Gleet and chronic diseases of the urethra and prostate with special reference to their treatment by irrigation / by Gerald Dalton.

GLEET
AND
CHRONIC DISEASES
OF THE
URETHRA & PROSTATE

DR DALTON

1/-

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CHRONIC DISEASES OF THE URETHRA AND PROSTATE

LONDON:
HENRY KIMPTON
82 HIGH HOLBORN.

GLEET

AND

CHRONIC DISEASES OF THE URETHRA AND PROSTATE

WITH

SPECIAL REFERENCE TO THEIR

TREATMENT

BY

IRRIGATION

BY

GERALD DALTON, M.S.A. Lond. etc.

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PREFACE

In writing the following remarks on the treatment of the more intractable forms of chronic urethral disease, I have wished to indicate those methods which have been found to be most successful. Irrigation in catarrhal conditions of other mucous tracts is a well-recognized mode of treatment, and I have endeavoured to show in the following pages, its adaptability to chronic diseases of the deeper portions of the urethra.

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CHAPTER I

INTRODUCTION

In genito-urinary surgery there are a large number of cases which would come, surgically speaking, under the head of Chronic Gleet, Prostatorrhœa, or Spermatorrhœa, or of nervous Debility, which is simply a constitutional condition resulting from, or accompanying one of the above mentioned diseases long continued.

Not only do the number of these cases seem excessive, but, also what seems still more important, their extreme chronicity, and the great difficulty patients suffering from these disorders experience in obtaining any relief, makes one naturally endeavour to discover the determining and evidently persisting cause, and then to enquire why the usual methods of treatment are so ineffectual as regards curative effect, and whether other methods

might not be tried which would be more successful.

In these cases, the penile portion of the urethra is usually free from disease, and the seat of the disorder is in the portion of the urethra which passes through the prostate, and known as the prostatic urethra; and on passing a full sized bougie, the prostatic urethra will be found to be encroached upon, the bougie passing with difficulty, or, the walls of the urethra in this situation are felt to be abnormally rough. In all there will be unusual pain and difficulty in passing the instrument along this portion of the canal.

Gouley, speaking of chronic urethritis, says: "In some cases the only perceptible lesion is congestion of the mucous membrane. This congestion is generally diffused over a space of two or three inches, involving the bulbous membranous, and prostatic regions. It rarely involves the whole length of the urethra."

Again, Ultzmann, professor of genito-urinary diseases in the University of Vienna, is still more explicit: "A gonorrhœa which runs a normal course, begins at the orifice of the

urethra and ends at the beginning of the sphincter vesicæ externus. If, however, an abnormal course sets in, if the gonorrhœa extends beyond the isthmus urethræ, then, in the first place, the prostate is involved by sympathy, it becomes catarrhal, and if the prostatic catarrh once becomes chronic, then various nervous symptoms gradually arise, now in the urinary, now in the sexual system. Likewise, localized hyperæmia occurs, and even prostatic catarrh after gross excesses in venery and after masturbation."

Gross was the first to accurately describe prostatorrhœa as a sub-acute or chronic inflammation of the prostate.

From these and other facts we may reasonably conclude that it would be by direct treatment of this portion of the urethra that we should have the best chance of a successful result in curing these obstinate diseases: How this can be effected I hope to show in the following pages.

CHAPTER II

ANATOMY

A SHORT description of those portions of the urethra and prostate which are involved in these diseases will not, I think, be out of place here.

The *urethra* extending from the bladder to the meatus, serves a double purpose of carrier for the urine and for the semen. It is about eight inches in length, of somewhat varying calibre; originating from the bladder, it passes through the upper part of the central portion of the prostate gland (prostatic urethra), pierces the posterior and anterior layers of the triangular ligament about one inch below the lower border of the bony symphysis pubis (membranous urethra) and then surrounded by the corpus spongiosum passes on to the meatus (spongy urethra).

The prostatic portion of the canal is about

an inch and a quarter in length and is the widest and most dilatable part. The membranous is about three-quarters of an inch long and is the narrowest and least dilatable part, with the exception of the meatus.

The spongy or penile portion of the urethra is about six inches in length. The narrowest part of the urethra is the meatus; immediately behind the opening, the passage widens, forming the fossa navicularis. Passing back, the urethra becomes slightly narrower and is of a nearly uniform diameter, until it reaches the bulb or posterior portion of the spongy body, where it dilates again. The dilatation abruptly narrows at the anterior layer of the triangular ligament, the membranous urethra being of a small uniform calibre.

The posterior layer of the triangular ligament being passed through, the urethra again widens out, reaching its greatest diameter at the position of the caput gallinaginis. Just before the bladder, there is a slight narrowing.

There are then, three regions of dilatation :— in the prostate gland, at the bulb, and behind

the meatus. The positions of physiological narrowings being at the meatus and in the membranous portion.

On the mucous membrane of the urethra may be seen the openings of many glands and follicles. These are situated in the submucous tissue. The glands (glands of Littre) vary greatly in size, and are most abundant in the spongy portion of the urethra and about the meatus.

