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*Retention of Urine; Its
Causes and Treatment.*

W. Douglass

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Among the manifold and various diseases to which the human frame is liable, that selected as the subject of this paper may be ranked among the most serious. And this assignment of place is by no means arbitrary, but is warranted by numerous considerations.

Whether we turn our attention to the number of exciting causes; to the delicacy of the parts affected; to the imminent danger threatening the very existence of the patient; the severe suffering to which he is subjected while his malady continues unrelied; the urgency of the symptoms, necessitating the most prompt application of the requisite remedies; the frequency of the disease in general practice; its various phases, and their different treatments; these, and other considerations, afford sufficient evidence to establish the proposition with which we set out; and evidently set forth the necessity, there is, that on this particular

Affection, the Knowledge of the Surgeon should be clear and Comprehensive. In treating of the Retention of Urine, we intend to follow the Order and Division generally adopted by Medical Writers. The first part of this thesis will be devoted to the Enumeration and Consideration of those Symptoms, which are Common to each phase of the disease; we will then proceed to review the various Causes, to each of which will be appended its particular treatment, and any Symptoms peculiar to it. Of these in their order; And,

I. Of the symptoms Common to all forms of the disease. In every case of Retention, from whatever Cause it has resulted, the first symptom felt is a strong desire to micturate, accompanied by a total inability to do so. The desire is constant; frequently aggravated, and attended with great suffering in the hypogastric region. Nausea succeeds; vomiting; the Motions of the pulse become more frequent,

but at the same time weaker, and less perceptible, the skin grows heated, and emits, as well as the breath, in consequence of the absorption of the vesical contents, an urinous odour. The coats of the bladder being then distended to their full stretch, transmit the pressure to the ureters, and pelvis of the kidneys; by which pressure their secretion is arrested, and complete suppression supervenes. After this death is swift and certain, life ebbing away amidst coma, and convulsions. During the progress of these distressing sufferings, the bladder is driven from its proper situation. Gradual in its ascent, it may at first be felt, in the pelvis, above the pubes, resembling to the touch a firm elastic tumour, and dull upon percussion. Pressure upon it causes almost intolerable pain, increasing in a great degree the sufferings of the patient. But in some cases, where the distension is extraordinary, the elevation of the bladder is much greater. The enlargement may proceed to such a degree, that the bladder is forced

into the Cavity of the Abdomen, even to the umbilicus. In such Cases the fluctuation of the urine may be distinctly recognised, and the outline of the bladder traced, resembling in shape a globular tumour, almost as large and distinct as the gravid uterus.

Ray, numerous instances are recorded in which Cases of this description have been mistaken for ovarian dropsy, and so strong have been the resemblances that they have even been punctured as such.

Cases also occur, in which the Coats of the bladder having become thickened, and the Cavity consequently diminished, the ordinary Symptoms of Retention are occasioned by the arrest of but a very small quantity of urine. Then the tumour can only be recognised by the insertion of the finger by the Rectum or Vagina. In other Cases the distension is ready; and the ascent of the bladder may be very considerable, before any pain is experienced. If the bladder be relieved, the more urgent Symptoms will soon disappear; but the visits of the Attendant will still continue

necessary. For the kidneys having suffered from Compression, the function of secretion will now be performed copiously, and unless relief be again administered, the bladder filling as full as before, the distressing symptoms will soon reappear. If, however, there be no administration of relief, a serious accident is inevitable; namely, the bursting either of the bladder or the urethra. This may happen in two ways; by ulceration, or by actual tearing under violent muscular action. In whatever manner it takes place, the result is similar; extravasation of urine ensues, and that urine of the most saline and acid description. The rapid sinking of the patient is generally consequent on this bursting. From these concluding remarks the importance of early and effective measures must be sufficiently evident; for when once rupture of the bladder has taken place, the extravasation of urine into the abdominal cavity induces severe and fatal peritonitis under which, as we

before said, the patient rapidly sinks, extinguishing all hope of recovery, even in the most sanguine. Rupture of the urethra, is however, is fortunately the most frequent termination of unrelieved retention, and although not attended with such hazards as rupture of the bladder is still a very serious complication.

