Retention of Urine
Its Causes and Treatment

Robert Mitchell
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Retention of urine, is an inability; whether total or partial, of expelling by the natural efforts; the urine contained in the bladder.

Every case of retention of urine demands prompt assistance—and when the disease presents itself in its complete form; the mischief of delay is of the most serious nature: for whilst the bladder becomes preternaturally distended, the patient not only suffers intense pain, but the bladder loses its contractile power; is attacked with inflammation and subsequent sloughing; or at once bursts—and leaves the poor patient in that most painful and unmanageable condition—that is so rare to follow extravasation of urine. Since rupture of the bladder is so universally fatal—it becomes the duty of the surgeon to make himself perfectly acquainted not only with the various causes tending to produce the most dangerous occurrence, but also the various remedies suitable for the relief of the different cases. Having now defined the term and also intimated the object of my preamble—I shall proceed to consider the cause—diagnosis
and treatment of retention of urine.

The impossibility of bringing under a satisfactory classification the various causes that compel one to take up each separately and endeavour to discuss it on its own merits, forestalls bodies in the bladder may cause retention in several different ways—by blocking up the inner orifices of the urethra by the spasm caused by their irritation. The foreign bodies that most usually cause retention are calculus—and sometimes bodies introduced from without—such as bits of bougie or catheter. The diagnosis of retention from calculus is not very difficult; as the introduction of a sound into the bladder at once detects it the patient also by altering his position displaces the stone, and is immediately able to urinate water although generally with more or less pain.

The detection of bits of bougies or other small non-metallic bodies is by no means easy—but when retention takes place from them—there is almost always a very clear
history of the case to guide us. The patient is most generally aware of the introduction of them, or the surgeon may himself be the offender. According to Lestaint the urethra possesses a kind of antiperistaltic action by which it tends to draw towards the bladder any substances that it includes, and it is frequently observed that once a substance has got fairly into the urethra, if it be not expelled by the urine, always advances towards the bladder. A circumstance that it is difficult to account for. More especially as from the precedent position of the penis, the weight of the substance would seem to have a directly opposite effect. If those small bodies are not detected and taken out as early as possible, they get into the bladder and there forming a nucleus for the deposition of the salts of the urine. This diagnosis is eventually that of calculus.

The treatment of retention from stone in the bladder or urethra and foreign bodies introduced from without is naturally the same. If the stone is at the neck
of the bladder and not much impatient can be by
simple introduction of the catheter displace it
and at once relieve the viscus - but if it
should have entered the urethra, and become so
fisset in the prostatic part of the canal as to
prevent our pushing it again into the bladder
I should at once cut into the perineum in the
middle line, and extract it in the same way as
recommaned by our Surgeon in the extraction of
stones from children. If the stone should be
large, and by any mishap shoult become jorneed
in the base of the bladder, so as to obstruct the
flow of urine. We may pass a full sized
instrument by the urethra, and retaining
it there, pass a finger also into the rectum
and by their combined action attempt to
displace it. If this should not succeed we
must then either perform lithotomy or
resort to puncture of the bladder.
Small bodies in the urethra shoult
not be cut out in its interior part as the
wound is found to heal badly - they shoult
be pushed some distance back, and then
cut down upon and extracted
Retention from coagula
Retention is liable to take place from this cause, after some operations or
lithotomy from wounds of the bladder by gunshot, or hemorrhage from the kidney
the urethra or surface of the bladder itself. As regards the anatomical source
of the hemorrhage Dr. Proud states
that we are to judge of the source of the
bleeding partly by the quantity and
appearance of the effused blood, and partly
by the symptoms that precede or accom-
pany the bleeding. When blood arises
from the kidney it is generally found
to be pretty equally diffused through the whole
urine: On the contrary, where it is derived
from the bladder, it comes away in
greater or less quantity at the termination
of the discharge. The urine having flowed
away previously nearly pure
Dr. Wattson in his lectures gives as
diagnostic of hemorrhage from the kidney
or urethra; the discharge of slender cylindrical pieces of fibrine along with the
urine; those being evidently excreted in the
water: the passage of such being preceded by
or accompanied by a sensation of heat or of
weight or of some degree of pain in the situ-
ation of the kidneys, and confined to one
side of the body. When pure blood
comes away “guttamin” or in a stream:
unmixed with urine and neither preceded
nor accompanied by a desire to make water
it is most probable that the urethra is
the seat of the hemorrhage.