The largest of the follicles, called the lacuna magna, is situated in the upper wall of the fossa navicularis, one and one-half inches from the meatus. The bulbous portion is abundantly supplied with mucous glands and follicles, and into it pass the ducts of Cowper's glands. The membranous portion of the urethra begins at the prostate gland and ends at the bulb. It is surrounded by a complicated investment of muscular fibres, termed the compressor urethræ, which are normally in a state of tonic contraction, except when they are relaxed for the passage of urine or semen.

The prostatic urethra is spindle-shaped,—

widest at the middle,—on its floor, the mucous membrane is projected in the form of a longitudinal ridge, called the veru montanum or caput gallinaginis, on each side of which lies a depression called the prostate sinus, into which open the prostratic ducts. Directly in front of the veru montanum is the sinus pocularis, a blind pouch running beneath the middle of the prostate gland. Just within the sinus pocularis are the slit-like openings of the ejaculatory ducts, through which passes the semen.

At the point where the prostatic urethra enters the bladder, it is surrounded by a muscle, the internal vesical sphincter, whilst at the apex of the prostate, there is the external vesical sphincter muscle, both of which help to prevent the discharge of urine from the bladder.

The seminal vesicles are two dilated tubes bent in a zig-zag manner, about an inch long, attached to the under surface of the bladder.

Posteriorly their dilated extremities are situated about two inches and three-quarters from each other, but anteriorly they con-

verge, and becoming smaller and straighter, are joined by the spermatic canals on their inner sides to form the common ejaculatory ducts. The vasa deferentia or spermatic canals serve for the carrying of semen from the testicles, and after joining the ducts of the seminal vesicles open by the common ejaculatory ducts into the sinus pocularis or male womb.

CHAPTER III

CHRONIC URETHRITIS OR GLEET

THERE is a condition of the urethra, or of some ducts or glands immediately opening into it, which is characterized by a more or less constant, slight muco-purulent discharge. It cannot be strictly called a disease, it being only a symptom really, and the actual cause on which it depends may be one of several disorders. Thus, it may be, as is most often the case, the result of gonorrhœa, and again, when such is its original cause, the immediate lesion may be a chronically inflamed or granular condition of a part of the urethra, a stricture or the result of the extension of the gonorrhœa inflammation to the small glands of the urethra, to Cowper's glands, to the seminal vesicles, a complication which occurs more frequently than is generally supposed, or to the prostatic follicles, and the resulting

discharge may arise not only in the urethra itself, but primarily in those glands or ducts.

Why gonorrhœa is followed by chronic urethritis in some persons and not in others is probably due to the more or less improper treatment, hygienic, medicinal and local, undergone, particularly during the acute stage. Briefly we may state that chronic urethritis, is more likely to result from gonorrhœa, if our patient indulge in *any* alcoholic beverage, improper food or much exercise and particularly if he allow himself to indulge in sexual intercourse or have his sexual system excited in any way whatever.

Too active treatment of the disease during the acute stage, as by strong injections, or too large doses of the many "specifics", may only too frequently have to answer later on for the presence of gleet.

But gonorrhœa is not the sole cause of chronic urethritis, any long continued irritation of the urethra may be an exciting cause. Thus, the passage of sand and gravel or other irritating substances in the urine, too frequent intercourse, masturbation, stricture,

a too small meatus and chronic inflammatory conditions of neighbouring parts, may each give rise to it.

Symptoms.—Practically the only objective sign of this disease is the occasional oozing of a little matter, thin and viscid, or perhaps turbid and milky, from the external opening of the urethra. The quantity of this discharge varies greatly; it may be a continuous flow, or may make its appearance only at the termination of urination or when a motion is passed, it may be expressed from the urethra only when the penis is squeezed, or it may be only just sufficient to glue the lips of the meatus together.

Various vague pains in the loins and back, in the groins, in the perinæum or crutch, in the penis itself, are complained of by the patient, but they are probably only reflex or subjective.

The most constant and persistent symptoms to which the disease gives rise are a feeling of nervous apprehension, anxiety and mental depression.

The sufferer is constantly worrying himself,

concerning his complaint, to which he attaches a most exaggerated importance, and which he is apt to become convinced is absolutely incurable

To quote Gouley—"Nothing is too absurd for the conception of some of the sufferers from chronic urethral discharges. They listen credulously to the ignorant and mendacious dicta of crafty and rapacious charlatans, while they are suspicious of honest physicians and obstinately discredit rational advice and correct views. Many change their medical adviser as often as they do their erratic notions of the ailment which, owing to their own perversity, is destined never to be well."

Diagnosis.—To the surgeon the most important sign is an excessive sensitiveness of some portion of the urethra, usually the prostatic, on the passage of a bougie, the position being marked and afterwards measured on withdrawal. This is seldom or never absent, and not only assists the surgeon in the diagnosis of the disease, but enables him to locate the exact seat of the mischief.

The examination of the urine passed in

two portions is a great help in diagnosis. The patient being directed to pass water and then to stop the flow and some few minutes after to pass the remainder. The first portion will be clouded with discharge whilst the second portion, if the lesion be in the anterior urethra, will be clear; on the other hand, if it be in the posterior or prostatic urethra, the second portion will also be cloudy from the regurgitation of pus into the bladder.