II. Having thus given a summary of the symptoms attendant upon all cases of retention, we come now, in the second place, to consider the various causes of this disease, to each of which, its peculiar symptoms (if there be any,) and treatment will be annexed. It is not, however our intention to treat in detail all the causes of retention, but merely to consider those which are more apparent and direct in their action; and,

1. Of stricture of the urethra. We propose to consider this cause first, on account of its being the most common, and at the same time attended with consider-

able danger. Hence it may not be foreign to the object of this paper, if at this stage we review shortly the nature of stricture itself. The proximate cause of stricture is the deposit of plastic lymph in the interior of the Canal, or more commonly in the submucous areolar tissue. This plastic deposit varies in extent, and consequently the degree of contraction will likewise vary. Some cases occur in which the deposit consists merely of a fibrous band extending across the Canal. This description of cases has received the name of Bridle Stricture. Such forms are however of very rare occurrence. The contraction is generally of greater extent; varying from a quarter to half an inch, and the occlusion from the slightest narrowing to almost complete closure of the Canal. The sites of stricture, in order of frequency, may be thus classed:- The stricture of most common occurrence is situated anterior to the bulb, about five inches distant

from the orifice. The next in frequency, about about two or three inches distant from the orifice; the next at the neck of the gland, and the most rare at the orifice of the urethra. Sir Benjamin Brodie mentions some cases in which stricture occurred in the prostatic or membranous part of the Canal. But this happens very rarely; and indeed it has been satisfactorily demonstrated by Sir Charles Bell and others, that stricture seldom or never occurs posterior to the bulb of the urethra. Certainly cases are met with in which there is a plurality of strictures, a minor one of which may occur in the membranous or prostatic part of the Canal. In such cases, however, if those strictures anterior to the bulb, receive proper treatment, it is in general all that is necessary, as resistance on the part of the minors is exceedingly rare. The differences in strictures, however, are not peculiar to their extent and site, they extend likewise to their nature.

These differences have occasioned various classifications of strictures, according to the tastes of the several writers upon this subject. It would, however, be going beyond the limits of this paper were we to consider these classifications in detail. It will be sufficient to observe here the division adopted by Professor Sympson. Strictures according to him are of three kinds, The Confirmed, The Irritable, and the Contracted; each of which may produce retention. It is generally very difficult to ascertain positively the real causes of stricture. We subjoin an enumeration of the most common:—Gonorrhoea, this is generally considered the most frequent; injudicious use of the Catheter; exposure to cold; excessive venery; an attack of giles; indulgence in stimulating articles of food; stone in the bladder, and in fact everything which, either directly or indirectly, tends to stimulate the urethra, may be regarded as an exciting cause of stricture.

The symptoms of Retention from stricture of the Urethra, are usually gradual in their invasion. The patient, after having laboured under the symptoms of stricture, for it may be a considerable time is exposed to Cold or wet, suffers from an attack of piles, or is affected by some of the casualties above mentioned, whereby the previously narrowed Canal becomes occluded by Congestion or inflammatory exudation aggravated, no doubt in a great majority of cases, by spasm. The occlusion being completed, the urgent symptoms of Retention speedily supervene.

Treatment. In the treatment of retention from stricture it will always be proper in the first place to ascertain whether or not the urethra be inflamed. If the presence of inflammation be suspected the Catheter should not in the first instance be employed (unless danger be apprehended from extravasation) but an antiphlogistic plan of treatment ought to be adopted. For the relief of the

Congestion leeches ought to be applied to the perineum. The warm bath will be found very useful in subduing spasm. Opium in a full dose should be administered either by the mouth or as a Clyster. This administration of opium benefits the condition of the patient considerably. Its first effect is seen in the patient's relief from suffering; the desire to make water becomes less urgent; and the severe straining efforts of the patient diminish in frequency and intensity. After such treatment probably sufficient relaxation will take place as to allow the voiding of urine in a small but steadily increasing stream. Purgatives have also been recommended, but it is evident from the time they require to produce their effect, that they can be of no efficacy in cases of urgency. By the persevering use of the above remedies the distressing symptoms will certainly be greatly relieved, oftentimes completely overcome.

