R E M A R K S

ON THE TREATMENT

OF GONOCOCCUS INFECTIONS

IN THE MALE

BY

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REMARKS ON THE TREATMENT OF GONOCOCCUS INFECTIONS IN THE MALE.

INTRODUCTION. -

The subject of gonococcus infection in the male, owing to its importance, has been dealt with, in full detail by various authors, and the literature on the subject is voluminous.

It is not my intention to attempt another treatise on the subject, but, having had a large experience of this condition in general practise, where gonococcal infections are unfortunately too frequently encountered, I propose in the present thesis, to give a general resumé of the disease, based on my own experience of over 1,000 cases, and describe the treatment adopted.

The term gonococcal infection will be used to describe the pathological condition resulting from a primary infection of the genito-urinary tract in the male, by the gonococcus, or, subsequent lesions in other parts produced directly by continuity, or, indirectly by toxins, or, metastasis.

MICROCOCCUS GONORRHOEA.

Synomym - Gonococcus.

Discovered and described by Neisser in 1879, and is characteristically a small bean-shaped diplococcus, the adjacent margins of each coccus being flat, or, somewhat concave. Gram negative, staining easily with basic aniline dyes. Later, in 1885 Bumm isolated, cultivated, and proved by experimental inoculation on the human subject the organism to be the exciting cause of the disease, clinically known as gonorrhoea.

He succeeded in obtaining a pure culture from gonorrhoeal pus, and made successful inoculations on the healthy urethra in two cases - once with a third culture, and once with one which had been transferred through twenty successive generations, in both cases a typical gonorrhoea developed as a result of the inoculation.

Culture of the organism is attended with great difficulty, necessitating care in selection, and reaction of the media employed; blood agar, serum agar, blood serum, Wertheim's, Blair Martin's media are perhaps the most suitable.

Growth takes place best at body temperature, ceases at 25 degrees C, and is killed in vitro at a

prolonged temperature of 40°C.

Innoculation of gonorrhoeal pus on the urethra, (and other parts) experimentally tried on the lower animals, and anthropoid apes has been unsuccessful.

It is quite apparent from the above description that the conditions of life and propagation, outside the human body are well nigh impossible; this agrees with the established clinical fact that the disease is communicated for the most part by direct contact, among human beings, less often by indirect contact with soiled linen, etc.

TOXINS OF GONOCOCCUS.

That the organism produces a toxic substance, is clinically an almost indisputable fact, in the early stages of the disease, irritating and inflaming the urethral mucosa, associated with a sense of malaise, cerebral excitement, and occasionally a rise of temperature.

In corroboration of this, the experiments of De Christmas (Muir and Ritchie Bacteriology 5th Ed. p. 253) are interesting. He succeeded in growing the organism in bouillon, and isolating a toxin which, inserted into the anterior chamber of the eye, caused suppuration, and

injected into the urethra of a rabbit, produced acute catarrh attended with purulent discharge. He found no tolerance to the toxic substance resulted, after five successive injections at intervals.

DISTRIBUTION IN THE TISSUES.

Where the disease is sexually contracted and the urethral pus examined early in the attack, the specific organism is always found, and in uncomplicated cases remains. On the other hand, where complications supervene, as urethral or periurethral abscess, it is generally impossible to demonstrate its presence. It has been isolated from most of the metastatic manifestations, Epididymitis, joints, endocardium, pleura etc. There is still some dispute as to whether it is to be found in all; i.e., cystitis, orchitis, vesiculitis, hyperkeratosis, but in this matter there is not,so far, sufficient Clinical or bacteriological data to determine.

STAINING.

Gram's method is generally used to stain this organism, and is by far the best, Bismark brown, or eosine being used as a counter-stain. It readily takes any of the basic aniline dyes, methylene or thionine blue in water, or aniline water. Ziehl-Neelsen, 1 in 6 is also useful.

The film should be made thin, fixed by heat, and care taken not to overstain. A drawback to heat fixation, is that to some extent the contour of the cellular elements is somewhat distorted, and the

intracellular grouping so characteristic of this organism, somewhat obliterated. Of the Romanowsky group, Giemsa'a modification I have found the most satisfactory. It is rapid, leaves the cellular elements in perfect contour, and gives as far as can be obtained, an almost perfect picture.

Slides are prepared, using a drop of sterile water and adding a very small amount of the exudate to be examined.

