Vesico-Vaginal Fistula
Its cause and cure.

Alexander
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of the heart, and prevailed upon her medical attendant to insert a ebonite bullet, and to the inside of the mamma she a few days after got an old copper penny and bound it firmly over the bullet, violent inflammation was the result, and for some short time her life was in danger, but she persisted in keeping the coin in its place, which her medical attendant was absent. Soon short time after a though formed which opened when detached into the stomach. The purpose of tourniquets used for the compression of arteries for the cure of americana in surgical practice requires to be shifted frequently else the skin will be constricted and if continued end in ulceration 2. From the improper or inconsiderate use of instruments: O T arising from this cause depend either upon the carelessness or incompetence of the practitioners from inattention to the direction of the axes of the pelvis, in taking the instruments. This is not so liable to happen in the
In either of these three cases we have the head lying long time in the passages occupying the structures formerly mentioned between the hard head of the child and the bones of the pelvis of the mother giving rise to congestion, tenacion, and inflammation which may lead to ulceration and sloughing. This is in accordance with the fact which has been long-established in surgical practice, that continued pressure causes ulceration while intermittent pressure causes excisional growth. Malingerer's patients, trying to excite charity by keeping up an appearance of their bodies know well that a blow will not produce an ulcer but that if continued irritation be kept upon a part ulceration will be the result. This was well exemplified in the case of a woman under my care, the case in the Alien Deseret Infirmary who after being found out to have simulated elephantiasis in her right arm by tying a garter firmly around her shoulder all night, resigned...
These structures are highly supplied with blood by branches of the internal iliac artery. The veins form a plexus around the vagina and external genitals, and pour their blood into the internal iliac vein. The wall of the vagina is thickest in front where the urethra is situated, which may be said to be embedded in its anterior wall and firmly connected to the fundus of the bladder by cellular tissue.

II. The Causes producing Vaginal Vaginal Fistulae. These may be comprehended under the following heads—

1st. Most frequent. From prolonged labour.

2nd. From the use of untimely or improper use of instruments.

3rd. Syphilitic ulcers or sloughing of the vaginal wall.

4th. From overdistension of the bladder.

1st. From prolonged labour. This arises from three causes: as deficiency of the expulsive forces:

(a) Obturation from size of child.
(b) Undilatability of the vaginal canal.
(c) Preternatural Presentation.
such as the various kinds of animals we state. The sufferer is shut out from that enjoyment of life which by nature she was intended to enjoy.

I am considering the cause and cure of blad.

I think that if short noticed the structures caused in the part affected would not be foreign to this theory. I shall then review the various causes which come into operation in its production. Lastly, the symptoms of The Treatment.

... the structures concerned...

... any one who is at all acquainted with the anatomy of that part of the body must see first of all the great vascular supply that exists there. The vaginal wall is formed by a spongy erectile tissue covered externally by a dilatable and vascular fibro cellular layer and lined internally by mucous membrane. Covered by squamous epithelium. With numerous glands & follicles interspersed. The posterior wall of the bladder which is in contact with the vagina adheres to the vagina. The peritoneum coming down only to the reflection of the vagina upon the cervix uteri - so that the bladder here consists of only two structures viz. the muscular coat and the mucous coat united by cellular tissue...
Sir Wm. Cawdell: Secrtae, is meaning that an opening existeth between the vagina and bladder, through which urine may pass into the vagina instead of being retained and voided at intervals as in the natural state of existence. The urine is constantly dribbling away from the patient, causing a fascination of the vagina and external genitalia of the patient who is the subject of this most distressing and intolerable accident. This disease is confined to the class of parturient females, to whom it is a cause of great pain and constant discomfort, so that they prefer to live quietly at home rather than go abroad among their fellow creatures - the colour of the urine too, constantly dribbling away from them makes their company unpleasant to their friends. They cannot even lie in bed without suffering from the discomfort, which they suffer from - the clothes being constantly wetted below them - and although a great deal may be done in the way of palliative treatment by the various appliances constructed by instrument-makers.
case of forceps, from their being comparatively blunt instruments. But yet cases are on record where this instrument has been passed through the substance of the vagina, behind the cervix, and into the peritoneal cavity. During the traction also exerted by these instruments, if the head of the pelvis, the forceps may press so severely on the structures toes to tear and lacerate the wall of the birth canals. This instrument has long been regarded by many obstetricians as too rough for use in craniotomy, as its force is such that if it slip, it must either injure the hand of the practitioner or if not sufficiently guarded, tear the vaginal wall.

