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Vesico-Vaginal Fistula
Its
Cause and Cure-

Alex Flanders
1859

of the heart - and prevailed upon her -
medical attendant to insert a seton -
below - and to the inside - of the mamma -
she a few days after - got an old copper
penny - and bound it firmly - over the seton;
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 - when her medical attendant was
absent - Some short time after a slough
formed - which - opened when detached -
into the stomach - The pressure of
tourniquets - used for the compression of
arteries for the cure of aneurisms - in Sur-
gical practice - require to be shifted
frequently - else the skin will be come -
chafed and if continued - end in ulceration

2° - From the improper or incautious
use of instruments - V V F arising from
this cause - depend either upon the carelessness
or incompetence of the practitioner - from
inattention to the direction of the axes of
the pelvis in passing 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 compressing the structures formerly mentioned between the hard head of the child and the bones of the pelvis of the mother: giving rise to congestion tumefaction and inflammation which may end in ulceration & 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 excessive growth. Malingering patients trying to excite charity by keeping up sores on their bodies know well that a blow will not produce an ulcer but that if continued irritation be kept up on a part ulceration will be the result. This was well exemplified in the case of a woman under Dr Keiths case in Aberdeen Infirmary who (after being found out to have simulated Elephantiasis in her right arm by tying a garter firmly around her shoulder all night) feigned disease

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^{d} The Causes producing Vesico Vaginal Fistula.

These may be comprehended under the following heads—

1st & most frequent. From prolonged labour
2^{d} From the incautious or improper use of instruments.
3^{d} Ulceration & sloughing of the vaginal wall—
4th From overdistension of the bladder.

1st From prolonged labour. This arises from three sources. (a) deficiency of the expulsive powers.
(b) Obstruction from size of child
(c) undilatability of the vaginal canal—
(d) Preternatural presentation

such as the various kinds of animals &c still. the sufferer is shut out from that enjoyment of lino which by nature she was intended to enjoy.

In considering the cause and cure of V. V. F. I think that a short notice of the structures concerned in the part affected would not be foreign to this thesis. I shall then review the various causes which come into operation in its production - Thirdly the symptoms & 4th The Treatment -

1st The structures concerned - -

Any one who is at all acquainted with the anatomy of that part of the body must be struck by the great vascularity 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 peritonaeum coming down only to the reflexion 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 -

By Vesico Vaginal Fistula is meant that an opening exists 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 the parts. the urine is constantly dribbling away from the patient causing excoriation of the vagina and external genitals 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 source of great pain and constant discomfort. so that they prefer to live quietly at home rather than go abroad among their fellow creatures - the odour 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 compara-
-tively blunt instruments. but yet cases
are on record where this instrument.
has been passed through the substance
of the vagina - behind the os uteri - and into
the peritoneal cavity. During the traction
also exerted by these instruments - if the
head tightly fits the pelvis, the forceps may
press so severely - on the structures so as
to tear and lacerate the wall. o
Slipping of the Crotchet. This instrument
has long been regarded by many obste-
tricians with horror in craniotomy
as from its shape. should 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 &c.
if carelessly passed may directly enter the wall.
Sharp pieces of the bones of the head of the child
when being removed if no guarded. by the
hand - may tear & wound the vaginal
wall — and by the constant irritation kept

up by the discharges after delivery even-tually perforate 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 slough 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 none to void - 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 slough - being thinner than the rest - was unable to bear the distension and - gave way - In the case of sloughing there is a loss of substance which in.

the case of rupture no substance is lost. the injury being effected by the simple disruption of the textures. After the slough 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 -

Inattention to the state of the bladder during labour by the attendant is at all times in-excusable 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 distentions 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 viscus ought to be carefully attended to. and in the hands of a careful & judicious surgeon this accident can seldom or never occur - The rash or careless employment of instru-