This is spread and allowed to dry in the air. Six drops of stain are applied to film for twenty seconds, and twelve drops of water added, allowed to stand three minutes, then wash, dry, and mount.

Diplococci, morphologically similar to the gonococcus, can occasionally be found by this method, long after an attack, when the man appears clinically free.

MICROSCOPIC PICTURE.

The distribution and intracellular habits of this coccus are very remarkable, and differ in the various stages of the disease.

Early after infection, in a primary attack the organisms lie scattered about, among the epithelial

débris, and leucocytes, mostly in tetrads, occasionally in chains of four or six.

They are rarely intracellular at this stage, and when found show no signs of crowding.

A few days later when the discharge loses its glairy, viscid character, becomes copious and purulent, the gonococci are for the most part intracellular, yet while in a field one polymorph is found crammed full of gonococci the others are entirely empty. It is a noteworthy fact that if a polymorph in this stage contains any gonococci at all, it rarely has less than four pairs, and usually more.

This suggests a differential phagocytosis among the polymorphs, some being more capable of ingesting gonococci than others. As the attack subsides, fewer and fewer gonococci are found in the leucocytes, more and more extra cellular; until a stage is reached where none can be demonstrated within the leucocytes. Later the polymorphs almost entirely disappear from the discharge, the slightly opalescent fluid passed being composed of epithelial débris and epithelium, here the gonococci are for the most part adherent to the squamous epithelium either in pairs or small groups, more rarely they are free.

MICROSCOPIC DIAGNOSIS.

This is essential, more especially in the early stages of infection, to differentiate between simple urethritis, soft sore, etc.

Diagnosis by inoculation on the lower animals is impossible; on man impracticable. By cultural experiment in ordinary every-day practice, away from a well appointed bacteriological laboratory, it is of very little clinical assistance. Even if cultivated, a series of bacteriological tests are necessary to separate the gonococcus from the meningococcus, and from other Gram-negative diplococci, occasionally found in the male urethra.

Direct microscopic examination and diagnosis is most practicable and reliable to the extent of quite 99 per cent of cases met with, in ordinary practice.

To sum up, if a Gram negative, bean-shaped diplococcus is found in the male urethra, exhibiting the intracellular grouping characteristic of the gonococcus, associated with inflamatory symptons, and shreds passed in the urine, it is practically safe to infer the existence of a gonococcal infection.

INCUBATION PERIOD.

In primary cases this is variable from four to

twelve days, usually about six.

Where the attacks have been frequent it is much shorter, a purulent discharge being frequently established by the end of the fourth day. No abrasion of the surface being necessary for inoculation, it is highly probable that the organism may lodge beneath an elongated prepuce, or in the resisting squamous epithelium of the meatus urinarius, before establishing itself in the fossa navicularis or the columnar epithelium of the urethra.

PATHOLOGY.

The anatomical structure and relations of the urethra, from the meatus urinarius to the bladder, affords exceptional opportunities for bacterial growth and lodgement.

We have in the spongy portion columnar epithelium glands of Littrè, lacunae, and ducts of Cowper's glands, and the prostatic portion contains the utricle, orifices of ejaculatory ducts, and follicular pouches. The gonococcus entering the urethra forms colonies on the mucosa, burrowing deeply into the columnar epithelium, these spread backward, involving the epithelial lining, ducts, and glands.

At the end of about fourteen days from the appearance

of purulent discharge, we may safely infer that the entire urethra is involved, as far back as the membranous portion or further. The organisms flourish abundantly; the toxins produced, irritate and inflame the mucosa, swelling, desquamation, chemiotaxis, and oedema facilitate their passage to the subepithelial, muscular, and periurethral tissues.

* Gonorrhoeal

In order to facilitate a descriptive account of the treatment, I have divided the cases which come under observation into two principal groups with sub-divisions.

A.	CASES in which the discharge is of recent origin.	1. Virgin Attack. 2. Two or three previous attacks. 3. Numerous previous attacks.
B.	CASES in which the discharge has existed for some time.	1. Simple 2. With complications of ~~non~~-gonorrhoeal origin. 3. With complications due to the gonococcus, or its toxins, the primary seat of infection being a urethral discharge containing the specific organism.

This method of division and sub-division is somewhat arbitrary, as no hard and fast line can be drawn. For instance, a virgin attack coming under observation in the first few days of the disease, and classed under the head of A, may ultimately end under class B, through unforeseen complications. On the other hand it is all-important to recognise an early case.