In cases where from their history we have

no reason to suspect the presence of inflammation, recourse should be had at once to the catheter. The instrument used may be either a gum-elastic catheter, or a metallic one. The latter is generally preferred; but as it sometimes refuses to pass, the former description of instrument has been tried, and has often gained an entrance into the bladder, where the metallic one has proved unsuccessful. The size of the instrument to be used will, of course, vary according to the size, nature and duration of the stricture. In cases of recent stricture it is found most expedient to use a catheter of the full size of the urethral canal. In those of longer duration it is advisable to use a smaller instrument. Any remarks upon the mode of passing the catheter we feel to be unnecessary, but it may not be out of place to insert a caution against violence or hurry at any stage of the proceedings. Anything of this kind would only tend to frustrate our own endeavours;

since by using more force than is requisite for the mere passage of the instrument, we would, instead of favouring absorption which is the object we wish to attain, by the induction of additional irritation, aggravate instead of relieving the stricture. If we succeed in gaining an entrance for the catheter into the bladder (and fortunately these means will be found sufficient for the relief of retention dependant on stricture in the great majority of cases) our object is attained, and the patient will soon enjoy complete relief. If however the nature of the stricture belongs to any of the three classes enumerated by Professor Syme: viz: the Confirmed, Irritable, or Contracted, the means above mentioned will be found insufficient to procure even temporary relief. In strictures belonging to the first class the catheter will dilate the canal to a certain extent, but not sufficiently to obtain for the patient relief from his distressing symptoms. It will be found unable to overcome the

firm and undilatably constricted canal, and persistence in the use of the instrument will tend only to an aggravation of suffering.

In the case of irritable strictures, again, persistence in using the catheter is productive of a still greater aggravation of suffering, increasing in a ten-fold degree the distress under which the patient has been formerly labouring.

The contracted stricture, on the other hand, allows the introduction of the catheter, but still the patient fails to obtain a commensurate degree of facility in micturition; relief extends only over the period during which the catheter is retained, for upon its removal the stricture resumes its former degree of contraction, and the patient consequently relapses into the same or even a worse condition than before. For the treatment of retention dependant upon any of these three kinds of stricture the means usually had recourse to, having been found insufficient, affording

only a temporary alleviation, further measures may be urgently called for, and fortunately these are readily supplied by perineal incision recommended and practised by Professor Syme. This means of remedying intractable retention from intractable stricture is founded upon the principle of the permeability of all structures. The operation may be thus briefly described: A grooved director is passed through the stricture into the bladder. An incision is then made in the central line of the perineum; the blade of the knife is then to be insinuated into the groove of the director, and carried forward dividing in its progress the strictured part of the canal. The director is then carefully removed, the finger during the time of removal being accurately placed on the divided urethra to guard against the risk of extravasation. A silver catheter is then introduced and allowed to remain for three or four days. At the expiry of this period it is replaced by a gum-elastic one which is retained until the external wound

is completely closed. In all cases of urgent retention permitting the performance of this operation, we ought undoubtedly to have recourse to it. We may mention as some of its recommendations, the facility with which, in most cases requiring such measures, it can be performed, and its freedom from danger. Another method of relief which we shall notice is that recommended by Sir A. Cooper. His directions point out the following operation:— The membranous portion of the urethra is to be incised behind the stricture, and a fistulous opening thus established in the perineum, which may be remedied at leisure by curing the stricture. This operation is evidently inferior to the former, not only on account of the tedious healing of the fistula, but because, although it safely and speedily enough, relieves the retention, yet it is totally ineffective with regard to the cause of the retention. Whereas by Professor Syme's method, our treatment is immediately directed against the stricture, and the cause being removed, the effect—the retention—

departs with it. The cure of both stricture and retention is simultaneous, and hence the preference to be universally given to this mode of procedure.

