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Thesis

of

J. D. Reid.

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Introduction

Meaning
of terms
femoral
&
inguinal
hernia

For the purpose of this Thesis it will not be necessary to enter into the etymology of the term hernia, nor to explain how, through a mistaken pathology, it formerly was, & now often is, called rupture; nor yet will it be needful to pass under review the various hernial protrusions that may be met with, proceeding from the abdomen or other cavity of the body; since the following remarks are intended to have special reference merely to the two kinds familiarly known under the respective names of inguinal, & femoral; the former meaning that protrusion of bowel or other viscus which, occupying the inguinal canal in whole or in part in the first instance, may, when fully formed, descend into the scrotum through the external abdominal ring; & the latter having reference to that protrusion which escapes under Cooper's ligament, & lies in the

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Sheath of the vessels, internally to the femoral
vein.

Structure
of
hernia

As to structure: Herniae for the most part
have a sac, besides contents; the sac being
a prolongation of the portion of the peritoneum
which overlies the part through which the
protrusion comes. We are not, however,
to imagine that the peritoneum forming
the sac is dragged from its natural
situation; according to Sir A. Cooper it
is simply elongated by gradual distension,
& hence, in recent cases, it is usually thin
& transparent, whilst in old ones, especially
of the femoral kind, it is generally thick, &
seemingly divisible into several layers:
but this apparent divisibility, the same author
tells us, is due to the state of the coverings of
the sac, which is itself in most instances
very little thicker than the peritoneum in
its normal condition; & it may be added

sac.

that there are not wanting instances of even old herniae, in which the sac has been found as thin as gold beater's skin.

Sac

Continued

The sac presents for consideration a neck + a body; the former being that part of it which is at the point of protrusion, & usually narrowed, at least in recent cases; the latter is the term applied to the rest of the tumour, where it is mostly broad, & expanded into a globular or pyriform shape. We sometimes meet with herniae without a sac or with only a portion of one. This is particularly the case with the Caecum, which has been found completely denuded of its ordinary partial investment of peritoneum; Cystocele also occurs for the most part without a sac; & this is necessarily the state of all herniae proceeding from penetrating wounds.

Contents

It may be readily conceived that the contents of abdominal herniae vary considerably,

but we could scarcely anticipate the fact that every viscus of the abdomen except the pancreas has been thus protruded, more particularly when we bear in mind the size of the liver, or that of the stomach; not only, however, have these been found as herniae, but Sauvigni describes a case wherein the gravid uterus & ovaries were enclosed in the sac of an inguinal hernia.

Looking at the matter from the mere anatomical aspect most practitioners would readily coincide with the statement of Erichsen that, "Caecal hernia necessarily occurs on the right-side only;" nevertheless Scarpa tells us that the caecum has passed from the right iliac region to the umbilicus, & protruded at that opening, forming an umbilical hernia; moreover that it has engaged itself within the colon, & been found protruding at the anus; & as migrations equally remarkable, he further states

that the right Colon has been found protruding at the left abdominal ring, & the left Colon, through the right one.

Whilst any viscus of the abdomen may form by itself, or be included within, the contents of a hernia, some, as we might expect, are more liable than others to this abnormality; the omentum & intestine being chiefly so; & probably the former manifests the greatest predisposition; but here it is to be noticed that it is chiefly on the left side that we find omentum in the sac of a hernia, & that it is rarely met with in the herniae of infants, in consequence of its shortness at, & sometime after, birth.

As to intestine the ileum is more susceptible than either the colon or caecum, yet both the latter take the precedence of the jejunum in this respect.

According as the contents are constituted by intestine, or omentum only,

or by both combined, the hernia is called enterocele, epiplocele, or entero-epiplocele.

Causes

The causes of herniae have been classed as predisposing & exciting; the former meaning some natural tendency to the disease affecting mankind at large, or peculiar to individuals of the race.