Virgin attacks of this kind, before a purulent discharge develops, are often associated with considerable inflamatory irritation, and at this stage local applications to the urethra demand careful discrimination.

On the other hand in the case of a man who has had say two previous attacks, the disease can be frequently aborted by judicious local treatment.

GROUP A.

1. PRIMARY ATTACKS.

These frequently come under treatment at an early stage, and, if within twelve hours after exposure to infection, douching the urethra with protargol 4% is usually sufficient to prevent further trouble.

Of course, it is impossible to say definitely that any infection really existed, but this clinical fact is patent, that men treated shortly after exposure and thoroughly douched, rarely contract gonococcal infection.

If a slight discharge of mucoid material is present there is invariably considerable irritation with eversion of the meatus, less frequently an oedematous condition of the prepuce.

Attempts to abort the disease in this stage are worse than useless, the urethra is best treated with mild

applications. The glans penis washed and dressed with a lotion of lead subacetate and opium. Rest in the recumbent position, abstinence from tobacco and alcohol. Internally Hyoscyamus, Belladonna, Alkalies and small doses of morphia if necessary; later if the local conditions are favourable, gentle irrigation with solution of argyrol, 3 grains, or, protargol 1½ grains to the ounce. A bougie of protargol with or without Ol. Eucalypti may be used at bed time. If these are found to irritate, which is often the case, their use must be discontinued, and our attention directed to preputial conditions which are occasionally very violent.
Later the mixture is given less frequently and some Balsamic preparation, such as Copaiba, Cubebs, or Sandal wood oil employed. These have been long in use, but are apt to set up gastric and renal symptons both of which can be avoided by the use of Santyl, a salicylic ester of Santalol, the active principle of East Indian Sandal wood oil, or Gonosan, a preparation of Sandal wood oil, (from which the irritant factor is said to be removed) and extract of Kava Kava, both of which give excellent results, can be given in large doses and never produce cutaneous rashes, gastric, or renal disturbance.

II. CASES WITH A HISTORY OF TWO OR THREE PREVIOUS ATTACKS.

To this class belong those cases where the disease can often be successfully aborted in from four to ten days. The discharge is as a rule moderate, and of a mucopurulent character. Painful and frequent urination are much less marked than in a Virgin attack, and there is very little irritation of the Meatus Urinarius or glans penis.

The following treatment has been most successful in my hands. Complete rest in bed on milk diet, abundance of alkaline mineral waters e.g. Vichy, Contrexeville, and Evian, two or three bottles daily. The glans penis is covered with gauze, soaked in Hydrogen peroxide solution, one in twelve, oiled silk applied to the outside. Iodoform or Protargol bougies may be used, or the urethra syringed four times daily with a solution of Zinc sulplate, 2 or 3 grains to the ounce.

Care must be exercised to retain the solution for several minutes in contact with the mucosa and not allow it to go further than the constrictor urethrae. The usual precaution of urination or washing the urethra on each occasion before douching should be carefully observed.

Irritation or pain calls for abandonment of the Zinc

sulphate, and the use of a less irritating germicide Argyrol, or protargol; a weak solution, one grain to the ounce gradually increased to 4 or 8 grains, if it can be comfortably borne.

Among Internal remedies Hyoscyamus, Belladonna, or Urotropine may be used, and Saline aperients given when necessary.

Patients do well who carry out instructions and are not given to unnecessary worry or brooding. On the other hand, especially if melancholic, and neurasthenic individuals, failure is often the ultimate outcome, and treatment has to be abandoned owing to posterior urethritis or some other complication.

III. CASES WITH A HISTORY OF NUMEROUS PREVIOUS ATTACKS.

Among these, we get our most unsatisfactory clients. The patients are either young men of dissolute habits, or men of more mature years, who have barely rid themselves of one attack before another is contracted. (Indeed it is often difficult to tell whether an attack is a fresh infection or a recrudescence of an old one).

Frequently, these men are addicted to habits of intemperance, with serious impairment of the general health.

I have, on several occasions, known married men who practically never got well, gleet or chronic urethritis of a gonococcal character becoming practically part and parcel of their lives. The truth was probable that in the early years of married life or before marriage, the husband contracted gonorrhoea, infected his wife, and each continued to infect the other. It is quite patent that should a woman contract a gonococcal endometritis or salpingitis, there is little hope of recovery for many years, during which she becomes a source of constant danger to her husband. The late Dr. James Finlayson described a case of this kind, in a man aged 45, an inmate of the Western Infirmary, Glasgow. His attacks had been "without number", probably over forty.