We are generally called upon to treat retar-
dation from coagula in connection with
malignant disease of the bladder. In this
disease the blood dribbles from the walls
of the bladder, and settles to the base of
the organ, if there becomes mixed with
the unhealthy mucus: and these form
cloths sometimes of considerable toughness.
If these cloths are too large that they will
not pass through a full sized catheter, we
should inject warm water in order to break
them down. Or we may take a very long
catheter and by this means pierce th
clot, and having drawn the urine off, and thus relieved any immediate danger. The bladder may be repeatedly injected by means of a double catheter, with warm water, and by those means we get rid of the clots. Sometimes we succeed better by using an exhausting syringe fitted to a full-sized common catheter.

Retention from injuries of the Perineum. Those injuries are generally the result of direct violence, such as falls or kicks on the part. It is also liable to occur to men who ride much on horseback, by the horse suddenly stopping and the rider being pitched forward, on the forward of the saddle. It also happens from falls on sharp pointed instruments, falls across logs or beams. The injuries of this class are of two kinds; the one directly involving the urethra by laceration. The other obstructing the urethra secondarily, by the effusion and swelling that take place in the neighborhood of the seat of injury.

The diagnosis of retention from cancer
of this description must not occupy much time, as it is all involved in the history of the case. We are called to a patient who has been short time previously received an injury about the perineum; he complains that he cannot make his water, and has been unable to do so since he received the injury. There is dullness on percussion for considerable extent above the pubes - the pulse is most likely high; there is- abdomen tender - and pain in the perinea at the seat of injury.

The treatment of such requires the greatest care and promptness, as they are among the most important cases that the surgeon has to treat. In the first place one attempt the introduction of a catheter if we should succeed in this, if entire all is well - but frequently we are foil'd in this, either on account of the swelling in that has taken place, or owing to a laceration of the urethra. If the swelling is acute and only lately come on, we expect to constat it by antiphlogistic means and for this purpose using leeches and
hot baths with fomentations to the perineum are the means to be used. If there should be any sign of effused blood about the seat of injury I should at once make an incision into it. and indeed I think it would be right in some cases to incise the part even if there was no effusion of blood visible in order to relieve the tension & get the swelling down sooner. By this means I have mentions we generally get the swelling soon down and then are able to pass a catheter & relieve the retention.

If an external wound exists and we fail to pass the catheter by the natural passage we may try to pass it by the wound or failing in this, which the best may want to be to introduce the instrument by the natural passage as far as possible and then make a precise incision into the seat of the injury and endeavor our to pick up the fore end of the urethra on the end of the catheter and pass it on to the bladder. If all these means should prove unavailing we must either penetrate the bladder or make an incision behind the
rest of the injury and endeavour to get into the bladder and in this way relieve the retention.

The after treatment of these cases forms a most perplexing business and difficult part of surgical practice. In the case of a man under my care who four months before injured his perineum by falling from a height of twenty feet astride a log of wood and required to have his bladder punctured to relieve retention the weather in this case proved found to be completely ob- stinated for some considerable distance.

The operation performed for the cure of this consisted in: enlarging upwards an opening that exists in the perineum and then a curved director with a groove on its concave side was introduced by the wound. A trophy of the ordinary dimension was then introduced into the weather and by using some pressure the point of the trophy was gently forced through the obstruction and made to enter the groove in the instrument that was passed from the wound the latter was then taken out and the parts then freely divided on the director and then a full sized catheter tied in the bladder.
Retention from Stricture

It would appear that strictures never bad are capable of being made still worse.
the morbid part of the urethra therefore, rendered still more impervious by spasm
and attacks of inflammation. The causes of these attacks are cold irregularities of diet
and intemperance, the former causing with generally, inflammation of the structure; the two
latter spasm. The patient makes repeated efforts to relieve himself, but scarcely a drop
comes away; in the meantime the bladder becomes distended, the patient gets alarmed and
this by its mental effect adds to the danger, by increasing the sensation of urination from
the kidneys. The pain in some of these cases is very great, owing to the thickening of the
coats of the bladder, being sometimes very great. This prevents the urine diluting and causes extreme torture. The treatment of the inflammatory kind requires hot bath, warm
fomentation. Cupping or leeches to the perineum and general antiphlogistics, and then
endeavour to pass a small catheter. Of course
the patient will be liable to retention as long as the structure exists; therefore the final cure consists in getting rid of the structure.

The treatment of retention that results from spasm is the same, whether it arise in the case that is in a healthy condition previously; or in connection with structure. The muscles situated around the urethra, and base of the bladder, by their inordinate contraction oppose the expulsive action of the bladder; the fluid is retained and gives rise to the same symptoms as in the inflammatory kind, but generally in a more acute form. The muscles that are concerned in this action, are the sphincter of the bladder, and pubo-vesical muscles which descend from the pubis and embrace the membranous part of the urethra. As the cause of retention depends on irritation, one should always in the first place, adopt measures of a soothing kind.