The physical character of the discharge itself also is an important aid in localizing the seat of the disease. Thus, if it contain spermatozoa, it comes from the seminal vesicles; if it be turbid and milky, from the prostate; if it be clear like the white of egg, from Cowper's glands; if thick and muco-purulent, it is probably due to persisting inflammation of the urethra, the result of gonorrhœa.

It is a common error to think that the presence of a persistent gleet following gonorrhœa is proof positive of the presence of a stricture. That such is often the case cannot be denied, but that it is not so in many cases is equally true. Of course the exploration of

the urethra by a large-sized bougie will settle the question at once, and this proceeding in all cases should be the one first resorted to.

Examination with the *urethroscope* is of great importance. There are many patterns of this instrument. Two convenient forms are Leiter's (provided that it has an inflating apparatus attached to it for distending the urethra with air, without which the use of the urethroscope is materially lessened) as the electric lamp being below the level of sight gives an uninterrupted view of the urethra; and Schall's, the illuminating power of which, being very concentrated, gives a most excellent view. With either of these instruments the smallest lesion in the mucous membrane of the urethra can be localized, whether it be a congested or granular patch, inflamed gland or sinus, or a membrano-prostatic catarrh. Warts in the urethra are not an uncommon cause of gleet and occasionally the infiltration of the veru montanum and surrounding areas.

Is the discharge contagious? This is a question invariably asked by patients and is one which very properly causes them much

anxiety. A definite answer, yes or no, cannot always be given; we must in each case take into account the duration of the complaint, the character of the discharge itself, and whether it be the result or sequel of a simple irritation of the urethra or of gonorrhœa. If gonorrhœa has preceded it not very remotely, say within the last month or so, we may at least be on the safe side by assuming that the discharge *is* contagious; but if it be the result of simple irritation of the urethra, or other diseases, excluding the so-called specific ones—gonorrhœa and syphilis, or if it should have followed gonorrhœa, that disease not having been characteristically present for several months, and lastly, a most important point, if the discharge be free from matter or pus, we may with justness assume that it is not contagious.

The Treatment of chronic urethritis will be fully described along with that of chronic prostatitis.

CHAPTER IV

CHRONIC INFLAMMATION OF THE PROSTATE

CHRONIC Prostatitis or Prostatorrhœa, may be the result of acute inflammation of the prostate, but it is more commonly insidious in its onset, and is originated by long continued irritation of the deeper portion of the urethra, by chronic urethritis, the most common cause, by excessive sexual intercourse, calculi, masturbation or by frequent catheterism.

Symptoms.—Here, as in chronic urethritis, there is the constant presence of moisture at the end of the penis; when the penis is pressed, a slight discharge oozes from the meatus. This discharge occasionally makes its appearance in some quantity when the patient goes to stool, and it is often milky in appearance and has the characteristic smell which semen has,—it is commonly and erroneously thought by the patients themselves to be that secretion.

Much stress is laid on this idea by nervous patients, and quacks are in the habit of making considerable gains by encouraging the fallacy, and by asserting the many terrible consequences which must result from this "loss of seed" as they term it.

Why the discharge should be more copious on a motion is explained by the anatomical relations of the prostate, the stool in its passage out of the rectum presses on the posterior surface of the prostate and squeezes the secretion out of its ducts and sinuses.

Diagnosis.—A microscopical examination of the discharge is the best proof as to its source of origin. It is usually milky, though occasionally clear and viscid; if dried, and examined under the microscope *no spermatozoa are to be found in it*, but only crystals of common salt, and small round or oval bodies made up of superimposed layers arranged concentrically.

If the urine of the patient suffering from prostatorrhœa be examined it will be found to be cloudy, and when held up to the light,

numerous long cylindrical bodies like small pieces of thread are seen to be floating in it; these are probably casts of the ducts of the prostate.

If the finger be passed into the rectum, the prostate can usually be felt enlarged and tender. Besides the presence of the discharge, the patient usually complains of a feeling of weakness and aching in the loins and back and in the legs.

There is a frequent desire to make water, though little is passed at a time, and the last drops are expelled with some difficulty and drip from the end of the penis.

Itching and burning in the crutch and around the anus are common symptoms, as also are piles and eczema in this region. If sexual intercourse be attempted ejaculation occurs too quickly, and the passage of the semen along the urethra causes considerable pain. Actual impotence may result if the disease be allowed to continue its course unchecked.

If an instrument be passed down the urethra much pain is experienccd when it passes

along the prostatic portion of that canal, and the surgeon may have some difficulty in reaching the bladder.

As is the case in chronic urethritis, sufferers from chronic prostatitis commonly get into a condition of nervous depression. They become morose, sullen, incapable of concentration, easily fatigued, avoid company and become entirely absorbed in the contemplation of their own miserable condition. This state if not roused from, leads to yet more serious disorders: dyspepsia with its hundred and one symptoms, constipation, heart disease, anæmia, and even organic disease of the brain and spinal cord.

These are of course extreme stages in the uninterrupted course of the malady, and sufferers need have no dread of them, providing they retain but a moderate amount of self-control, and are willing to assist the surgeon, all in their power, in his efforts to eradicate the disease.