Dr. Finlayson was of opinion that the symptons pointed definitely to amyloid disease of the kidneys and intestines.

There was no history of syphilis, suppuration or other cause to account for the clinical manifestations, except the almost perpetual urethral discharge.

The amount of discharge is never excessive, there is very little tenesmus and practically no pain; A damp moist uncomfortable feeling in the region of the glans penis with uncomfortable itching of the urethra in the bulbar portion, hardly amounting to sealding; and Increased frequency of micturition, often worst at night or in the early hours of the morning. It is not infrequent for such men to have fairly comfortable days, yet disturbed by having to get up to micturate half a dozen times in the night.

TREATMENT.

Strong and irritating lotions are best discarded. Weak solutions of astringents, and silver preparations give by far the best results.

A valuable method consists in douching the urethra at night with the patient immersed in a hot bath. Such conditions of tissue relaxation and heat seem to determine hyperaemia of the urethral mucosa with copious secretion.

The cocci are expelled from the crypts and washed out with the constant irrigation. That the effect is due to the germicidal action of the lotion would be untrue if we are to rely on the experiments of Schaeffer and Steinschneider who showed that silver nitrate 1 in 4000 killed the gonococcus in ten minutes, Argentamine 1 in 1000 in five minutes, while protargal 0.25 per cent failed to destroy the organism in five minutes, though a 1 per cent solution of the same chemical succeeded in that time. Potassium Permanganate in a strength of 1 in 1000 failed to destroy it in ten minutes, and Zinc sulphate 1 in 400 was equally unsuccessful, but oxycyanate of Mercury, 1 in 3000, killed it in five minutes.

Regarding the action of other micro-organisms, Schaeffer showed that the gonococcus dies in the presence of B. Pyocyaneus. The above experiments were, however, conducted in Vitro, and it is doubtful whether these results are applicable to gonococcal infections in situ; If laboratory experiments held good in cases of urethral infection, then a mere rise of temperature for some time to 40°C would put an end to any gonorrhoea.

True Finger failed to infect a few patients suffering from fever, and a few cases are recorded of spontaneous recovery on account of an attack of pyrexia. A rise of temperature generally produces slight cessation of the

discharge, but apparently does not destroy the organisms, for the discharge continues afterwards. The failure of chemical antiseptics, lies not so much in their lack of germicidal power, as in their inability to penetrate the deeper layers of the mucosa, the urethral cul de sacs, and follicles.

From the above remarks it can be readily deduced that more than lotions and medicines are required to bring about a cure. Every effort must be made to improve the general health, should the case be prolonged. Complete confidence should be established between the doctor and patient, gentle exercise in the open, a plentiful supply of good sustaining food, abundance of milk, cessation of alcohol, tobacco, etc., residence in a seaside resort, with plenty of sea bathing and genial society will do much to facilitate a speedy recovery.

A man of sanguine temperament, taking matters lightly, who has absolute confidence in his medical adviser, will get well much sooner than he who employs his time in morbid brooding, reading with apprehension all kinds of quack literature; way-laying and consulting with those of his companions who have been similarly affected and constantly examining his penis. Such offer little hope of a speedy recovery, but often drift from doctor to quack, ultimately ending in neurasthenia.

G R O U P B.

CASES IN WHICH THE DISCHARGE HAS EXISTED FOR SOME TIME.

These are very frequent in general practice. Early in the disease, a morbid fear of exposure drives many young men to consult a "chemist", "herbalist", or an "obliging friend," and so long as things go well, both patient and adviser are content, but occasionally things go wrong, and the doctor is consulted, or called in by an anxious parent. By this time the disease is well established and the urethra invariably deeply involved, or some complication present.

Each case must be taken on its own merits, and for purposes of description I have divided them into three groups :-

1. Simple uncomplicated cases.
2. Cases with complications of non-gonorrhoeal origin.
3. Cases with complications due to the gonococcus or its toxins.

1. SIMPLE UNCOMPLICATED CASES.

We must begin with the fixed idea that a case of this kind will last some time, and that the posterior urethra is involved. Strong irritating lotions, and all bougies are to be avoided.