There are circumstances however, in which, from the urgency of the symptoms, or complication of the case, all the means which have been hitherto mentioned are found unsuitable. It is evident from what has been previously stated that unless an outlet for the urine be made by surgical means, the urethra will give way behind the strictured part, an urinary abscess becomes developed, or extravasation of urine into the cellular tissue of the perineum takes place, causing by the irritation which it produces sloughing of the most severe and extensive nature, and febrile disturbance of such intensity as to cause the patient's death. To prevent these dangerous consequences, it is sufficiently evident that active measures must be taken, and the only remaining remedy, though a hazardous one, had recourse to, since we

Cannot be justified in leaving the patient to the efforts of nature, so long as any resource remains. The remedy we refer to is puncture of the bladder. This may be done in three ways; by the Perineum, by the Rectum, and above the Pubes. We shall merely offer a few remarks on the manner in which each of these operations is to be conducted. As the above enumeration is according to their merit, we shall consider, (1) Puncture of the bladder by the Perineum. For this operation the patient is placed in the same position as for lithotomy. A deep incision is then made in the perineum, and a long curved trocar passed forwards into the bladder, which makes an opening for the urine, by escaping through which complete relief will be obtained. This operation is no doubt difficult, but when rightly performed most effective. (2) Puncture by the Rectum is a more simple and satisfactory mode of relieving the patient. As it is only resorted to when the catheter fails, a different in-

-strument - the trocar - is to be used. This instrument, with its stilet withdrawn within the Canula, is inserted, and the extremity of the Canula fixed on the trigone. We then push forward the stilet, and lodge both trocar and Canula in the bladder; lastly we withdraw the trocar and leave the Canula, to be taken out according to our prospect of curing the stricture. (3). The third and last operation is puncture above the pubes. Here also the trocar is to be used, but of a much smaller size than in the former case. We first incise the parietes, just above the symphysis, and then through the incision puncture the bladder at its lowest part. We allow the Canula to be retained. This is our last resource in cases of Retention from stricture, and consequently brings our remarks upon this part of our subject to a conclusion. Almost every stricture must yield to some one or other of these treatments; even

if it should not, any one of them is preferable to the inevitable consequences of extravasation.

2. Retention of urine caused by Paralysis. Among the causes of retention paralysis stands second to stricture both in frequency of occurrence and in importance. It will be necessary therefore to consider the various circumstances which induce this paralytic condition of the bladder; and

(1.) Over-distention. Retention of urine in the bladder, whether proceeding from neglect under circumstances of restraint, or from some mechanical impediment causes distension of the coats of the bladder, giving rise to weakness and loss of irritability of the organ, and although the obstacle to the passage of the urine be removed, yet it is unable to expel its contents owing to its paralytic state induced by the previous distension and loss of contractile power. Before the malady

Has reached this point, the symptoms of retention may have been very urgent and distressing, but after the super-vention of paralysis they will in a great measure disappear, and the disease may, for a time, pass unheeded; but on any attempts being made to empty the bladder, they will prove useless, and any evacuation impossible even under the utmost efforts at expulsion.