Predisposing

Causes

There are in all persons certain parts of the abdominal parietes which are weaker than others. This is more especially so with the part extending from the pubes to the anterior superior spinous process of the ilium.

The escape of the abdominal contents in this region is favoured by deficiencies in the muscular strata, by the passage of the large vessels of the thigh, of the spermatic cord in the male, or round ligament in the female, as also by the existence of certain fossae on the inner surface of the wall.

In the middle line of the

Causes

Abdominal wall is a prominence caused by the remains of the urachus which extends from the summit of the bladder to the umbilicus; & on each side, the obliterated hypogastric artery forms another cord, stretching from the side of the pelvis to the umbilicus, usually close to, or behind, the epigastric artery.

Cont^d

We have thus two fossae near Poupart's ligament, one on each side of the obliterated hypogastric artery, corresponding to the situation of the external and internal abdominal rings, & hence herniae of the inguinal kind, external & internal, are found to issue.

It sometimes however happens that the cord of the obliterated hypogastric artery lies more inwards from the epigastric vessels, giving rise to three fossae, one on each side of the cord, & one external to the epigastric artery. Hence three kinds of inguinal herniae

may occur on either side, according to the depth of the fossae, & the predisposition which the intestine has to protrude.

Cause
Cons?
We may regard this peculiarity in the situation of the hypogastric artery with respect to the epigastric, as giving a proclivity to the disease in question of more than the ordinary kind only to such individuals as it occurs in; & as bearing, on the point of unusual predisposition we are to look for it likewise in those who have the natural openings above alluded to viz; the external & internal abdominal rings, the crural ring, & the crural canal preternaturally large; or who have any weakness or relaxation of the margins of these apertures; or an extraordinary laxity of the peritoneum, or weakness of it from having had it wounded.

Both sex & age exert an influence also in determining the occurrence of hernia. Thus, from the larger size

of the inguinal Canal in men than in women, inguinal hernia is more common to males than to females; & on the other hand, both from the distension of the abdomen in pregnancy, & the larger space which the female pelvis offers for the protrusion of the viscera below, women are more subject than men to femoral hernia.

In infancy the disease is sufficiently common, not only at the umbilicus but also in the inguinal region, giving rise to the varieties known as congenital, & infantile, both of which are likewise occasionally found in the adult.

It has been computed that in the first year after birth the proportion in which hernia occurs is 1 in 21; from this age it gradually decreases in frequency till the 13th year, when it is at a minimum, being then only 1 in 74; but shortly afterwards it begins to rise in frequency, & the

ratio goes on progressively augmenting until the close of life.

Exciting
The exciting causes are equally numerous with, & less doubtful than, the predisposing; but, for brevity, I shall merely summarize the leading ones.

Causes
The great cause of this kind is the powerful action of the abdominal muscles & the diaphragm on the viscera; hence any thing which occasions the inordinate contraction of these tissues, as parturition, vomiting, straining at stool, carrying, or lifting heavy weights; violent coughing, or sneezing; efforts to expel urine when bad strictures hinder its free flow; also leaping, jumping, & in some cases, falls from a height & such like excite the disease.

Causes such as these act especially in the tall & delicate, particularly in those who have a natural disposition to weakness or bulging of the groins.

Herniae which originate in predisposition generally come on gradually & almost imperceptibly; while those which are produced by bodily exertions are formed suddenly, & by the immediate action of the exciting cause.

There are certain conditions under which all herniae may present themselves, & which require to be known for the right understanding of the symptoms, & with a view to the necessary treatment. These are named complete, incomplete, reducible, irreducible, & strangulated.

A hernia is said to be complete when it has quite passed through the abdominal wall, & incomplete when it is still in the passage formed by the parietes. Both inguinal & femoral herniae when incomplete are called bubonocoele.

Conditions

of

hernia

Reducible hernia is such as can have the contents of the sac readily pushed back into the abdomen, though they may again protrude when circumstances favouring the prolapsed state come into operation.