Irrigation may be of some benefit. Weak astringent injections twice daily, urinary antiseptics, such as Urotropine, Salol internally combined with Hyoscyamus, Buchu and Belladonna, with a balsamic preparation, such as Gonosan or Santyl, taken at intervals between the mixture, afford the best results.

Abundance of fresh air, light exercise, good food, pleasant society, congenial occupation, all assist in increasing the resistance of the body, to gonococcal infection and dislodgement.

II. CASES WITH COMPLICATIONS OF NON-GONORRHOEAL ORIGIN.

Practically any disease may be associated with, and complicate gonorrhoeal infection, influencing to some considerable extent its character, course, and treatment. Influenza, Soft, and Hard sore, Neurasthenia, Malaria or Tubercular disease are among the most noteworthy.

The combination of gonorrhoea and Hard Hunterian chancre, situated somewhere in the region of the glans penis or corona is very common, much more so than one is led to suppose from the literature.

It is almost the despair of medical art, and not infrequently gives rise to serious symptoms in cases which have remained too long without proper treatment. The preputial orifice is almost obliterated, hard, fissured and impossible to dilate; The Meatus urinarius is inaccessible; balanitis supervenes, with the discharge of a thick viscid irritating pus contaminating the surrounding skin, and capable of inoculating any part of the unfortunate patient's body.

The following case will serve as an illustration:-

M. G. - Age 23, - Clerk. Never had venereal disease and no previous illness. First seen at the parents' request who believed he had some injury to

the testicle.

The following conditions were present. Epidymitis, paraphimosis with great induration, foul irritating discharge containing gonococci, and double inguinal adenitis which later suppurated. Over the chest and abdomen a distinct secondary rash was present, and this with a sore throat, left no possible doubt of the diagnosis. Superadded, and probably due to the man's want of attention, were a large number of small furuncular subcutaneous abscesses, varying in size from a pea to a barcelona nut, scattered all over the body, the hairy scalp was also invaded. The total number of abscesses would be about one hundred or probably more. In the lower limbs they had coalesced into masses of brawny inflammatory oedematous tissue.

Cultures from these showed almost a pure strain of Staphylococcus Aureus; no Gonococci, nor any morphologically-allied diplococci could be found on the films examined. This man refused circumcision. Here the high temperature, coated tongue, and accelerated pulse clearly pointed to septicaemia of a mixed type. He was confined to bed, the balanitis treated with frequent irrigation of hydrogen peroxide, one part in ten parts of water, and insufflations of Xeroform. Quinine, iodides, urotropine and mercury were given internally, Atoxyl

hypodermically. Locally the abscesses were fomented with chinosol 1 - 3000, and in parts where this was impracticable, an ointment of Ung Hydrarg nit. dil. was applied. Recovery was slow, dragging into months, but was, however, complete. He has kept well since.

In this case we had infection carried in three ways viz:- by contiguity, by the lymphatics, and probably also by the blood stream. It was also noteworthy, that three separate infections co-existed, gonorrhoea, syphilis, and staphylococcus infection.

Case C. B. Consulted me three months after infection, slight urethral discharge with gonococci, elongated prepuce with hard tight fissured preputial orifice, discharging considerable quantity of pus, indicating balanitis of a severe type. Sore throat and a secondary rash.

On both sides of the penis small abscesses developed which were opened as soon as fluctuation could be detected. The disease ultimately ended in double inguinal suppurative adenitis. Treatment was somewhat similar to the case of M. G. He was never compelled to give up his occupation, and made a good recovery.

Gonorrhoea complicated by Malarial Infection. In Liverpool this is frequently found among seamen on steamers trading to the West African Coast. The following is a

typical case.

W. Evans, age 28, - Steward, - had sailed as such for some years to the West African Coast. Had Syphilis some years before, and several previous attacks of gonorrhoea. Had repeated malarial attacks. When first seen, there was a well marked gonorrhoea and in addition, an ulceration of the hairy scalp, diagnosed as syphilitic.

Temperature 102° F, rapid weak pulse, slight enlargement of the spleen with considerable anaemia. Usual remedies were applied to the urethral condition, and Quinine given for the fever, together with extract of bone marrow.

Syphilis was treated with Atoxyl hypodermically. There was no improvement however, beyond a slight fall in the temperature. At the end of four weeks flat nodular swellings appeared along the course of the Radius and Tibia on both sides, also one on the left femur in its lowdr third. The appetite was bad, mental distress worse; discharge from urethra not improved. At the end of two months he was no better and left Liverpool. I have never heard the end of this case, but judging from appearances when I saw him last the outlook was anything but brilliant.