(2) Paralysis of the bladder may proceed from disease or injury of the spinal cord, ceasing to expel its contents from interruption of the circle of reflex actions. Owing to the insensibility of the bladder, the symptoms attendant upon this cause of paralysis are less marked, and perhaps also less urgent than those of any other. Hence also the accumulation of urine is accompanied by little suffering or inconvenience; and in consequence of the masked symptoms

retention proceeding from this cause is frequently overlooked, and the more so because it is often attended by incontinency, which is considered incompatible with retention. But notwithstanding the simplicity and unobtrusiveness of the symptoms, the consequences are perhaps more serious than those of other cases; for, after death the mucous coat of the organ is found to be inflamed and thickened; the muscular coat also greatly increased in thickness and contracted upon itself. The urine also undergoes a change equally great, becomingropy, stinking and ammoniacal. The order in which these changes take place has been disputed. The opinion most generally adopted, as to the order of sequence, is that diseased bladder results from the palsy, and secretes an altered mucus, which occasions the change in the urine. The urea

is decomposed by the altered Mucus, and converted into Carbonate of Ammonia, which uniting with the phosphates and Magnesian salts, constitutes that phosphatic degeneration of the urine universally found in retention from spinal injury. (3.) Paralysis of the bladder may also proceed from general debility, or may be the result of senile decay. In diseases accompanied with general prostration of the nervous system, and muscular debility, for example in cases of typhoid fever, there is danger of the bladder suffering from paralysis. The urine may dribble away, unconsciously to the patient, and unless prompt attention be given to this by the medical attendant, retention of urine and its disastrous consequences will very probably supervene. The hypogastric region ought to be subjected to a daily examination, that a regular discharge of urine may be ensured, and retention with its consequences fully guarded

against. Paralysis of the bladder may also result from senile decay; this is so common an attendant on old age as to be almost considered one of the grievances to which this period of life is particularly liable. The symptoms are slight and productive of so little inconvenience that the bladder may acquire a great degree of distension before any uneasy feelings are experienced. Indeed in the majority of cases no greater inconvenience is experienced than a sense of weight about the pubes, but as the disease proceeds the calls to micturate become more frequent, the quantities evacuated smaller, and voided in a dribbling stream. Urine is also passed unconsciously during sleep.

Treatment. Whatever may be the exciting cause of this palsied condition of bladder, the first treatment is, in all cases, similar. It must be drawn off by the catheter; this being the only means by which the bladder can be enabled to regain

its former degree of tonicity. A catheter, the full size of the urethral canal, must be employed. One evacuation seldom proves sufficiently efficacious to ensure the patient's recovery. The operation must be repeated at stated intervals, as the bladder is slow in regaining its contractile power. The time necessary for the organ regaining its tone will vary from weeks to months according to the length of time it has remained in its palsied condition.

The further treatment of paralysis must be directed against the inducing cause; as the exhibition of tonic remedies, the various preparations of iron, Zinc, Copper &c; *uva ursi*; stimulants of the nervous system; *Aux. Vomica*, *Cantharides* &c. We must also endeavour to remedy the morbid degeneration of the urine. To effect this, the mineral acids must be used. Other remedies must also be had recourse to according to the necessities of the case.

3. The only other affection of the bladder which we shall consider as giving rise to retention, is the accumulation of blood within its cavity. Haemorrhage may be occasioned by the presence of a calculus, inflammation of the organ, malignant disease, or disease of the prostate. From whatever cause the haemorrhage proceeds, the blood coagulating in the bladder causes distension, and consequent retention, and therefore demands the treatment necessary to remedy this evil. To overcome the retention a large-eyed catheter and exhausting syringe are to be used, by the aid of which, and the occasional injection of cold water the coagula is to be broken down and removed. If the haemorrhage continues, we must endeavour to check it by the injection of cold water into the rectum or bladder, and if these means still prove ineffectual, a solution of alum is to be injected into the bladder, a remedy which in the

great majority of cases will be found
Amplly sufficient.