Lastly a common symptom, or rather a complication, is subacute inflammation of the neck of the bladder. This is characterized

by more or less constant pain deep down in the pelvis, *i. e.* in the bladder, and pain at the posterior end of the urethra on making water, or, if a bougie be passed, just when it enters the bladder.

CHAPTER V

TREATMENT OF GLEET AND PROSTATORRHŒA

It will be seen from what has gone before that the seat of the mischief in these diseases is in the prostatic urethra or its immediate neighbourhood, and I believe that the difficulty experienced in the cure of these conditions is due to the fact that it is no easy matter to act *directly* on the particular portion of the urethra involved.

It must not be forgotten that the urethra is a tube completely, in a great majority of cases, divided into two portions by the compressor urethræ muscle, so that ordinary injections never or practically never pass into the second or membrano-prostatic urethra.

Medicinal Treatment.—There are a number of drugs which are asserted to have a beneficial action on these diseases, but they seem to exert their action rather indirectly than

directly on the prostatic urethra. But at the same time the usefulness of drugs must not be underrated, for there are many preparations which, *when combined with local treatment*, materially assist towards a cure. Salol, sandal wood oil and cubebs, is a most useful combination. *

Belladonna, hyoscyamus, the acetate and citrate of potash are also useful.

Buchu, Cubebs and Santal, in combination, especially in the preparation. Liq. Sant. c̄ Buchu et Cubeb. (Hewlett) have often a marked effect, and is not unpleasant for the patient to take.

Moral Treatment.—This, though occasionally of great assistance, only too frequently fails. It is all very well to tell the patient that his disease is curable, trivial and need cause him no anxiety, but unless the disease be cured he cannot altogether be blamed for paying little attention to this counsel. This much may, however, be insisted on, that (providing a microscopical examination of the

* This is put up in capsule form by J. B. Hay & Co., Coventry Street, W.

discharge demonstrates the absence of spermatozoa) he is not suffering from "loss of seed", that he is not impotent, that his disease *can* be cured, that to bring this about it is absolutely necessary that he give up any bad habits he may have contracted. Lastly he must occupy his time with rational healthy work and enjoyment, and avoid allowing his mind to dwell too much upon the character of his ailment.

Constitutional Treatment.—Under this head are included all means which help to restore the general health of the sufferer to a sound state. To this end, tonics may be serviceable by improving the appetite and aiding digestion. The bowels should be kept moderately well open by laxatives, and the urine rendered as unirritating as possible by the administration of alkalies. Cold bathing of the penis, scrotum, perinæum and spine, followed by moderate friction, will also be found of considerable benefit.

Local Treatment.—This is by far the most important and in most cases the only one likely to be of permanent service The means

by which the deeper portion of the urethra can be acted upon directly are not many, and the depth from the surface of the seat of the disease and the narrowness of the passage leading down to it, make all means of active local treatment difficult of application, and necessitates considerable care being exercised. This is particularly the case in the application of caustics: these may be applied either in solution by means of the instillator, or in the solid form by means of the *porte caustique*, this latter method being seldom required.

Instillations. These are certainly preferable to the employment of solid caustics, as their strength can be regulated, and the fluid reaches all the crypts and recesses in that portion of the urethra to which it is applied. The instillator is a small metal catheter, eight inches in length, with a fine central channel opening at its end and provided with a short terminal curve. This instrument may be screwed on to the ordinary hypodermic syringe and is then passed down the urethra to just within the grasp of the compressor urethræ muscle, the solution when injected

thus comes directly in contact with the prostatic urethra. A still more useful instrument is a silver catheter closed at the end, of No. 10 calibre in the shaft and end, but tapering at the bend to No. 5, where are situated six small holes. The instrument is so regulated that when the tip is just at the entrance of the bladder, the constricted portion is in relation to the prostate. A small glass syringe is then attached, charged with 10 to 60 minims of the particular solution, which is then injected down the catheter. The fluid acts on the prostatic urethra alone, being prevented from passing either backwards or forwards by the bulgings of the instrument. After injecting, the instrument should be left in the urethra for a few minutes. The solutions I have found of most use are, firstly, Protargol (Bayer), this drug being a chemical compound of silver with a protein substance, has a better penetrating and very much less irritating effect on the mucous membrane than nitrate of silver, and will be found very useful in ½ to 10 % solutions. Carbolic acid and iodine in 1 % solutions will also be found of benefit.

Alumnol may also be tried in 1 % solution.

The application of ointments has often a marked effect. The ointment introducer of Erichsen being a convenient instrument for applying these, and the ointments of choice being—

R: Ac. Carbolic: grs. V
Iodini pur: grs. V
Ol. Olivæ: drs. ½
Lanolinum: oz. i
M: Ft: Unguent:

R: Creolin: *m*V—X
Ol. Olivæ: drs. ½
Lanolinum: oz. i
Ft: Unguent:

The collapsible ointment tube provided with a nine-inch flexible catheter, is a very excellent mode of application and of special service in that the patient may safely apply it himself. The tubes containing carbolic acid and iodine ointment and Thallin and Protargol are to be most recommended.