The symptoms are a colourless, elastic, & compressible tumour in the region of the inguinal canal, or femoral ring, disappearing on the application of moderate pressure, or when the patient is in the recumbent posture, & producing a gurgling noise or sensation on the viscera being restored to the abdominal cavity.

The treatment is simple; the indications being to reduce the protrusion without delay, & then apply a suitable truss, which the patient must constantly wear, except when going to bed for the night, when it may be dispensed with, or a lighter one substituted; care being taken to replace the

latter by the former before rising.

It is in this kind of herniae that attempts have been made to bring about a radical cure, the various methods for which are named from their respective projectors Rothmund's, Gerdy's, Mösner's, Würtzer's, & Wood's. I shall not attempt to describe these, nor form an estimate of their comparative merits, but dismiss the subject by saying that Würtzer's & Wood's are now generally preferred to any of the other methods, though there are many surgeons who give the preference to Gerdy's & Mösner's.

An irreducible hernia is one which is not returnable. Such a one is generally of long standing, & large size; the contents, which may be in part reducible, are principally thickened omentum with intestine, & occasionally mesentery; the returnable portions being intestine. Herniae of the caecum & bladder are, from

their anatomical conditions, irreducible.

symptoms

The symptoms of uncomplicated irreducible hernia are the inconvenience occasioned by the weight & size of the tumour; a sense of weakness in the part with now & then attacks of dyspepsia. The tumour being always more or less in the way of danger is liable to be injured or inflamed by blows, or even strangulated through violent efforts.

treatment

The treatment has reference merely to protection from external injury, & prevention of increase in the size of the protrusion. These ends are attained by the patient wearing a truss with a large concave pad; but if the tumour is of considerable dimensions he will find the best means of support in a suspensory bandage.

Attempts have been made to convert an irreducible hernia into a reducible

one, by keeping the patient in bed for some weeks, ice being meanwhile applied to the tumour, the diet kept low, & such internal remedies administered as are likely to promote the absorption of fat, if the contents be chiefly omental as they usually are.

In such cases Erichsen recommends the exhibition of the iodide of potassium.

Complications

There are two complications of this affection which are apt to occur in practice, viz: inflammation, & incarceration.

of
hernias

The former is perhaps the more serious of the two, & requires to be diagnosed from strangulation which it closely simulates, but as contradistinguished from which it may be observed that the vomiting, which generally comes on at an early stage, is never feculent in inflamed irreducible hernia.

When an irreducible hernia is likewise inflamed there are symptoms

of peritonitis; & the treatment is mainly directed to the removal of this; for which purpose leeches are placed on the sac & its neck, Calomel & opium administered, & such other antiphlogistic measures employed as will speedily cause a subsidence of the inflammatory action.

Incarcerated
Hernia
When an irreducible hernia becomes obstructed it is said to be incarcerated.

This complication is seen chiefly in the old; & the symptoms are entirely of a chronic or subacute description.

As to treatment, the main reliance must be placed on purgative enemata, ice applied to the tumour & the employment of the taxis hereafter described, the object to be attained being the emptying of the gut of its contents, & getting returned any protrusion that may have slipped down additionally

to the previously irreducible matters

By far the most important condition presented by hernia is the strangulated state, by which is meant that the tumour is in some part so tightly confined that besides being irreducible the function of the gut or of the omentum is arrested, or the functions of both are in abeyance; & as a consequence, gangrene is apt to supervene unless the structure be speedily relieved.

There is no period of life exempt from this state; but it is worthy of notice with respect to prognosis that, when it happens in old people, it is of a passive kind, the strangulation coming on gradually; whereas in the young the transition from one stage to another in the morbid effects produced is rapid & acute.

"The stricture", says Erichsen

Strangulated

Hernia

"is commonly placed outside the neck of the sac, in the tendinous or ligamentous structures surrounding it, or in the altered & thickened subserous areolar tissue." It may, however, be found in the neck of the sac, or even, though rarely, in the body of it, which has then assumed an hour glass shape.