4. Retention of urine caused by di-
-sease of the prostate gland. Although
affections of the prostate are generally
met with in persons of advanced age,
yet the earlier periods of life are by
no means exempt from them. (1) Persons
in early life are affected by inflam-
-mation of the prostate gland, in com-
-mon with those further advanced in
years. It may arise idiopathically;
but more commonly it is the result
of some irritation either direct or in-
-direct. Gonorrhoeal metastasis is per-
-haps the most common cause of the
affection. The symptoms of retention from
this cause are gradual in their inva-
-sion. The patient experiences a frequent
desire to make water. Pain is felt at the
neck of the bladder, also along the peri-
-neum and urethra, with great aggra-
-vation on every attempt to micturate.
More pain also attends the passing of

urine in cases of this description than in any other. This is owing to the contents of the bladder being forcibly pressed against the inflamed and tender prostate. The inflammation may pass on to suppuration indicated by rigors.

Treatment. The catheter is to be passed immediately; which in the great majority of cases can be readily effected. Having relieved the retention, the inflammation is to be overcome by the use of the ordinary antiphlogistic remedies, — leeches, or cupping of the perineum — Calomel aperients, and opiate suppositories. In cases where suppuration has taken place, an incision must be made, and an external discharge afforded to the matter. (2). Chronic enlargement of the prostate. This is an affection of the gland peculiar to advanced life, and is of far more frequent occurrence than acute inflammation. It has been denominated Scirrhus, on account of the hardness and firmness which the gland

acquires. We are not intended however to understand from this appellation that the gland undergoes a malignant change; but merely that firm consistency which it acquires. The enlargement of the prostate is very various; ranging from a slight augmentation of bulk to the size of a man's fist. Sometimes the enlargement is uniform over the whole substance, displacing the urethra as well as compressing it. At other times it is confined to the central part (called by Sir E. Home the third lobe of the prostate;) and rising up into the neck of the bladder acts as an occluding valve. Other cases will be met with, and these perhaps the more common, in which the lateral lobes enlarge unequally, and giving to the urethra a twist in the lateral and vertical direction. The gland enlarges slowly, and having reached a certain size remains stationary. The nature of the enlargement is peculiar; somewhat allied to chronic enlargement of

the thyroid. It very rarely reaches ulceration or abscess.

Symptoms. Owing to the chronic nature of this disease, the symptoms of retention of urine proceeding from it, are very insidious and gradual in their progress. At first the patient finds that he does not void his urine so easily as he was accustomed to do formerly, but is obliged to strain and exert himself. When however the obstacle is overcome the evacuation is ready, and the relief immediate. As the gland enlarges, the difficulty of micturating increases, until it reaches such a size as to produce the symptoms of complete retention.

Retention from enlargement of the prostate seldom leads to rupture of the bladder. But though free from this hazard the condition of the patient is not more safe than when retention is produced by other causes. For, if he continues unrelieved, he gradually becomes exhausted; there is a cessation

of local suffering; the tongue is found to be black and dry; Coma supervenes and death shortly follows. After also Paralysis and chronic inflammation of the bladder occur in neglected cases of enlarged Prostate.

Treatment. If the symptoms of retention have come on suddenly, and we have grounds for supposing Congestion of the gland to be the cause of the urgent symptoms, leeches may be applied to the perineum, and have the effect of enabling the patient to micturate. Generally however the catheter is the only means of affording relief.

A full-sized catheter, somewhat longer than those usually employed, should be used. It is to be introduced at stated intervals, once or twice in twenty-four hours, so as gradually to draw off the stale urine, and get the bladder into such a condition, that it shall be able completely to expel its contents.

To accomplish this, evacuation must be

Continued for two or three weeks. The enlargement of the glands can seldom be reduced; but by well-regulated diet, gentle aperients and alteratives the patient may be kept in a tolerably healthy condition.

5. Retention from irritation and spasm of the neck of the bladder. This cause of retention differs from the others, inasmuch as it sometimes subsides and again recurs, and in general does not present the signs of inflammatory retention, at least in its commencement, although at a later stage they may accompany it. Retention from this cause occurs most commonly in sensitive and hypochondriacal persons. The exciting cause of this excessive action of the neck of the bladder is either a direct or indirect irritation. Among the indirect are stimulating articles of diet, exposure to cold, irritating medicinal agents, such as Cantharides. Among the direct, hemorrhoidal affections, worms in the rectum,

gonorrhoeal inflammation of the urethra &c.