By Antrophors * the prostatic urethra can be effectually medicated. These consist of a thin spiral spring, nine inches in length, coated with an insoluble mass over the last three or four inches of which is a compound, soluble at the body heat, combined with which is the medicament chosen. These are passed

* Manufactured by Messrs. T. Christy & Co., Lime St., E.C.

into the region of the prostatic urethra and left there for ten to fifteen minutes.

The most useful compounds being—Thallin 5 % and Resorcin and Ichthyol. These antrophors when composed of Eucain 5 % form a very convenient mode of completely anæsthetizing the passage.

The insuffiation of powders has been advocated by some, and certainly Orthoform is useful in certain erosed conditions of the mucous membrane, accompanied with much pain.

This drug though apparently having no effect on the unbroken mucous membrane, has a very decided anæsthetic effect when there is breach of continuity. It is also antiseptic and diminishes purulent exudation.

Neumayer reports benefit from a 5 % solution of orthoform hydro-chloride.

In very irritative states of the prostatic urethra and neck of the bladder, calling for frequent micturition, pain on defæcation and general prostatic discomfort, the injection into the rectum of 2 drachms of a solution of—

Ext: Opii grs. 10
Ext: Belladonna grs. 3
Aqua ad oz. ii

will give great relief. This is also a useful way of rendering the posterior urethra insensitive to instrumentation.

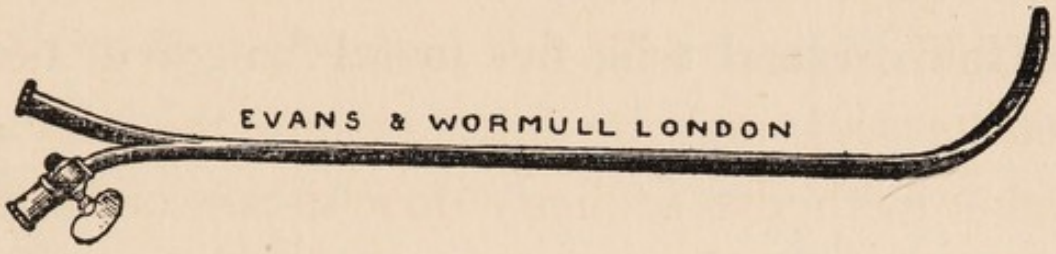
Rectal Lavage is useful, especially when the prostate is chronically enlarged with lax sphincter vesicæ and frequent calls for micturition.

Cold water will be found to give best results and may be injected into the rectum either with the ordinary douche-can, or better still by an indiarubber tube fixed on the tap of the ordinary bath, and provided with a rectal pipe by means of which a strong stream of cold water may be made to play on the prostate for some minutes. The rectal pipes should have grooves to allow the outflow of the water, preventing over-distension of the rectum.

The frequent passage of bougies is easy of application and will often alone cure gleet and prostatorrhœa. To carry it out—as large a solid metal bougie as possible should be passed down the urethra and retained in position for several minutes, and this process should be repeated every three or four days.

The method seems to effect a cure by distending the canal, separating diseased sur-

faces and by stimulating the parts. A better instrument than the ordinary sound is the *Pyschrophor* of Wintermitz, which is a large double-channelled catheter closed at the end. The rubber tube of the ordinary douche-can

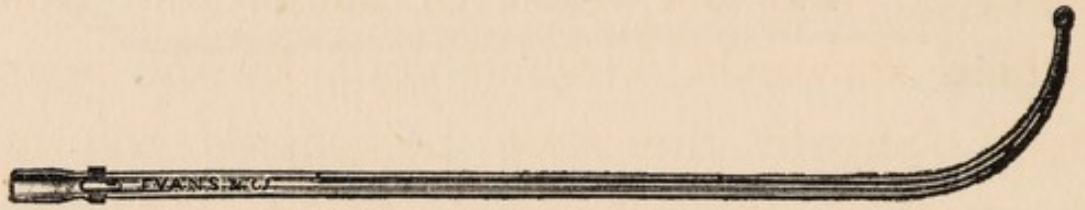


is attached so that a stream of cold water may flow through the catheter, thus preventing it from getting warmed by the body. The method of treatment by bougies depending greatly on their coldness, the advantage of this instrument is that it may be kept at a low temperature.

Irrigation. This is practically a modification of the method of treatment by injections. The *Irrigator** consists of a metal tube, ten inches in length, shaped like a catheter, the posterior end being bulbous. It is hollow and pierced near, but not at, its extremity by ten

* This instrument was designed by the late Dr. F. W. Stokes and carried out by Evans & Wormull of Stamford St.

apertures directed backwards. These apertures are at the bottom of grooves, five in number (two openings being in each groove) which extend the whole length of the instrument, except within half an inch of its posterior extremity, and are produced by welding on to the original tube five metal flanges or ribs.



Rp. No 219661.

The instrument is oiled and passed into the urethra, until the exit of urine along its central tube marks its entrance into the bladder. It is then withdrawn to the extent of half an inch, when it is known that the openings in the grooves at the posterior end are in the region of the prostatic urethra. The anterior or external end of the instrument is then fixed to the tube of an ordinary irrigator-can or syringe charged with the particular solution to be used, by which means

the fluid is forced down the central canal, out at the apertures, and back again along the grooves on the outside of the instrument, and so makes its exit at the meatus.