The first effect of strangulation is to produce congestion, upon which inflammation quickly supervenes, terminating before long in gangrene; in accordance with which states the colour & condition of bowel & omentum undergo changes which it is well to bear in mind.

In the congested state the bowel is occasionally ecchymosed on its surface; but whether this be so or not, the colour is much darker than normal, usually claret, or purplish-brown; in addition

to which, on the occurrence of inflammation, it becomes coated with flakes of lymph; & when gangrene has fairly set in, the ordinary lustre & polish are lost, the tint is changed to an ashy grey or dull black, & the coats are readily separable from one another; the serous one in particular peeling off on the slightest endeavours to remove it.

Theomentum assumes a dark purplish hue, or lack-lustre yellowish-grey; & in the sac there is collected a quantity of dark turbid serum with an odour extremely offensive.

This fluid is not however uniformly of the colour stated, for in slight cases & in the earlier stages it is clear, & changes taking place in it in this respect are in consequence of its increase in quantity, & they bear a relation to the length of time during which it is retained.

When strangulation has taken place symptoms local & general become manifest;

that is to say, there are symptoms appearing in the tumour itself, & others which are constitutional.

As to the former; the tumour is tense & hard, unless it be in great part omental, when it is soft & doughy. It neither increases in size, nor yields any impulse on coughing.

As to the latter; the patient experiences a twisting burning pain which he refers to the region of the umbilicus. He becomes sick, vomits, first the contents of the stomach & afterwards feculent & stercoraceous matters; owing to the altered peristalsis of the bowels, which are constipated. His countenance is pale & anxious; his pulse thready & feeble; & his extremities cold. After some time signs of peritonitis set in, with lancinating pains in, & tympanitic distension of, the abdomen.

With respect to diagnosis, this is to be made between strangulation and

Symptoms

Course

Diagnosis

- 1st Obstructed irreducible hernia.
- 2nd Inflamed irreducible hernia.
- 3rd General peritonitis with hernia.
- 4th Early pregnancy, or threatened miscarriage.

There are two symptoms which these four have in common, & in which they present a difference from strangulated hernia. viz:—

- 1^o Vomiting is not a constant accompaniment of any of them, & when it does occur it is never stercoraceous.
- 2^o Constipation when present is never absolute.

Hernia
The treatment of strangulated hernia is one of the most important subjects in Surgery. The object sought is removal of the constriction affecting the tumour, & the restoration of the contents of the sac to the normal situation. The means employed are mainly two:— the taxis, & division of the structure.

The taxis consists of such

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manual procedure as is made use of in putting
a hernia back. When properly performed
it is always safe & effective, & therefore is the
more desirable of the two processes em-
ployed as remedial.

As preparatory to its use the patient
reclines with the shoulders & pelvis some-
what elevated, & the thigh of the affected
side flexed & turned inward.

The tumour being next grasped at its
neck, the surgeon first pulls it gently
outwards, in order to diminish the size
of the parts at the orifice through which
it is to be restored. Pressure is then
made on the tumour to squeeze out some
of the flatus distending the strangulated
intestine, thus furthering its reduction.

The neck of the sac is steadied by the
fingers of the left hand, as the right,
grasping the tumour, keeps up a kneading
movement in the line of the tumour's descent;

and his friends than bleeding, as also more readily procurable than the warm bath, has for the most part superseded both.

When the taxis, combined with such aids as the above mentioned, completely fail to remove the constriction, the surgeon must resort to the second method viz: - Division of it by the Knife.

The best time for this is immediately after all other endeavours have been tried in vain. It is generally admitted that no time is then to be lost; the records of Surgery showing that procrastination is much more detrimental than an early resort to the operation. There are two ways in which it may be performed, viz: laying open the Sac, & dividing the structure from within; or leaving the sac untouched, & making the division of the structure from without.

It is here determined upon by either

method, the patient should be brought to the edge of the bed, his shoulders a little elevated, & the thigh of the affected side slightly bent; the bladder having been previously emptied & the seat of the operation shaved.