The various other sharp instruments, used in craniotomy, such as the perforator, if carelessly used, may directly enter the wall. Sharp pieces of the bone, the head of the child when being removed if no guarded by the hand, may tear around the vaginal wall—and by the constant irritation kept
up by the discharge after delivery even
fully penetrate the bladder.

3. Ulceration and Sloughing of the
vaginal wall. This is properly the result
of parturition not a direct agent. In
cases where fistula has occurred the patient
generally gives the following account of
herself that at a period varying from 6 to
10 or more days after delivery corresponding
to the time requisite for the detachment of
the clough she found herself perhaps on
rising in the morning lying in a pool of
water and on trying to void her urine finds
she has come to point or should it happen
while awake she has the feeling as if a clot
were coming away from her accompanied
by great momentary discharge and
great pain. The explanation being the
following that while the bladder was being
gradually distended the portion opposite
to the clough being thinner than the rest
was unable to bear the distention and
gave way. In the case of sloughing
there is a loss of substance whilst in
the case of rupture no substance is lost; the injury being effected by the simple disruption of the tissues. After the clough has thus been separated the constant dribbling away of the urine commences, causing great irritation to the system generally with smarting pain at the point of lesion.

4th. Overdistension of the Bladder during labour.

Attention to the state of the bladder during labour by the attendant is at all times inexcusable especially if the labour be at all prolonged. Retention of urine necessitates more or less pressure on the bladder and it is evident that there is not room for both the head of the child and a full bladder. If the distention be excessive and the uterus powerfully contracting the bladder will of necessity be ruptured. In all cases then of labour this distended state of the bladder ought to be carefully attended to and in the hands of a careful and judicious surgeon this accident can seldom or never recur. The rash or careless employment of instruments...
Instruments under a distended state may also cause ulceration. If the forceps be applied while the bladder is full, the action of the instrument is very likely to occasion it to give way if there be excessive distension and rupture will be the result.

III. Symptoms of Vesico Vaginal Fistula

These depend primarily upon the cause of the fistula and will vary according to it, and secondarily upon the escape of the contents of the wounded organ. When laceration of the bladder has taken place, the symptoms are exceedingly distressing and strongly marked.viz. appearance of a sudden and violent pain in the region of the bladder, accompanied with a chill and often also by the declaration of the patient that something has burst within her, and the urine comes away immediately in a gush. Then poulticing of the vaginal wall has taken place, frontal inflammation which generally happens, at a shorter or longer time after delivery. The symptoms are the following: Pain in
the part affected a sense of fullness:
in passing the urine general distension of the system, pulse frequent, with considerable thirst. The bladder will also be called upon to avoid its contents more frequently, and should the inflammation extend to the urethra, their retention may be the consequence, as often occurs in the female from the same cause, and then the weakest part of the bladder being the part where the clitoris is situated, gives way, and an immediate flow of urine per magnum will be the consequence. In either of these two ways, then, a fistula is established. Suppose the opening were high up near the urethra, then the patient may be able to retain her urine for some time—so long as she keeps the erect position, but should the fistula be situated low down then scarcely a drop of urine can be retained. And as Dr. Churchill remarks the escape of urine is attended with so marked and irrepressible an odour that the patient is placed "hors de société" obliged to confine herself to her own room. She finds herself an object of
disquiet to her dearest friends and even to her attendants. She lives the life of a recluse without the comforts of it or even the consolation of its being voluntary. It is scarcely possible to conceive an object more loudly calling for our pity and strenuous exertions to mitigate if not remove the evils of her melancholy condition—and in addition to the offensive smell the escape of the urine gives rise to excoriation of the vagina, external parts, thighs.

