No. 309

AN

INAUGURAL DISSERTATION

ON

Hernia - Simple, Complete, Oblique inguinal.

SUBMITTED TO THE

PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY

OF THE

University of Nashville,

FOR THE DEGREE OF

DOCTOR OF MEDICINE.

BY

M. D. Blanchard

OF

Georgia

1857

W. T. BERRY & CO.,

BOOKSELLERS AND STATIONERS,

NASHVILLE, TENN.

To

J. R. Jennings M.D., and P. F. Eve M.D.,
Professors of Anatomy and Surgery respectively.- from a feeling of the high estimation in which I view your methods of teaching, this essay is submitted to your inspection and criticisms as a testimony of the value I placed upon your many efforts, by the

Author.

Hernia - Simple Complete Oblique inguinal.

It is considered to be a protruson of a viscus through an accidental opening. It occurs most frequently with the contents of the abdomen.

The causes are many - such as tight lacing, performing on rind instruments, pregnancy &c. If it occur during labor it may be very large as the cause is double. ie. the cavity is small being nearly filled by the gravid Uterus which acts 1st as a cause - 2nd the muscular contractions. Among the predisposing causes may be mentioned ulceration, disease, congenital deficiency, age, sex and occupation. Men are said to be the subject of inguinal hernia more frequently than women. It is seen in persons advanced in life, and small children oftenest.

There may be hernia of the viscera of either of the cavities. The name of hernia is derived from the name of the part through which it protrudes eg. when there is a protrusion through the inguinal, femoral* and so on,

* Regions or Openings

it is called inguinal & femoral hernia respectively.
The parts subject to this displacement are all that are contained in the cavity; But the ones most frequent in occurrence are omentum and intestine. When omentum is is called epiplocele. intestine enterocele; When both together entero-epiplocele; and so on for others that occur.
During a muscular contraction a portion, usually of intestine is thrust through the wall of the abdomen; if the muscles contract while the intestine is distended, it together with the omentum is a resisting substance Consequently it courses its way through the layers of the abdomen; though it effects a passage without rupturing the muscles by passing through the lining of the abdomen and passing down with the cord. makes its passage and exit similar to that of the cord, through the canal and external abdominal ring. The viscus carries along with it the lining of the belly which spreads out over it and forms the first and ~~and~~ complete covering. Call the Hernal Sac - or peritoneal Sac.

In the complete form of inguinal hernia the tumor pursues the direction that the testicle does after it reaches the anterior peritoneal layer.

The description of the relations of a rupture to the surrounding parts is difficult to make intelligible; but to make it as near so as possible an enumeration of the parts, from within, out, which form the inguinal region, may be made; and are 1st. Peritoneum, 2nd The Cellular or connective tissue between, and which holds together the peritoneum and transversalis fascia, The latter being the third layer. And 4th Transversalis muscle, 5th Internal oblique, 6th External, 7th Superficial fascia and 8th The Skin.

The viscera in coming down comes first in contact with the peritoneum at the place where the testicle made its exit. A protrusion at this point is rendered less difficult than any other because of its weakness.

The peritoneum forms a complete lining for the abdomen as well as covering for the intestines. Next, The connective tissue, like the latter is easily distended, so when

The intestine is forced against it (in a rupture) it is carried along in front, forming a perfect sac, as already mentioned

Then next is the transversalis, or infundibuliform fascia. This transversalis fascia forms a strong covering for the peritoneum in its lowermost portion. The part of most importance extends downwards from a line drawn from Poupparts ligament transversely to the rectus muscle above the internal ring which is in the this fascia situated about midway between the superior anterior Spinous process of the ilium and Symphysis pubis about half an inch above Poupart's ligament. The intestine next progresses downwards coming in contact with the transversalis muscle which is in direct relation with the transversalis fascia posteriorly and internal oblique muscle anteriorly. As it passes under the margins of the internal oblique and transversalis muscles, it becomes adapted to the Cremaster muscle; which is fibres encircling the testicle derived from the two above named muscles as it passes into the Scrotum

In its farther progress it reaches the external oblique muscle; – The tendon of this muscle divides into two portions, called columns or pillars – named external and internal pillars. These columns are connected at the superior portion and angle by a number of fibres which arise from the outer portion of Poupart's ligament, passing transversly over the ring as just mentioned and are lost on the inner pillar – This is called the inter-columnar fascia; and it offers a partial covering to the tumor after it passes through the ring.