The operator then makes an incision of sufficient length over the neck of the sac; this being best done by pinching up a fold of the integument, transfixing it with the scalpel having its back turned towards the hernia, & then cutting upwards. A linear incision being thus made, the subsequent dissection through the superficial fascia is proceeded with. If any artery bleed freely it is to be secured before going further.

No attempt is made to display the various coverings of a hernia; for, however theoretically beautiful, in an anatomical point of view, the knowledge thus acquired in the dissecting room is usually practically useful only in so far as it serves to guide

the surgeon as to the requisite depth of incisions, the care required in making them, & the ready recognition of the sac, so that he may employ the utmost caution as he comes near the gut.

When the subserous areolar tissue is reached it should be pinched up with the forceps, a small incision is next to be made in it & a director introduced upon which, or better still, on the finger used instead, it is laid open. Proceeding in this way the operator at length arrives at the sac, which is to be recognised by its round & tense surface, on which an arborescent arrangement of the vessels is seen.

When exposed & required to be opened, this should be done carefully on its anterior aspect, unless it be small, when the lower part is selected. If the sac be not tense, the operator should lay hold of a small portion of it between the finger & thumb, by which means he may feel that he has no intestine included preparatory

to making the incision, which is best done with the edge of the scalpel held horizontally; & when made it may be extended by introducing a broad director, & slitting up enough to see the contents.

If the sac be tense, the plan recommended is to raise up a part of it by means of the point of a fine hook, which can rarely if ever wound the gut when proper care is taken; for the tension is due to the accumulation of fluid, more or less of which is always present in small sacs. The extent of the opening is regulated by the size of the sac, which, when large, has only so much of its neck slit up as is needed for dividing the structure; but, when small, it must be laid open throughout its entire extent.

The next point is the division of the structure. This requires special care to avoid wounding the intestine, vessels or other important structures in the vicinity.

The best plan is to introduce the index finger up to the point of structure, &

insinuate the finger nail beneath it.

The Hernia Knife, which has a probe-point & a very limited cutting edge, is held on the flat & slipped along the palmar surface of the finger. Should the structure prove so tight that the finger nail cannot be inserted below it, the coil of intestine may be drawn down a little, when it will generally be found easy to get the finger sufficiently introduced to enable the operator to proceed in the manner directed.

The structure being divided the contents of the sac will require to be examined, & if sufficiently healthy to admit of reduction, this may be proceeded with, intestine being replaced before omentum; special care being taken that the sac with its contents be not returned en masse. It is a good plan to follow the restored viscera with the finger passed up the passage along which they originally descended, in order to be perfectly certain that all is well;

which being the case, the dressing may be gone on with. This consists merely of a suture or two passed through the lips of the wound, a few cross strips of plaster being laid between them, a pad of lint applied, & a specia bandage to retain all in proper position.

On the third or fourth day the sutures may be removed, & simple water dressing applied.

The patient should be confined to bed & an opiate administered whenever signs of peritonitis appear. There will be no occasion for giving purgative medicines, as it is more than probable that, when the mechanical obstacle is removed, the gut will recover its natural action in a day or two, & a free evacuation result.

The diet must of course be kept low, & for the first couple of days should be merely barley water & ice, but afterwards beef tea may be allowed; all solid food being

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Treatment

after

operation.

withheld till the risk of peritonitis has entirely passed away.

Further treatment having reference to accidents & modifications of the operation need not be detailed here; a few words only being necessary as to the method of procedure without opening the sac.

Petit's

This, which is known as Petit's operation, is precisely the same as the one just described up to the point of opening the sac, with the sole exception that, when this is to be stopped short of, the incisions must be made more directly over its neck. If the stricture is situated outside the sac, the division may be accomplished by means of a probe-pointed bistoury placed beneath it, & cutting from below; or the bands of adhesion may be dissected down ~~upon~~ from above; after which the taxis is to be applied in the ordinary manner.