Treatment. The treatment in cases of this kind consists in the exhibition of soothing and antispasmodic remedies; as the warm bath, hyoscyamus, opium, and osseofetida, in the form of epithems or as clysters. Internally opium, mucilaginous drinks &c. If this treatment should prove inadequate to effect a proper flow of urine, a catheter should be introduced. Considerable obstruction will always be discovered at the neck of the bladder. After the withdrawal of the catheter an opiate injection should be administered in order to afford relief to the irritation which is apt to remain after the catheter has been withdrawn, and to simulate very closely distension of the bladder. Before the next introduction of the catheter sufficient time should be permitted to elapse for the refilling of the bladder.

6. Retention from injury of the perineum. Blows or falls upon the perineum may

induce retention from causes very different in their nature. For, first, the injury sustained may only produce a temporary transient paralytic condition of the muscular structure concerned in the evacuation of urine. Secondly, the injury may be of a severer nature, but still insufficient to produce laceration of the urethra, extravasation of blood merely taking place, the pressure of which upon the urethra necessarily narrows the canal. Again the character of the contusion may have been still more violent, and laceration of the urethra have resulted. Extravasation into the cellular membrane of the scrotum and penis is the general consequence, producing a dark-coloured swelling of those parts, and blood flowing from the urethra, complete retention supervenes.

Treatment. The treatment required in cases of this kind varies according to the amount of injury sustained. When the case belongs to the first or second

class, active measures are seldom required. Rest, fomentation, and injection by the rectum, with sometimes the introduction of the Catheter, are sufficient to effect relief. When, however, a rupture of the urethra has taken place the Catheter is to be introduced immediately, and retained in the bladder until the breach in the urethra be repaired. If, in consequence of the shrunken and retracted condition of the lacerated urethra, the introduction of a Catheter be found impossible, the Perineum should be incised, and a bougie carried through the canal into the bladder. Should extravasation of urine have taken place the dangers consequent upon it are to be remedied as much as possible by incising the dependant part of the swelling, and afterwards by the application of fomentations, and the adoption of anti-phlogistic measures.

V. Retention from inflammation of the urethra. Inflammation of the urethra

is most commonly produced by external application or internal exhibition of irritant substances; such as Cantharides, gonorrhoea, or stimulating articles of food. In consequence of the swelling attendant upon the inflammation, probably combined with spasmodic contraction of the muscular structure of the urethra, the canal is considerably diminished in calibre, or in some cases completely occluded. The symptoms of retention from this cause are apparent and very gradual in their invasion. Besides the general signs of inflammation, the patient complains of scalding pain during the evacuation of urine; the penis may become swollen, and any pressure upon the urethra aggravates his sufferings. As these symptoms progress the stream of urine lessens until the canal becomes completely closed.

Treatment. An antiphlogistic method of treatment must necessarily be adopted. Venisection, if considered necessary.

Application of leeches to the perineum; the hip-bath, and Clysters of a cathartic and soothing nature. The use of the Catheter, tending as it does to produce irritation, would in this case rather increase the retention than relieve it. It ought therefore to be sedulously avoided, until the failure of the above-mentioned remedies, when we must choose the lesser of the two evils, and rather encounter the irritation consequent on the introduction of a catheter, than the serious hazards which will certainly follow unrelieved retention.

8. Retention from urethral Calculus, or foreign bodies in the urethra. The obstruction to the flow of urine from this cause being self-evident requires no explanation. Calculi are the most common cause of this obstruction, but the introduction of any foreign body will produce the same effects. The urgency of the symptoms will vary according to the degree of occlusion

Caused by the obstructing agent. When the body is closely impacted in the Canal there will be frequent, but ineffectual attempts to micturate attended with severe pain. If the obstruction continues the serious dangers of retention of urine will result. When the occlusion is not complete the symptoms are slight. More than usual difficulty in passing urine, & what is passed, in an attenuated stream, but the inconvenience produced is by no means severe.