The first effect of the solution is directed on the prostatic urethra, but also on the membranous and spongy portions of that tube, so that the whole of the urethra from behind forwards is acted upon by the injection. Should the tube be passed too far down the urethra, part of the fluid injected may pass backwards into the bladder, but this is in no ways harmful as it is not necessary to use any powerful caustics which would be likely to injuriously affect the bladder, and it can be easily stopped by immediately withdrawing the instrument half an inch or so, when the liquid ceases to make its exit at the meatus. The solutions which will be found most useful are those of ichthyol 1 %, weak solutions of tannin and alum, protargol 1 %, acid carbolic 1 to 400, with perchloride of mercury 1 to 10,000.

Should much of the injection pass into the bladder, before withdrawing the instrument

after all the solution has passed out of the irrigator-can, the instrument should be passed right down into the bladder and the contents of that organ drawn off.

The advantages of this method of injection are various:—

I. The whole length of the urethra is acted upon by the solution, so there is no question of missing the actual seat of disease as may occur in using the ordinary injection.

II. Dangerous distention of the urethra is impossible, the grooves on the outside of the instrument allowing of the ready exit of the solution.

III. A large quantity of the solution can be used at one sitting, and, therefore, the diseased surface is played on by the injection for some considerable time, so allowing the first portion of the fluid to wash away any accumulated discharges on the surface, and the latter portion to act upon the cleansed raw surface.

IV. A weak injection only being used, there is no fear of injuring the healthy mucous membrane.

CHAPTER VI

STRICTURE

STRICTURE or narrowing of the urethra, is one of the commonest affections to which this passage is liable; moreover, it is also one of the most difficult to permanently cure. For although the contraction may be dilated, and the immediate symptoms relieved, it is only too commonly the case that the relief is but temporary, and that the stricture with its resultant complications, reappears at some future time more or less remote.

Two kinds of stricture:—Spasmodic and organic may narrow the urethra.

Spasmodic Stricture.—This is due to spasmodic contraction of some of the muscular fibres surrounding the urethra, usually the compressor urethræ muscle. It is usually produced by reflex action, the existing cause being situated in the urethra itself, or in its immedi-

ate surroundings; or, it may be more remote, as in the rectum or anus. Moreover, it is usually associated with a certain amount of congestion.

The causes then of spasmodic stricture are—organic stricture of the urethra, stone, injury to the urethra by the passage of instruments or the mere presence of an instrument in the canal, excessive drinking, holding the water for too long a time, immoderate sexual indulgence and exposure to cold and wet. More remote causes are—fissure of the anus, worms, piles and constipation.

Symptoms.—Spasmodic stricture announces its presence suddenly. The usual history is that a man, suffering from organic stricture, the presence of which he may or may not be aware of and which up to this time has probably caused him no discomfort, suddenly discovers after indulging somewhat too freely in alcohol or in sexual intercourse, that he cannot pass a drop of urine. The more forcibly he endeavours to empty his bladder, the greater his inability to relieve himself; in fact his efforts serve only to increase the

spasm. If an instrument be passed, besides an organic stricture, usually situated in the anterior portion of the urethra (which organic stricture is not by any means a necessary concomitant), an obstruction which more or less easily gives way and allows of the passage of the bougie, is met with, in the deeper portion of the urethra. The most characteristic signs of spasmodic strictures, are the suddenness with which they appear and the equal celerity with which they yield.

Organic Stricture.—This may be defined as a permanent contraction of the urethra, due to structural changes in the mucous membrane lining that canal and in the tissues immediately surrounding it.

Causes.—By far the most common cause of stricture is gonorrhœa, particularly if that complaint be injudiciously treated, or be followed by a persistent gleet; so much is the latter the case, that many surgeons assert that where there is a gleet there is also a stricture which is its cause. That this is often the case cannot be denied, but the assertion is far too sweeping, and other causes than

stricture may undoubtedly manifest themselves by a gleet.

Next to gonorrhœa, direct injury to the urethra is the commonest cause of stricture; this is usually brought about by blows, kicks or falls on the perinæum. Although this cause is nothing like so frequent as gonorrhœa, the stricture resulting therefrom is far more serious and much more difficult to cure. Another cause of stricture, though not a common one, is syphilitic ulceration and its resulting cicatricial healing; stricture due to this cause is usually situated in the anterior portion of the penile urethra, near the meatus.

The supposed development of stricture from two rapid a cure of a gonorrhœa is a myth, the more speedy cure, the less likelihood of a stricture forming.

The essential lesion of stricture is in the spongy body: as an ultimate result of injury or inflammation there occurs a breach of continuity in the wall of the canal, this is filled up by the exudation of inflammatory lymph which becomes organized and developed into scar tissue. This scar in the ure-

thra has the same character peculiar to scars on the external surface of the body, that is, a tendency to slow progressive contraction, and to this peculiarity is due the fact that a stricture, the result of gonorrhœa may not make its presence noticeable for several years after the causative gonorrhœa.

