convey oxygen and nutritive material to the tissues, and to carry away carbon dioxide and waste products which are formed by the tissues. To enable this function to be carried out the heart and blood vessels furnish the mechanism by which a constant circulation of the blood throughout the body is maintained; and by means of the central nervous system, the activities of this mechanism can be varied in response to the ever changing needs, either of the body as a whole, or of its different parts. The heart acts as a pump, and drives the blood along the arteries through the capillaries and veins, and back to the heart. In other words systemic circulation is concerned with the actual interchange of nutrition and waste products through a series of assorted elastic structures of varying calibre, from the thick-walled muscular heart to the one-celled capillary under the control of the central nervous system.

The Vascular System

The heart is the central pumping machine and is a hollow thick muscular, conically-shaped organ, broad at the base above and tapering downwards with its four chambers, the opening between the upper and lower ones on either sides being guarded by valves. The upper right is concerned with the reception of the whole of the venous blood of the body for passage into the lungs for oxygenation through the right lower chamber. The upper left receive the oxygenated blood from the lungs on either side for distribution to the entire system through the left lower chamber and the great vessels. The arteries which convey blood from the heart to the capillaries are thick-walled tubes, made up of muscular and elastic tissue. The innermost coat consists of flattened endothelial cells. The big arteries, like the aorta, contain a large proportion of elastic tissue and correspondingly less of muscle, whereas the smallest arteries are purely muscular. It has to be remembered in this connection that in the sclerosed condition of arteries of later years there is a uniform thickening of the middle muscular coat of the artery. It does not necessarily mean fibrosis of the middle coat, and may merely show hypotrophy of the middle coat. A sclerosed artery, unlike a rigid tube, still retains its power of contraction and relaxation. *When contracted it gets further thickened, and its lumen gets proportionately diminished.* This tightening up of the arteries (hypertonus) is an exaggerated condition of what occurs normally, and may occur as a prolonged or recurring condition. The capillaries form a dense network round and among the tissue elements in every part of the body, and consist of a single layer of flattened cells united by cement substance; plain muscle fibres of a peculiar branched shape lie outside the endothelial coat, which is encircled by their fine processes. These contractile

cells do not cover the whole capillary but are sufficiently numerous to impart to the tube the property of sometimes contracting down to such an extent as to obliterate the lumen. The calibre of the capillaries varies slightly but the average diameter is just a little wider than that of a red blood corpuscle. "The normal circulation of the blood is entirely dependent on the maintenance of a certain amount of tone by the capillaries, because the total volume of capillaries, if they are relaxed simultaneously, would be greater than the total amount of blood in the body. For example in anaphylactic shock, when the liver capillaries are dilated fully, the liver may contain a greater amount of the blood of the body." (Clark). Veins also possess three coats but their walls are thin, contain less of muscular and elastic tissue than the arteries, and are strengthened by the presence of a considerable amount of fibrous tissue especially in the outer coat. Most veins have valves consisting of fibrous tissue, covered on either surface by endothelial cells, and so arranged that they allow blood to flow towards the heart.

Blood Pressure Mechanism

Owing to the fact that the arteries are distensible, only a fraction of the amount of blood entering the arterial system at each systole is forced through the arteries, and much of the force of the heart is expended in further expanding the already distended arterial system to accommodate the extra blood sent into it. The expansion of the arteries start at the root of the aorta, and proceed as a wave along the whole arterial system gradually dying away before the capillaries are reached. This wave of expansion constitutes the pulse. Blood pressure can be defined as the force (lateral force) exerted by the blood current on the vessel walls. The force which propels the blood through the vascular channels is derived from the systolic contraction of the left ventricle. The highest blood pressure occurring during the cardiac systole is called systolic pressure. At the end of the systole the aortic valves close and the blood pressure is maintained by the recoil of the distended arterial walls. The diastolic pressure is the lowest pressure during diastole and is a measure of the peripheral resistance and depends on the tone of the arteries. Diastolic pressure is generally two-thirds of the systolic. The pulse pressure is the difference between these two. The measurement of blood pressure gives no direct information about circulatory efficiency. "The output per beat of an average young adult is about 60 c.c., and at a pulse rate of 70 the minute volume of circulation is about 4.2 litres." (Clark). The estimation of this is very difficult and for practical purposes, clinical measurements from which the circulatory efficiency are estimated are the pulse and blood pressure. Dyspnoea and cyanosis are obvious manifestations of grave circulatory disturbance.

Recording of Blood Pressure

The cuff of the mercurial sphygmomanometer is applied snugly to the bare arm and inflated to a point well above the systolic pressure, after which the stop-cock is turned, so as to exclude the pump from communication with the cuff. A stethoscope is now placed over the brachial artery below but not in contact with the