The next covering is complete, the superficial fascia, it forms an investment for the whole body; it is thicker in the inguinal region than in the other portion of the abdomen; In this region it is composed of laminae and inferiorly, attached to Poupart's ligament. Then, lastly the Skin. This Space – Inguinal – is in the form of a triangle, its superior boundary is an imaginary line drawn from the superior spinous process of the ilium to the linea alba; the internal by the linea alba,

and inferiorly by Poupart's ligament, upon which rests the triangular opening - for the passage of the cord - the external abdominal ring.

The Simple uncomplicated form of hernia may be known from its place of occurrence, by the time of its existence, its peculiar Soft feel: and from Femoral Hernia by the following -, When an inguinal Hernia is traced upwards in the direction of the Spermatic canal, its neck will become suddenly dipped down into the ring. But if it be femoral and has arisen above Poupart's ligament, and an attempt at reduction in the course of the Spermatic canal be made the tumor will increase in size. The treatment of Reducible Hernia is the employment of Taxis and its retention by the use of the truss. Before using taxis it is best to give an injection in order that the bowels below the rupture may be emptied as much as possible.

After the patient is prepared, he is to be placed upon a table or bed. The thighs smartly flexed and closed

to admit nothing except the Surgeon's arm between them. The Tumor is now gently grasped with the right hand, the palmer Surface resting upon its base. Pressure is now made in a kneady mode in the direction of the Canal. No violence must be used for fear of inflammation or rupture of the intestine. If our first effort at reduction fail we are not to quit for perseverance often over comes the resistance offered, and the intestine is distinctly heard to slip back into the Cavity.
After its reduction the use of the Truss is requisite which should have a firmly padded Surface Convex to present to the Abdomen which must press firmly on the whole length of the Canal; and a flat one opposite this point posteriorly. This is to be used Continuously for a period of two years. After the employment of above means without accomplishing the desired effect the Hernia is said to be irreducible.

After the use of very active remidies such as Hot bath, Tobacco-injection and so on, then there must be adapted to the tumor, well fitted, a Truss with a concave Surface; it must cover the whole tumor. The pressure must not be so powerful as to cause uneasiness but just so much as to retain the tumor in its proper limits. In procuring a Truss, it must be done with regard to the size and occupation of the patient When the Truss is fixed upon the patient, if he is made to stand or sit and lean forwards and Cough without any protrusion it is sufficient for a protection. It like, in reducible Hernia must be worn continuously- a lighter one may be used on going to bed. Irreducible are often of considerable Magnitude and long standing. Its non-reduction is dependent on its adhesions, shape &c. This Hernia may be partially reduced. when both gut and omentum protrude- The intestine returns, but omentum adheres.

Although the tumor cannot be reduced it frequently increases, especially if not protected. It may acquire such a size as to hide the genitalia, This giving rise to inconvenience attended with heavy dragging pains and weakness, patient never free from uneasiness. When it acquires such a size, Suspension in a bandage is the proper treatment.

Inflammation may ensue as a consequence, from irritation or, from a blow, fall and so on. It may commence at any point in the sac and diffuse itself into the abdominal cavity in the form of peritonitis, or it may confine itself to the tumor. The parts become dry hot and swollen also painful. There are symptoms of peritonitis spreading from the vicinity. Sometimes there is vomiting, never feculent, nor persistent, Constipation in complete, gas and passing by the anus. It is of great importance to note that the inflammation commences in the Sack and not in the abdomen. In the treatment leeches to the sac and neck, Calomel & Opium, injection and due

regard to regimen and rest. if inflammation extensive we may resort to general bleeding.

In some instances the passage of the intestinal contents is obstructed, by the accumulation of flatus, or by some undigested particles having gotten into the neck of the tumor. This obstruction gives rise to the name of incarcerated hernia; it exhibits itself in old persons in whom the tumor has been of long standing. It is attended with eructation constipation and vomiting; with pain weight and uneasiness about the tumor. Sometimes pain is absent at first, consequently it may exist for a length of time without detection. The treatment is the administration of an enema thrown high up the rectum by means of a long elastic tube. If on handling the tumor no gurgling sound is present ice may be applied for half an hour and taxis used under the administration of Chloroform. Cathartics should not be resorted to until the tumor is returned.

From what has been spoken of we are now brought to a consideration (partial) of Strangulated Hernia.

This form may occur as it generally does in a tumor of long standing hitherto irreducible. But from some violence there is a fresh portion of gut thrust without the abdomen consequent upon which Strangulation is a frequent result— This, Strangary, may occur in the first rupture.