W. J. P.

The contents being reduced succeeding

steps as to dressing are the same as before
enumerated with the exception of the sutures.

Should the hernia be irreducible after
all external strictures have been removed,
there will in all likelihood be some constriction
in its neck which must then be laid open,
& existing impediments overcome in the
usual way.

There is some diversity of opinion among
Surgeons as to the utility of Petit's operation which
has found successful advocates in Mr Aston
Key, & Mr Luke. Erickson says it
should always be attempted in preference to
the ordinary one of opening the sac in those
cases in which the hernia, not having been
long strangulated, presents no sign of the
occurrence of gangrene in it; & more
especially when it is femoral, or umbilical.

In femoral hernia the structure is
for the most part outside the sac, yet Mr
Syme, when treating of this variety in his

Principles of Surgery, recurs to this subject which he had before touched on under the head of inguinal hernia, & lays down five objections against the operation without opening the sac. He considered it better to open the sac in all cases except in the treatment of large hernial protrusions.

As Petit's method is applicable to all forms of hernia it must, I apprehend, be left entirely to the option of the Surgeon which he shall choose.

The foregoing observations were intended to be general, applicable alike to inguinal & femoral herniae; it now remains that the leading peculiarities of each be succinctly stated.

Beginning therefore with inguinal hernia it is important to notice that there are two kinds to be discriminated the oblique called also

external from its originating at a part of the internal abdominal parietes external to the Epigastric artery; & direct, which is likewise known as internal, owing to its relation to the above named artery being the converse of the oblique ordinarily so called. Of the direct kind of hernia there are two varieties, called respectively superior & inferior, depending on the normal or abnormal position of the obliterated Supragastric artery.

Any of the descriptions of hernia just alluded to may be complete or incomplete; & hence arise subdivisions of both direct & oblique hernia.

To understand the import of the names oblique & direct it is to be remembered that an inguinal hernia may begin to leave the cavity of the abdomen at the internal abdominal ring, the tumour proceeding down the inguinal Canal, which is slanting in direction, eventually issues through the external ring, entering the scrotum or labium as the case may be, when it is complete, obtains the name oblique owing to its course through

The Canal just mentioned.

But again the protruding mass may leave the abdomen at a point opposite to the external ring, & present itself through that aperture without traversing any other portion of the canal; hence it is called direct; a variety of which would be constituted by the hernia beginning at some spot of the inner wall of the abdomen intermediate with respect to the internal & external rings; passing along a considerable part of the canal, & issuing as the two preceding kinds. Thus which is called the direct superior, (because situated superior to the obliterated hypogastric artery, the other variety being inferior), is really a description of oblique hernia, from which it cannot be diagnosed in life. Congenital & infantile herniae, it may be mentioned, are both necessarily oblique.

As the external or oblique hernia follows the course of the spermatic cord it is easy to see that it must obtain like coverings; also that

whatever is peculiar to the coverings of the Cord owing to its course through the inguinal canal must be wanting in that form of hernia which escapes from the abdomen without pursuing this path.

We have thus the rationale of the inferior direct inguinal hernia being devoid of the Cremasteric fascia, as one of its coverings, & having instead the conjoined tendon which lies immediately behind the external ring, & is either burst through by the hernia as it originates, & then only forms a partial investment for the sac, or it is carried before it, completely enveloping it, & constituting, in this species of hernia, a covering, which is the counterpart of the Cremaster muscle in the oblique kind. That form of direct inguinal hernia which is called superior receives the same coverings as the oblique, except that its investment by the Cremaster muscle is more partial.

relations

The relations of the spermatic cord &

Epigastric artery to these several sorts of herniae are important to be understood & remembered.

The spermatic cord lies behind or beneath the tumour when it is oblique, but its elements are occasionally separated, the vas deferens being on one side & the spermatic vessels on the other. In both varieties of direct inguinal hernia the spermatic cord lies externally to the tumour, as does the epigastric artery, the relation of which to the oblique Vind has already been stated.