Satisfactory

Neurasthenia. Neurasthenia and gonorrhoeal infection go badly together, and more than all others neurasthenics

are the most thankless, unsatisfactory, and refractory patients to treat. Their mind for ever dwells on their malady, filled with gloomy forebodings of lost virile power.

There is little doubt that however imaginary the patient's mental condition may appear to his doctor, his miseries are real enough to himself.

The aim of the treatment should be to get the sufferer's complete confidence, instil into him the necessity of ignoring his generative organs, and that with reasonable care, he will soon be well.

Remedies are many and various, depending on symptoms as they arise from time to time. One fact however, should be kept in the forefront. We must direct our energies as much to the mental condition as to the local disease. Injections, urinary antiseptics, vaccines, Bromides and Hyoscyamus are all useful to relieve the many manifestations which arise. Pain in the lower abdominal region radiating from the bladder or prostate, downward into the testicle, and intercostal neuralgia are frequent concomitants, Phosphaturia is present in most of these cases, and the passing of white milky urine frequently gives rise to a good deal of mental distress. Phosphoric or Formic Acid clears it up in two or three doses.

On the whole, these patients end favourably if the medical attendant has sufficient patience to put up with their constant complaints of new and novel symptons.

III. COMPLICATIONS DUE DIRECTLY TO THE EXISTENCE OF GONOCOCCI OR THEIR TOXINS WITHIN THE BODY.

It would be beyond the scope of this dissertation to enter into detail of all these. I will limit my remarks to their classifications, and quote a few clinical examples of cases which occurred in my own practice.

Classification:-

I have divided these cases into three groups.

A. Infection from the male urethra to adjacent parts, by direct or mechanical contiguity.

B. Lymphatic Metastasis.

C. Blood metastasis.

A. Infection by continuity and contiguity.	Warts Balanitis Abscess or retention cyst of Urethra Cowperitis. Infiltration of urethra. Prostatitis. Vesiculitis. Cystitis. Pyelitis and Nephritis. Deferentitis. Epididymitis Gonorrhoeal Proctitis. Conjunctivitis.
B. Lymphatic metastasis.	Lymphangitis. Abscess of Penis. Lymphadenitis.
C. Blood metastasis	Phlebitis Arteritis. Arthritis. Fibrositis. Tenosynovitis. Pericarditis. Endocarditis. Pleurisy. Iritis. Periostitis. Septicaemia. Pyaemia. Affections of skin.

A. INFECTION BY CONTIGUITY AND CONTINUITY.

This large group comprises many, and includes those local complications due to the spread of the contagion along the floor of the urethra burrowing into the periurethral tissue, involving Littré's glands, lacunae, Cowper's glands and ducts, prostatic follicules and stroma, cystitis, pyelitis, vesiculitis, deferentitis, epididymitis, orchitis, less frequently the anus, and lower part of rectum.

By intermediate continuity (hands, etc.) the eyes and nose may become infected.

Where severe forms of balanitis are met with, there is always a mixed infection usually staphylococci, this spreading to adjacent parts frequently gives rise to local lesions on the skin etc. which are not truly gonococcic in character.

TREATMENT. Almost all these complications depend for the most part on the existence of a posterior urethritis, and any treatment adopted must primarily be directed toward this. Suitable remedies, or surgical methods being employed to meet the special disease or diseases demanding attention.

Throughout all we must never lose sight of the fundamental axiom, that it is easier to convey and inoculate the urethral, or vesical mucosa, with organisms,

than it is to get rid of them. The gonococci lodge in the crypts and follicles of the urethra, and may produce no symptoms, but the opening up of such dormant foci may result in re-infection of the urethra or production of the very complication we are striving to prevent. In practice it has been our endeavour to follow the advice and dictum of the late Sir Henry Thompson.

"The introduction of our instruments is more or less "an evil, never to be resorted to, unless a greater evil "be present, which its employment may possibly remedy."

Better advice no one could wish, and if more adhered to, many septic conditions of the bladder would be avoided.

I may here refer briefly to massage of the Prostate. A great deal has been said lately about this. My experience in this direction has been very disappointing. It gives the patient a good deal of discomfort and is productive of very little benefit, and as Schindler has pointed out, it sets up reverse currents in the vas deferens, which are very prone to carry gonococci to the prostate.