We may begin by giving the patient an anodyne injection; then warm fomentation to the perineum and hypogastric region, the warm bath, and if the pulse require it; one may add, those means will generally be found sufficient.
succeed in giving the desired relief. If they should fail, and the symptoms continue urgent, you must then use the catheter. The instrument to be used in this case should be of moderate size, but not full sized, and the introduction of it attended with the very greatest care. In the after treatment we will most likely require to pass the catheter a few times, and give an occasional injection.

Retention from of expulsive power in the bladder. This may arise from a number of causes. It may be the result of injuries of the spine. Of weakness as in fever, of increases distention either the result of neglecting to evacuate the urine when called on to do so, or being placed in circumstances where delivery forbids it, as in a railway carriage. If the distention along continued, the patient suffers great distress; the muscular fibres become overstretched, and all the expulsive power of the bladder is lost; the patient totally unable to void his urine. If it is the result of injury of the spine, sometimes the patient suffers very little, and in these
case one require to be most careful, and always to examine the state of the bladder, should be the first thing done by the surgeon, when called to a patient with injury of the spine. The patient may have lost all sensibility in the lower part of his body, and is therefore quite ignorant of his immediate danger from rupture of the viscera; so that the surgeon must not expect to be told that the bladder is distended, but discover it himself, and relieve at once. There is a form of retention that is very often occurring in old men, from over distention. It appears to depend on a loss of sensibility of the lining membrane of the bladder, combined with loss of tone in the walls of the vessels. The patient makes his water often, than usual, but the stream is smaller than it should be, and sometimes only dribbles away in drops; he also passes some in bed, and this is the symptom that attracts his attention. Mr. Syne explains it easily, he says that the bladder is never fully emptied but only has the excess expelled by the diminished power of the viscera, aided by the compression of the Abdominal Muscles, and becoming
distended beyond this extent during sleep. While
the resistance of the voluntary muscles at the neck
and membranous part of the urethra is no longer
opposed to the evacuation, the water flows gently
away, without awakening the patient.

With regard to the treatment of all cases of
retention of urine from loss of power, it is
obvious that the first indication is to get the
bladder to contract, and this is of course best done
by at once passing the catheter and by this
means allowing the muscular fibres to again
resume their function. It is of such
importance what description of catheter we use
provided it could be found—may be either
flexible or rigid. The patient's position
often favours the easy introduction of the
instrument; and though we fail in passing
the catheter when the patient is in the recumbent
and prostrated, we may put him on his side
with his back against the wall, and in
this way, with the usual amount of skill
we will succeed in the generality of cases.

In a large number of these cases we may
set a fistula and imperfect cure.
Once we will have to repeat the use of the catheter, as very often the expulsive power does not return again for a long time. In this case we better learn the patient to use the instrument himself so that he may keep it empty at all times.

We may also in some cases assist the cure by giving tonics. The preparations of iron, especially iron with fuller's earth, strychnia in small doses may be given. In very bad cases we may try the effects of galvanism, by means of a catheter passed into the bladder, or a female catheter also passed into the rectum at its point being pressed against the rectal vesicles, the other ends being in connection with a battery.

Retention from diseased prostate

It may be either an acute or a chronic enlargement of the gland that causes the retention. The acute form of the disease is most likely to come on during the progress of some other complaint, such as an attack of gonorrhoea, or it may be the result of exposure to cold. It may also occur either with or without the formation.
of abscess in or near the gland. The patient
has pain in evacuating his bowels, frequent
desire to make water and inability to do so.
or if he does so it is by drops and accom-
panied with great pain, the patient has most
probably had a rigor and the pulse action
high with hot skin. The patient is now
in in very great distress, with constant
straining in his attempts to make water.

If now we examine the abdomen we find
the bladder largely distended and bulging
on percussion. The chronic form of the
disease is much more common than the acute
It often takes a very long time before it
causes any inconvenience to the patient.

It is found in men of advanced years
is more likely to occur in those that
live well, and dont take much exercise
than in the poor man who has plenty
of outside exercise. The gland does
most enlarge equally in all its parts,
generally one or another of its lobes are found
to be the seat of the enlargement.

The central part (or Middle lobe) is
The part that is the most likely to cause retention by its enlargement. Sometimes it becomes the source of evil by processes being developed from it, that act as a complete block—at other times the canal becomes entirely closed by it. The urethra is also lengthened to a considerable extent, and the passage made tortuous, both by the enlargement of the gland and the stretching of the urethra upwards by the distended bladder, so that if retention should come on under those circumstances, it will require a much longer catheter than in common use.