It is to be borne in mind that an organic stricture is usually accompanied with a cer tain amount of congestion of the tissues in its immediate neighbourhood, and that this surrounding congestion is liable to be increased by various exciting causes, as by coitus, drinking and exposure to cold and wet; so that a slight organic stricture of whose presence the patient is quite ignorant, may make itself known as the result of one or other of these excitants, by the sudden onset of complete inability to pass water, and when an instrument is passed in order to relieve the bladder the patient is surprised to learn from the surgeon that a stricture is there, and must have existed for some considerable time.

Symptoms.—Those of organic stricture are:

I. The presence of a gleety discharge

though one of the commonest symptoms, is not always present and, as has been already mentioned, its presence is not proof positive of a stricture. The discharge comes from the congested tissues in the vicinity of the stricture, and from the stricture itself.

II. Frequency of micturition caused at first by changes in the relation between the expulsive efforts of the bladder and the resistance offered by the urethra. Later from extension of the inflammation backwards until the vesical neck is involved. Finally by atony of the bladder with the presence of residual urine.

III. Changes in the urinary stream. This may be diminished in fulness, forked, twisted and divided.

IV. Dribbling after urination, the patient finding after he has apparently finished, a few drops of urine dribble away and wet his clothes.

V. Pain and difficulty in making water, the patient finding that he has to exercise a certain amount of straining to pass his water. Along with this is a sensation of pain not only in the penis itself, but in the testicles, groins, back and behind the pubes. The

necessary straining to which the sufferer is put may give rise to piles, prolapse and hypertrophy of the bladder.

Other symptoms of stricture, less marked than those already mentioned, but nevertheless of frequent occurrence, are—pain and difficulty in the ejaculation of the semen during coitus, instead of starting out in jets it oozes from the meatus by degrees; chordee or a bent condition of the penis occasionally occurs during an erection; the patient may acquire a habit of handling and pulling the penis so that the foreskin and even the penis itself may become longer than natural.

The seat of stricture is in the large majority of cases situated in the bulbo-membranous portion of the urethra. The next most frequent seat is the first two and a half inches from the meatus, and the least frequent, the middle of the spongy portion. Organic stricture of the prostatic urethra is of the rarest possible occurrence, though of course the canal itself may be encroached on by partial enlargement of the prostatic gland itself.

The *number* of strictures may vary, there

may be one or two as is most often the case, or there may be five, six or more. Usually accompanying an organic stricture of the spongy portion of the urethra, there is a spasmodic one in the membranous region.

The *form* and *degree* of the stricture may vary greatly. Thus it may consist of only a few fibres encircling the urethra, *linear*, which may not pass wholly round that tube, but consist of a thickening of the mucous membrane on one side of that passage only; it may be *annular* or occupying a small portion of the length of the urethra; or *tortuous*, that is to say, occupying some considerable extent. It may allow of the passage of a moderately large-sized instrument—*large calibre*, or be so contracted that though it allows the passage of a few drops of urine, it cannot be made to yield to the smallest instrument—*small calibre;* usually the older the stricture is, the more contracted and the harder it becomes and the greater the difficulty in passing a catheter or bougie through it, until ultimately, if treatment be not had recourse to, it may become absolutely impassable.

CHAPTER VII

TREATMENT OF STRICTURE

THE various methods of treating stricture are many, but mention only of those most commonly employed and most useful, will be made. All strictures are not necessarily diseased states requiring treatment, they may be but the definite stage following an injury to the urethra, as scars resulting from a process of healing, and, if not offering marked obstruction to the exit of urine, and if not tending to contraction, they do not call for active treatment.

Constitutional Treatment.—This though often required or but indifferently carried out, is of considerable service in many cases. The general health should be improved in every possible way, and attention particularly paid to rendering the urine as free and unirritating as possible. To these ends, moderation should

be observed in the consumption of alcoholic drinks, highly seasoned foods, and those unusually considered difficult of digestion.

Medicinal Treatment.—Drugs which modify the acidity and acridity of the urine are of considerable service, as the alkaline salts of potash and soda, benzoic acid, boric acid, tincture of hyoscyamus, buchu etc.

Dilatation.—This, the simplest method of treatment, and the one most easily carried out in many cases, is that one which should first be tried in every case possible. It is particularly adapted to the early stages of stricture, where a moderate sized bougie can be passed and where the new cicatricial tissue has not yet become firmly organized.

The process consists in passing through the stricture as large a bougie as possible, leaving it in for a few minutes, and repeating the operation at longer or shorter intervals.

The distention of the stricture by the instrument undoubtedly promotes the absorption of the new scar-tissue, though its first effect is to set up some inflammatory reaction and temporarily to increase the discharge.

This plan of treatment is usually carried out by passing an instrument of increasing size at intervals of every three or four days, the frequency of the repetition of the process being gradually diminished.

A sub-variety of this method is *continuous dilatation*, in carrying out which a channelled bougie or catheter is passed through the stricture and retained for twenty-four hours. Its presence sets up a good deal of inflammation, and a quantity of purulent matter is discharged from the urethra, the passage becomes enlarged, and another instrument of a larger size is passed in place of the one originally used, and this process repeated until the canal is thoroughly dilated. The advantages of this process, are that the required degree of dilatation can be rapidly brought about and that in these cases, in which it is extremely difficult to introduce a bougie, the improbability of its re-insertion after being once withdrawn is not risked. It is, however, a method of treatment hardly to be recommended as it produces considerable inflammatory reaction, and the stricture exhibits after

this method of dilatation a strong tendency to re-contract.