IV. Treatment.

The cure of this most distressing complaint has long been a desideratum in operative surgery and it is only within the last few years that anything like success has attended the endeavours to rectify this disorder. We cannot wonder that many methods have been tried to remedy so offensive an accident nor that so few should have succeeded—when we recollect the obstacle presented by the constant leakage of the urine. Various methods have been proposed and acted on
The surgeon having assured himself that he had made a continuous raw edge and that no shred of mucous membrane remains in the face of his wound, proceeds to pass the sutures and here the question comes to be what kind of suture is he to use?

Dr. Marion Sims has claimed for himself the invention of metallic sutures in surgical practice and especially in V. T. had if we take the trouble to look into older authorities—We shall these principles have been shown by Professor Simpson in his paper on metallic sutures that sutures of various metals have been used from early historical periods. They are to be preferred as experience has proved them not only less irritating & liable to cut out when tightly drawn than any other material but infinitely more effectual & convenient in maintaining a uniform & perfect opposition by the ready facility of simply twirling them. The substances principally used in former times were gold, silver and lead and platinum—last at the present time.
Fistula into the bladder. A urethral sound may be passed through the urethra and retained there by the hand of an assistant and thus completely prevented from coming in the way of the operator. The edges of the fistula are then to be seized with a forceps, either by a sharp hook, malleus, or tongs, and carefully pared to the extent of at least one quarter of an inch clear all round using either the straight or right or left-curved knife as may seem most convenient at the moment. During this part of the operation from the close relation of the vessels (as formerly mentioned) to the structures and their consequent highly vascular state considerable oozing of blood will occur and will require attention on the part of the assistant to keep the wound clear so that the operator may see distinctly what he is doing. Should the hemostase be considerable a piece of ice introduced into the vagina will check the bleeding and after waiting a few minutes the operator may proceed.
objectionable the position on the hands and knees would be the very best for the operation but it would be impossible to give chloroform in this situation and without it the patient would soon be tired out and unable to stand the fatigue of the operation. The position of Dr. Watts' patient I have no doubt was a very good one but in practice it would be useless. As his table and appurtenances side boxes would require a separate equipage or porter for its conveyance. The position on the left side as formerly mentioned is the most suitable and can always be attained under the usual circumstances. The speculum is then to be introduced and held steady by an assistant in order to expose the fistula clearly to view an assistant may be required to separate the labia so as to give the operator as much room as possible. Should the mucous membrane of the bladder protrude through the fistula it is to be returned and retained in position either by some blunt instrument passed through the
before the operation the rectum and lower part of the intestines should be cleaned out either by an enema or by a purgative given by the mouth. The patient having been thus prepared is to lie placed under the influence of chloroform and placed on her left side her hips being well drawn over the edge of the bed and the thigh bent upon the belly. Various operators prefer different positions for the patient some place her on her hands and knees other lying on her face with her legs hanging over the edge of the bed. Others place the patient on her back as in the operation for lithotomy as Dr. Loper, Dr. Watson of Glasgow published a case in the Lancet for March 5th 1839, where he states that he placed his patient on her face and had a table carefully prepared with side boxes for putting the knees into and their retaining them, the pubes resting on a cushion and the rest of the body supported by cushions and assistants. It is obvious that all these models are...
were I to expect her idea indeed of the power of nature to effect a cure in such cases. Dr. Tanner speaking of the cautery says 'that he has been the cautery do little good and much harm in such cases. The 2d method is the one now generally adopted in this country and if attention be paid to the cases which are now published or come under observation every one will agree with me in saying that a certain cure is now offered to every sufferer. It may not be at the first sitting but every time the patient is operated on ground is gained until at last it is completely closed. I shall in what remains of this essay endeavour to describe the various parts of the operation and its attendant dangers. Previous to the operation if much excoriation exist beside of zinc preparations should be introduced into the vagina night & morning & the patient must be put upon Lintum of the Bursite of Iron - 20 drops three times a day by which tone will be given to the system and also the flow of urine increased. The homoeane to be carefully regulated and 24 hours
by surgeons. The method of default consisted in keeping a catheter constantly in the urethra and plugging the vagina. Cases are reported to have been cured by this method. Cauterization has also been tried with various success, as also ligation— but until lately a sure and efficient mode of curing the fistula had never appeared. That is to say, a method that will answer in every case.

Two modes of operation present themselves similar to the modes adopted in other surgical wounds, viz. 