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 & strongly marked. viz. appearance of a sudden and violent pain in the region of the bladder. accompanied with a shriek and often also by the declaration of the patient that something has burst within her - and the urine comes away immediately in a gush - When sloughing of the vaginal wall has taken place - from 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 scalding in passing the urine general disturbance of the system. pulse frequent with considerable thirst - The bladder will also be called upon to void its contents more frequently and should the inflammation extend to the urethra then retention may be the consequence, as often occurs in the male - from the same cause and then the weakest part of the bladder being the part where the slough is situated, gives way - and an immediate flow of urine per vaginam will be the consequence. In either of these two ways then a fistula is established: Suppose the opening were high up near the os uteri 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 is attended with so marked and inexpressible an odour that the patient is place "hors de societe" obliged to confine herself to her own room she finds herself an object of

disgust 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 — — —

IVth 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 passage 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 used -
Dr Marion Sims has claimed for himself the invention of metallic sutures in surgical practice and especially in V V F - but if we take the trouble to look into older authorities - we shall there find as has been shewn 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 apposition by the ready facility of simply twisting them - The substances principally used in former times were gold silver ~~and~~ lead and platinum - but at the present time

fistula into the bladder. ~~an~~ a uterine 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 but by bit either by a sharp hook - volsellum or forceps 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 hemorrhage 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 & 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 Watsons patient I have no doubt was a very good one - but - in practice it would be useless. as his table & appurtenances side boxes &c 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 - Bozemans. 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 & lower part of the intestines should be cleared out either by an enema or by a purgative given by the mouth — The patient having been thus prepared is to be 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 thighs bent upon the belly — Various operators prefer different positions for the patient some place her on her hands & knees — others lying on her face — with her legs hanging over the edges of the bed — Others place the patient on her back as in the operation for lithotomy as Dr Tanner — Dr Watson of Glasgow — published a case in the Lancet — for March 5th 1859 — 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 then retaining them — the pubes resting on a cushion and the rest of the body supported by cushions & assistants — It is obvious that all these modes are

idea indeed of the powers of nature, were I to expect her to effect a cure in such cases. Dr Tanner speaking of the cautery says "That he has seen 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 Oxide of Zinc pessaries should be introduced into the vagina night & morning; the patient must be put upon Tincture of the Muriate 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 bowels are to be carefully regulated and 24 hours -

by surgeons. The method of Desault consisted in keeping a catheter constantly in the urethra & plugging the vagina cases are reported to have been cured by this method. Cauterization has also been tried with various success as also suture — but until lately a sure & efficient mode of curing the Fistula has 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.

1st Treatment by Granulation.

2d Treatment by Adhesion

The former of these two modes may be attended by success provided the fistula be very small so that by irritating the edges by means of the actual cautery & speculum 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 oper-
-ation 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
<u>entirely</u> mistaken -- The suture whether
silver or iron having been chosen - The - tubular
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 passed onwards -

entering at the inferior edge of the farther raw surface and made 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 tube and seized at the point of the instrument by a pair of long spring forceps; it is then to be pulled out - using the crutch as a pulley to facili-tate this - having gained sufficient length externally - the needle is to be withdrawn - and the ends of the ligature which should be about 18 inches in length knotted to-gether so as to prevent confusion - The others are then to be passed in the same manner to the number deemed requisite by the operator - He may now wait till 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 sponged 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 recieve the urine - The legs are to be semiflexed - 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 from thirty to sixty drops of Laudanum are to be administer 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 pain in the seat of the operation - opium suppositories should be used - The bowels are to be kept unmoved -

for a period - of at least 10 days - when the stitches 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 operation is severe vomiting - - Iced water - or an effervescing 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 Sims & Bozeman of placing a metallic splint over the wound and fixing 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 two case rendered unsuccessful by its employment from the collection of discharge arround the edges of the plate - and the want of it only necessitates the introduction of a few more stitches. so that they may be closer together - and the coaptation 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 - mucous which is increased - from the irritation produced may also obstruct the catheter - These must be carefully watched by the - surgeon and - combated by the means at his disposal - The only point which remains to me to mention is the frequent occurrence of incontinence of urine in the patients who are the subjects of this operation which however by time - & strength gained by the patient will be overcome ———

Finis ———