The following remarkable case exemplifies this type and exhibits several features of interest.

M. S. - Age 28 - Jew, Gonorrhoeal Infection was

contracted in France. Treatment was commenced on the sixth day, after exposure. The patient was somewhat neurasthenic. At the end of the third week 60 millions gonococcal vaccine (P.D.& Co.) were given. Three weeks later, this was increased to 150 millions, there was very little local or general disturbance after the vaccine, and very little improvement. Twenty four days later a further 80 millions vaccine were given. In four months all that remained was a glairy discharge in the mornings before urinating, with "tackiness" during the day. Microscopic examination at this stage revealed the presence of bean-shaped diplococci. He left Liverpool for Leicester, where acting on my advice, he consulted a Medical man whom I was informed employed bougies in the course of treatment.

Four weeks later, he presented himself again in a state of mental excitement and distress. Acute burning pain along the urethra was present, with constant desire to micturate, temperature 99° F. A nerve sedative with Hyoscyamus and Belladonna given, strict milk diet ordered, and absolute rest in bed.

The following day a well marked Epididymitis set in, and two days later the bladder became involved. The temperature was now 102° F. There was little

urethral discharge, but constant desire to micturate. The urine was opalescent with leucocytes of a yellowish tint. At first there was some, cerebral excitement, which was followed later by excessive perspiration, sleeplessness, and nerve depression.

The following day, a well marked systolic murmur was audible over the mitral area, this was accompanied by dull pain under nipple, rapid pulse, and short breathing. Dr. F. P. Wilson of the Royal Infirmary, Liverpool, saw the patient with me, and agreed with the diagnosis that the mitral valve was organically involved, and that the specific virus was probably gonococcal. The Temperature varied from 102° to 103.4° F. there was grave prostration, and sleep only obtained by the use of a hypnotic. My consultation with Dr. Wilson mainly hinged on two points - (1) Should the bladder be washed out, and (2) Considering the man's prostration and high temperature, was it safe to employ a vaccine ?

Regarding the first we agreed to leave the bladder alone, using as a substitute, douching from within, by prescribing copious draughts of alkaline mineral waters.

The second was answered in the affirmative, and small doses of vaccine (P. D. & Co.) 2½ millions repeated in three days, then again at an interval of seven days.

Three injections in all. This line of treatment was coupled with helmitol, quinine, and sedatives when necessary. The effect was astounding. At the end of six days the temperature returned to the normal, swelling of the Epididymis diminished, and in three weeks, the cardiac bruit had disappeared. At the end of a month he was practically well, and allowed out of bed. In two months was permitted to begin work, and later emigrated to America, where he has remained well, suffering no relapse. No arthritis, Teno-Synovitis, or other complications were present throughout.

The remarkable feature in this case was the effect of the vaccine. At the beginning of the attack it was given in large doses, at long intervals, so far as I could judge, without appreciable improvement. In his relapse he was given small doses, at short intervals, with much better results.

B. LYMPHATIC METASTASIS.

This is most apparent in the early stages of a Virgin attack where the prepuce is inflamed, swollen, of a dusky red colour, and oedematous, lymphangitis well marked with lymphadenitis of the inguinal glands. Later, forms of this affection are probably due to a mixed infection.

"Bockhardt injected a fourth cultivation into the urethra of a general paralytic, and produced a purulent discharge. The man died of pneumonia ten days later, and an examination of the urethra led Bockhardt to believe that the cocci probably passed through the epithelium into the lymphatics of the fossa navicularis where they excite acute inflamation. They enter into white corpuscles, and either pass with them into blood vessels where they die, or come away in the pus"(Green, Pathology 11th Edn. page 160).

Bockhardt's experiments are interesting, and appear to point out the portal through which cocci enter the blood stream.

C. BLOOD METASTASIS.

These are many and various, showing a general predilection for the serous membranes, bursae, joints, pleura, peri- and endocardium, tendon sheaths, periosteum, Plantar fascia, Fibrous tissue of the back and neck, Cuticle of hands and feet, Ciliary region of the eye.

Gonorrhoea in its initial stage is essentially a local disease, and its complications point clearly to a contamination of the blood stream, with either the toxins, or the gonococcus, and sometimes with both. To what extent this general infection occurs in an ordinary case we are unable at the present time to determine, as to whether some of the metastatic symptons which arise, are merely manifestations of toxic infection, or due to the presence of the micrococcus itself in the parts affected.