Incontinence is sometimes also present as a symptom, from nearly the cause as in retention from loss of power.

The patient complains of pain and a feeling of uneasiness in passing his feces. If the disease has continued long, there is flattening of the faces when passed in the solid form. There is always a great discharge of mucous with the urine.

The treatment of the acute attack consists in the employment of the
usually antiphlogistics in order to subdue the inflammatory symptoms, casts to the peri-
 membrum as a preventative measure will 
make the patient feel more comfortable but does no good in the way of relieving 
the retention. We must therefore 
apply leeches, the cupping glass and 
warm fomentations to the parts, avoid 
ing the use of the catheter if we 
possibly can. If however all these 
remedies should fail, we are then 
to use the catheter, having first 
carefully examined the whole course 
of the canal, lest there may be an 
abscess forming, and if so it is to 
at once incised.

The retention from the chronic 
form of the disease is to be met by 
the immediate use of the catheter. 
The instrument for this purpose sho-

uld be at least two inches longer than 
the one in common use. In some 
cases of this kind when the surgeon 
is defeated in all his attempts to pass
An instrument into the bladder, and the case is very urgent, we are advised to push the catheter forcibly onwards and by this means to tunnel a passage through the prostate. Now although this is a very rough practice yet we must either do it or resort to puncture of the bladder. The after-treatment of those cases resolves itself into that of treatment for enlarged prostate. The treatment recommended by Parry is the one to be adopted. It consists in the scrupulous avoidance of all articles of food or drink which the patient knows from experience to have a stimulating effect on the organs in connection with the gland—good exercise—keeping the bowels easy by laxatives, or that fluids may be injected into the rectum.

Retention of urine from Pelvic Abscess. Abscesses in the Pelvis by compressing the urethra or parts about the base of the bladder may cause retention of urine. The first case of retention of urine
that I ever saw was one of this kind. The patient
a Young Man a sailor received a severe blow
from a hand spike just above the pubis.
He painted and remained intolerable for
some time; during the following night
he had a severe rigor and in the morn-
ing was very feverish and complained of great
pain in the seat of the injury. At this time
I knew very little about surgery. But
asa there was no one else on board the
ship to apply to I passed a catheter
on him, and drew off a small quantity
of urine. He was then able to make
this water for some days; an abscess
however now formed under the ab-
domininal Muscles close above the pubis
and on the Morning of the fifth day
after the accident he could not make
this water. I tried to get the catheter
into his bladder but knowing little about
it I did not succeed. I however opened
the abscess (which had nearly burst) and
let out a large quantity of infected blood
and some pus, this gave some relief
but still the poor fellow could not have a drop of water, his sufferings became intense, and
continued to until next morning. When, as I
was assisting him out of his bed another
abscess burst in the perineum close to
the anus. He felt great relief directly.
and I then tried the catheter again; when
it went in quite easily, I drew off a very
large quantity of water and completely
relieved him; he went to bed and slept
soundly for several hours. The discha-
ger from the wound above the pubic
bone ceased, but the other one continued
for a long time indeed nineteen days
after when he left us in part it still
continued. No doubt in this ease a
surgeon must have detected the abscess
in the perineum and have relieved him
many hours before. Retention from
this cause may be simulated, the abscess
so compressing the bladder as to prevent
its distention, while the urine dribbles
away in small quantity at a time; from
the collapsed vissel; the abscess in the
Mean time forming a large tumour in the hypogastric region which may be mistaken for the distended bladder. The treatment of all cases from this cause is plainly indicated—namely to open the abdomen and then use the catheter.

Retention from Malignant disease of the Penis. This is very rare on account of the nature of the disease that is its cause, being generally detected before such an event could take place. The diagnosis is sufficiently easy if the disease is confined to the penis alone, and the treatment is short as it generally consists in amputation of the organ, but unfortunately in cancer of the penis secondary glandular enlargements spring up without and within the penis and thus the canal may become completely closed. Under these circumstances we can only palliate.

Retention from imperfect heat. This sometimes takes place in the young.
infant, but the detection of it is easy, and the
cure quite as simple, as it consists in the ope-
rning the orifice by means of an incision
with a bistoury. There is a form of ret-
tention that also occurs in the New-born
child and it often causes some pain to the
little sufferer. It is caused by the filling
together of the valvulae, for some dis-
tance down the canal by tough mucous.
It is very easily relieved by means
of a probe passed along the canal
for some short distance.