Symptoms
In addition to what has before been said as to symptoms it will be necessary to mention only those which belong to the interstitial or incomplete sort & any which may serve to discriminate the direct from the oblique

In interstitial hernia when the patient coughs or stands considerable fulness will be noticed in the Canal, & if the finger be made to press on the internal ring, or pass up into

The external one, a tumour & direct impulse will be felt as the patient coughs.

In direct inguinal hernia the difference of symptoms with respect to those of the oblique depends chiefly on the form & relations of the tumour to other structures. Thus, in the direct we find it usually smaller & more round; it has a wider neck; & is placed near the root of the penis, having the cord in the position before stated, viz: on its outer side.

Treatment

As to treatment what remains to be said relates to the strangulated state in which, when the structure is to be divided, it is important to bear in mind its usual seats. For the most part it occurs in the neck of the sac; more rarely inside the sac, occasioned by a thickening of the fascia transversalis in the inner ring; & some times we meet it at the external abdominal ring. When it is needful to open the sac for the relief of the structure the rule is that

the division should be made by cutting
directly upwards, in order that the cut may
be parallel with the epigastric vessels, which
thus best escape the danger of being wounded.

Femoral
hernia

Femoral hernia comes down the
innermost compartment of the sheath of the
femoral vessels, in which partition there are
fat, lymphatics, & occasionally, one or two glands.

At the crural ring which it first passes through
it is separated from the femoral vein by a septum
placed on its outer side; & on its inner one, there
is Gimbernat's ligament; behind, the os pubis;
in front, Poupert's ligament.

The crural ring being entered it next traverses
the crural canal, & passing under the falciform
process of the fascia lata, where the canal ends,
near the saphenous opening, it gets upon the
thigh near that aperture, & enlarging often be-
comes globular, & tends to rise over Poupert's
ligament.

Its coverings from within outwards are:—
(1) Sac; (2) Septum Perineale; (3) Perineal sheath,
(4) Crurisiform fascia; (5) Superficial fascia; (6) Skin.

Relations

Its relations to important structures are more numerous than those of inguinal hernia. Thus, in its descent through its course it has as before said the femoral vein to its inner side, being separated from it merely by the septum of the sheath, the Epigastric artery lies above, & to its outer side; the spermatic cord in the male or the round ligament & in the female is above; & if the obturator artery take its origin from the external iliac, the common femoral, or the Epigastric, it may turn round its corner or pubic side, & thus lie in dangerous proximity during an operation.

Symptoms
The symptoms are generally well marked & obtusive. We find in the groin, to the outer side of the pubic spine & inner of the femoral

vesels, a tumour of variable size, seldom however larger than a pigeon's egg; the shape being round, & the consistence firm, tense, & unyielding. Its neck is under Poupart's ligament, but if it attain a considerable size it spreads above, or extends parallel to this structure, & may then be seen of an elongated shape with a soft & doughy feel.

It is distinguished from inguinal by the relative position of Poupart's ligament.

Treatment The treatment when reducible is similar to that already detailed — the truss most suitable being a moe main one; & when irreducible, it can be best supported by a truss with a concave pad.

When strangulated the constriction may be found either at Gimbernat's ligament, or at the inner portion of the sickle-like process of the fascia lata; and when it is

deemed necessary to perform an operation the incision recommended to begin with is that of a T figure, the transverse part of which is to be parallel to Poupart's ligament, & close to the neck of the sac. From the centre of this transverse cut the surgeon makes another downwards, to the same depth with it, & the two flaps being laid aside, he proceeds to expose the sac. Glands coming in the way are to be removed; & when the sac is reached & required to be opened, the operator raises the layer he wishes to divide at the fundus, where there is most fluid between it & the intestine.

The rule for the division of the structure is that it should be done with the edge of the knife directed upwards & inwards. Very often a mere nick is sufficient to overcome the structure.