It is then from gradual dilatation that we can hope for the best results, and this is the first active method of treatment we should endeavour to make use of in all cases.

Rupture.—Forcible dilatation, rupture or Holt's operation. This is carried out by means of an instrument consisting of two grooved blades, welded together at their points and separated at their handles, between them is a wire, also welded to their points, and over this glides a tube which, passing down between the two grooved blades separates them and so dilates or ruptures the stricture. The method of using the instrument is obvious; the central dilating tube is withdrawn and the two dividing blades in close apposition are passed down through the stricture, and the dilating tube is then rapidly pushed down between the blades and the stricture ruptured.

Incision.—Next to gradual dilatation this is by far the best operation for the radical cure of stricture. The operation is not dangerous

and is specially adapted to strictures situated within three or four inches of the meatus. It consists in passing a guarded lancet down through the stricture, then, by some mechanical contrivance causing the blade of the lancet to protrude, and by withdrawing the instrument the stricture is divided from behind and forwards.

Various forms of instruments (urethrotomes) have been invented for this purpose, those in ordinary use being *Civiale's*, which is straight with a bulbous extremity containing a cutting blade, but, as this bulb is about the size of a No. 8 catheter, it will be seen that this instrument is not adapted for tight strictures: *Maisonneuve's*, which consists of a straight staff with a groove in it, along which glides a triangular blade with sharp cutting edges but with a blunt apex, so that it slides along the healthy urethra without injuring it, but cuts through the stricture on coming in contact with that constriction: *Otis's urethrotome*, is both a dilator and a cutter; it consists of two parallel bars, one of which is traversed by a thin narrow cutting blade which is con-

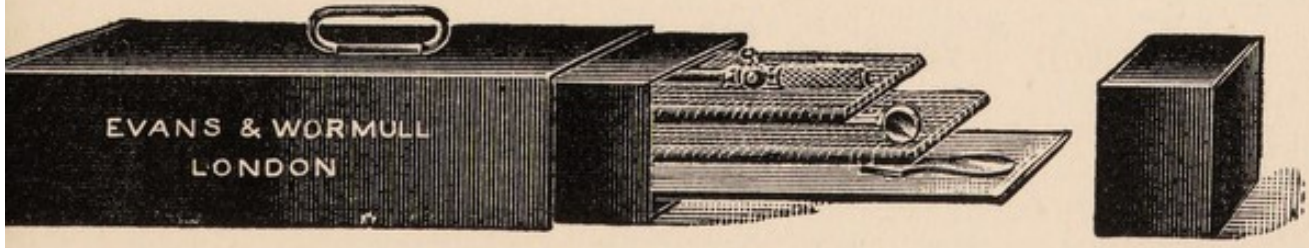
cealed in a slot, but made to protrude by withdrawing the handle of the instrument. The two bars are passed down the urethra in apposition, when through the stricture, they are made to separate, and the knife cuts through the stricture while it is thus held on the stretch. Although the dangers resulting from the performance of the operation are in competent hands very slight, there are certain complications which may arise, such as hæmorrhage, urethral fever, septicæmia etc. and possibly lead to serious consequences.

STERILIZATION OF URETHRAL INSTRUMENTS

The sterilization of urethral instruments is of such great importance in the prevention of septic absorption and urethral fever, that a convenient sterilizer, useful both to the specialist as well as to the general practitioner who may only occasionally have use for these instruments, will always find a place.

The apparatus now to be described will, I think, meet most requirements. It consists of an oblong metal box, 18 inches in length,

4 inches in height by 4 in width, provided with two open wire-work trays, sliding in grooves, underneath which is a piece of lint stretched over a wire frame, the whole closed with a tightly fitting cap. The instruments are placed upon the two shelves, while upon the layer of lint is sprinkled a thin layer of *Paraform* (Trioxy-methylene). This substance gives off vapour at ordinary room temperature and effectually sterilizes the instruments in the trays above (Guyon). *Formalin* may be used instead of its derivative, but in this case the damp vapours given off will in time injure any gum elastic instrument within the box.



The convenience of this apparatus lies in the fact that catheters, bougies, urethroscopic tubes, etc. may be placed in it and after having been left 24 hours, (except in the cases of very fine instruments, which require

about twice that length of time) are completely sterilized and may be then used or left in for an indefinite period, ready at a moment's notice, thus doing away with the delay and trouble of boiling.

Of course all instruments must be thoroughly washed in soap and water and dried before placing in the sterilizer. It is as well also to immerse instruments for a minute or two in a solution of boracic acid before use, as instruments taken directly from the paraform vapour and passed into the urethra, may cause some stinging sensation.

The apparatus of the dimensions described will contain about sixteen to twenty instruments, and has been carried out for me by Messrs. Evans & Wormull.

(*Vide* "Lancet", February 1899.)

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