Treatment. The treatment obviously consists in dislodging the body by some means or other; and in adopting these means we must be guided by the site & size of the calculus. When of large size and situated posteriorly, it may be impossible to remove it by the urethra. Provided the symptoms of retention have developed themselves, a catheter must be introduced, and the stone pushed

into the bladder, to be afterwards removed by Lithotripsy. If, however, the stone be small, it may be removed through the canal by forceps. Dilation of the canal by means of bougies, followed by a forcible expulsion of urine has occasionally effected extrusion; we may also adopt means similar to those had recourse to for removing foreign bodies from the nose or ear; or in some cases the stone may be pushed forward by the fingers. If the body is too large, being closely embraced by the urethra, and cannot be removed by any of the above-mentioned means, - it may be seized and broken by the small urethral lithotrite, or by direct incision in the central line of the perineum.

9. Retention from Pelvic abscess. From the pressure which Pelvic abscess exerts upon the urinary organs it will evidently act as a cause of retention. It occurs now frequently in the female sex than in the male, being met with most commonly

Shortly after delivery, and situated generally in the areolar tissue of the broad ligament, - at least in the first instance. Although so much more frequently met with in the female sex it is by no means uncommon in the male, being induced by the ordinary causes, as inflammation, exposure to cold, or the irritation consequent upon operations on any of the pelvic organs. Inflammation once begun follows the ordinary course. Exudation of serum or lymph takes place, and after a little time suppuration supervenes, and finds a means of exit either spontaneously, or by operative interference. If allowed to proceed naturally the abscess points at various parts, the most common of which are the groin, the bowel, vagina, bladder, and sometimes, though rarely, the general abdominal cavity.

Symptoms. In addition to the ordinary inflammatory symptoms, pain and tenderness, referred to the region of the abscess,

will be complained of; the pressure of which upon the pelvic organs prevents or completely suspends the discharge of their functions. Pressure upon the neck of the bladder will cause, in a very complete degree the symptoms of retention. Diagnosis may be further ensured by a vaginal or rectal examination. When a firm, fixed swelling is perceived, there is danger of confounding it with tumours of the uterus - the point of distinction on which most reliance is to be placed, being the fixedness of the abscess, seeming as if it were incorporated with the osseous texture. If notwithstanding this evidence, the diagnosis be still considered doubtful, an exploratory puncture should be made through the swelling at that point where fluctuation is most distinctly perceived. By this means the true nature of the growth will be recognised.


Treatment. The treatment will vary according to the stage which the disease

has reached. If retention is produced by the effusion of serum or lymph, the Catheter should certainly be employed. Afterwards antiphlogistic and diobstruent remedies will be requisite to prevent suppuration, and remove the effused products. For these purposes leeching, cupping, counter-irritation, Mercury, iodine &c should be used. After suppuration has taken place, the only means of relief is evacuation of the purulent matter by puncture.

Having thus, as we proposed at the commencement of this paper, reviewed the principal causes of retention of urine, and attached to each the most approved methods of treatment, it only remains, in conclusion, to urge the necessity of speedy application to these remedies.

The result of unrelieved retention is in all cases alike certain, and alike fatal. After extravasation has taken place all our endeavours will prove unavailing,

even though the hand of the operator excel in skill, and be directed by unwearied diligence and patience. What we do must be done quickly. Delays, always dangerous, are especially so here. Time is everything, and unless the right means and the right time go together, all will be in vain. The earlier our course of treatment is commenced the more likelihood there is of our overcoming; nay, we may safely assert, that if our aid be solicited in time our endeavours will certainly be crowned with success.



James H. McDougall.

26th May 1860,