1. Treatment by Granulation.
2. Treatment by Adhesion

The former of these two modes may be attended by success provided the fistula lie very small, so that by irritating the edges by means of the actual cautery or peculiarly healthy granulations may be caused to spring up, and the opening closed, but to think of closing a fistula as many of them are as large as a shilling and larger by means of the cautery would be absolutely hopeless. I should have a very large
iron and silver wire are preferred for the purpose. In the surgical wards of the Royal Infirmary, silver is preferred for bringing together all wounds after operation and in the medical wards of Dr. Simpson iron is preferred— and undoubtedly from what I have seen of its employment it is to be preferred. In addition to its cheapness which places it within the reach of the poorest country surgeon it affords the following advantages of being finer far stronger more pliable and as little liable to corrosion as any of the finer metals when rendered passive by annealing. Dr. Watson speaking of iron wire says that "according to his experience iron wire cuts out as quickly as thread" in this he is entirely mistaken. The entropy whether silver or iron having been chosen the titillator needle lately invented by Prof. Simpson is to be charged with it and the point of the needle entered at least 1/8 from the nearest raw edge and its point made to emerge at the upper edge of that surface then pressed onwards—
entering at the inferior edge of the farthest raw surface and unable to emerge beyond that raw surface so as to include as much tissue as possible in the ligature. The wire is then to be passed on through the tissue and into the point of the instrument by a pair of long spring forceps with it is then to be pulled out using the crutch as a pulley to facilitate this—having gained sufficient length externally the needle is to be withdrawn and the ends of the ligature which should be about 15 inches in length knotted to gether so as to prevent contraction. The others are then to be passed in the same manner to the number deemed requisite by the operator. He may now wait until all bleeding has ceased and having carefully sponged out all clots or blood lying on the raw surfaces which by their presence would prevent adhesion the edges are to be brought together either by simply making a double knot as in tying arteries or by using the twister invented by Dr. Coghill. The sutures are then to be cut off short.
and the vagina having been carefully cleaned out, the patient is to be laid in bed on her back. A catheter bent like the letter S is then to be introduced, and a dish placed below the end of the catheter to receive the urine. The legs are to be semilivered and supported by pillows as this is found to be most convenient for the patient. When the patient has sufficiently recovered from the effects of the chloroform given thirty to sixty drops of Laudanum are to be administered and if necessary twenty more after the interval of some hours. The after treatment consists in keeping the patient comfortable—changing the catheter as often as may be required—giving the patient plenty of soda water and, if necessary a diuretic. The vagina is to be washed out at least twice a day by tepid water and after the interval of 24 hours the patient complain of pains in the seat of the operation. Opium suppositories should be used. The bowels are to be kept unopened.
for a period of at least 10 days. When the cateters are to be removed by means of a probe
pointed pair of scissors and a pair of forceps
with the assistance of a speculum
the bowels are then to be evacuated by
means of a purgative or enema—the latter
being preferable. Should the operation
have succeeded, the catheter is to be retained
for a day or two longer when the patient may
be allowed to make water freely herself
and go about the ward.

A very frequent attendant upon this opera-
tion is severe vomiting. Cold water
or an efferoseneing draught may be given
which will invariably stop it. If not
and flatulence also be present—a mustard
poultice applied to the epigastrium
certainly will. Many operators still
adhere to the old practice of Lewis Hogeman
of placing a metallic splint over the wound
and fastening the wires to this by various
methods. But instead of reckoning it among
the improvements in this operation I should
be inclined to place it among the
dangers, and I have seen this case rendered
inconceivable by its employment. From the collection
of discharge arrowed the edges of the plate, and
the want of it only necessitated the introduction
of a few more stitches, so that they may be
closer together, and the evaporation perfect.
and finally if sufficient attention be paid
by the nurse to cleanliness, the wound is far
better without the plate.

The dangers of the operation to be avoided
are hemorrhage, inflammation, and rupture
of the wound by blood poured into the bladder
blocking up the catheter. Mucus which
is increased from the irritation produced
may also obstruct the catheter. These must
be carefully watched by the surgeon and
controlled by the means at his disposal.

The only point which remains to me to mention
is the frequent recurrence of incontinence
of urine in the patients whose the subjects
of this operation which however by time
and strength gained by the patient will be
overcome. — Signis