TREATMENT.

It is unnecessary for me to outline all that would be essential in treating such complications. The salient fact is dominant that we are dealing with a septic organism, or its toxin which has entered the blood stream, and all our efforts must be directed toward maintaining the patient's strength by rest, and suitable nutriment, to raise his opsonic index, and by every means

at our disposal to assist in the bactericidal battle.

Fortunately our efforts in this direction are invariably successful, but how much depends upon drugs, vaccines, etc., and how much on the "vis medicatrix naturae" is doubtful. Quinine is always my only sheet anchor, and combined with iron gives fair results.

Vaccines I have in many cases employed with very variable results, - Large doses 100 to 200 millions given at long intervals of from three to four weeks. These large injections were followed by a long negative phase, and I have dropped them in favour of smaller doses 3 to 5 millions given at shorter intervals. In all cases the Vaccine retailed by Park Davis & Co. were employed.

The following cases are illustrative of this type :-

A. C. I was called to attend this man and informed by his wife he had injured himself at work. He was confined to bed, breathing was short and rapid, with pain radiating over sternum in front. Examination disclosed mitral and aortic murmurs. There was a urethral discharge containing gonococci. Quinine given in large doses was of no avail, and six weeks later he died.

Owing to the alleged injuries the death was reported to the Coroner, and a P.M. ordered. The Endocardium was found ulcerated, the edges of the aortic and mitral

valves were coalesced and rough with vegetations. No doubt existed in my mind other than that the man died from malignant ulcerative endocarditis, the result of gonococcal infection, but I am unable to say whether it was caused directly by the gonococcus itself, or by other organisms. No cultures were attempted.

The following is another interesting case :-

F. S. Commercial Traveller, married, age 47 years. He had indulged in spirits the greater part of his life. Contracted syphilis 20 years before, and had two previous attacks of gonorrhoea. Was a man of violently jealous temperament, constantly accusing his wife of infidelity, and infecting him with the disease. Seen first in my consulting room, limping about on two sticks. He presented me with a prescription from a medical man in the North, containing sod. salicylate, vin. Colchici, etc., and complained of a railway porter dropping a trunk on his foot. (The Railway Company paid him £150 damages for this.) Examination revealed a painful red brawny swelling of the left metatarsophalangeal big-toe joint, hence the diagnosis of Gout.

A slight mucopurulent discharge from the urethra was present, which contained gonococci. There was no increased frequency or pain in micturition, indeed the man denied all

knowledge of its existence. Temperature normal, appetite good, and tongue clean. He was ordered to bed, on milk diet, and mild astringent injections employed. Helmitol and quinine were given internally, and 50 millions vaccine administered. A week later, his left knee became painful, with considerable effusion into the joint. Meanwhile the foot became worse, the inner metatarsal, cuneiform, and scaphoid joints with the surrounding periosteum became involved. A few days later, practically all the fibrous tissue from the crest of both ilia below, to the superior curved line of the occipital bones above became painful, movement of the trunk and head were impossible, he possessed a veritable "poker back". There was little appreciable appearance of illness or emaciation. Was unable to sleep without a hypnotic.

He was compelled to remain sitting up in bed, and spent his time "bellowing like a bull" and reviling his wife for the infection.

Dr. John Hay was consulted and corroborated the diagnosis of Gonorrhoeal infection, Polyarthritis deformans, and Fibrositis. Many forms of general Treatment were tried, Quinine, Salol, Iodine, Saliclates, Vaccine, Saline purgatives, alkaline waters, etc., with little benefit. Locally to the joints and osseous tissues

affected, Iodine, strapping with Scott's ointment, and Bier's method were tried, with but very little improvement. The muscles below the knee began to show marked wasting, and osseous thickening developed round the tarsal, and metatarsal bones of the foot. He remained in this helpless condition for three months before symptons began to slowly subside. At the end of five months, he was able to leave his room, and later take outings in a bath chair. Friction, Massage, Russian and Turkish baths were employed, and from this, improvement was more rapid. He went to Harrogate for a month, made excellent headway, and came back on two sticks.

Later became an inmate of the Royal Southern Hospital, where an osteotomy was performed by Dr. Robert Jones, on the tarsal bones of the left foot. Slight improvement resulted, but from this point I have lost sight of him; as domestic eruption led to his removal from the City.

× Voices

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