A tumor is Strangulated when its neck is so constricted that it can not be returned into the abdomen. The passage of the alimentary canal is obstructed and vitality in the part for the time is nearly or quite destroyed; and if relief is not had death— gangrene quickly supervenes.

This Strangulation always appears in a part tendinous the firmness of which will not admit of distention for the reduction.

The causes of Strangulation appear to be these— From some cause there is a new protrusion of intestine.

The force has been such as to push so great a portion of viscera through the ring that the part is embraced so powerfully by the Stricture the venous flow of blood is obstructed and ceases to pass from the tumor: but the Stricture is not (always) so complete as to stop the arterial supply to the part irritated. This blood is sent with some velocity, but loses it in the capillary circuit, the Stricture is such as to cut off the attraction of the capillaries and consequently the circulation towards the large venous trunks is obstructed, the Vis a tergo being too light to propel the blood through these smaller vessels, consequently congestion - Strangulation is the result and with this effusions into the sac or intestine.

The Stricture is most frequently situated around the neck of the tumor in the tendinous or ligamentous structures in its vicinity. Not unfrequently it occurs in the altered and thickened cutaneous cellular tissue. It is often seen in the neck of the sac "which becomes elongated".

The Stricture may exist in the body of the Sac if it have assumed an hour-glass Shape, or inside the Sac consisting of bands of adhesions stretched across, or in the omentum itself, if the rupture depend (after an old one) upon a protrusion of intestine through the omentum, whose edges shall have become tendinous.

In a subject in which it is acute the Stricture will be deeply marked. This appearance is produced by the powerful congestion of the tumor.

The first change then is congestion, 2d. inflammation, (~~third Strangulation~~) and third, gangrene—Mortification. In congestion, the part is said to be of a purplish broom Color with thickening, from effusion into its Structure or cellular tissure. In inflammation the intestine retains the same appearance except ~~except~~ sometimes it acquires a lymphatic covering. But the omentum is tinged with red and there is effusion of liquor into the Sac.

If gangrene ensue the bowel loses this appearance and assumes in its stead a deep greyish-black aspect; its layers become easily separated— The omentum will become of a purplish color— during this time the Sac contains a quantity of dark offensive serum.

If this be left to the actions of nature gangrene of the skin with the intervening structures ensues, disintegration of the Sac and discharge of feces through the softened tissues and the patient may recover with an artificial anus.

The symptoms are divided into two classes, first those arising from the tumor, and 2d. those from the system at large.

The 1st Class— If the tumor be of long standing its size is increased from the congestion, becoming hard and tense also painful, if the tumor is intestine it becomes rounded and circumscribed; but if omentum, it is often soft, giving to the feel a doughy sensation, although it is congested.

There is no fresh protrusion after Strangulation consequently no increase in Size, except from effusion. The tumor is irreducible and there is no impulse on coughing.

Systemic Symptoms - when it first appears the patient becomes uneasy and restless; and if the attack be active the patient will be seized with acute pain in the part, extending into the abdomen, producing Symptoms of general peritonitis. The Stricture cuts off the circulation, the passage of feces and flatus; the patient is seized with Colicky pains, Constipation, eructation and vomiting. Vomiting is one of the first, most reliable and dangerous, - continuous and severe Symptoms; attended with retching and Straining; yet, affording little or no relief. It first consists of mucus and contents of the Stomach, but presently it becomes feculent and Stercoraceous - caused by the inverted peristaltic action of the bowels. There may be a slight discharge from the bowels below the Stricture but never above

These Symptoms are all more Severe when the rupture is intestinal and attack acute than when it is omental and Subacute. The peritonitis Supervening Strangulation is attended with the usual Signs – tenderness of the abdomen, tension of its muscles and acute lancinating pains: the pulse is small, quick and hard, with heavy dull and pale Countenance attended with inflammatory fever

Strangulated Hernia may be diagnosed from 1. Obstructed Irreducible 2. from Inflamed irreducible; 3. general Peritonitis conjoined with hernia. and 4. from double Hernias in which one is Strangulated only. by observing the following. – The 1st will generally be large and old, Subacute and but little Swollen and tender except it be pressed upon. Some impulse on coughing, but little constipation. or vomiting except it be mucus or bile. The means for its relief (which are already given) is its best diagnostic Sign.

The 2nd Has great tenderness and pain in the tumor Some general peritonitis. The vomiting if any, is less frequent

and violent than if the peritonitis were the effect of Strangulation. Some feces may pass, for the constipation is not entire. The third – Here it is extremely difficult, but the peritonitis is most intense at a point distant from the rupture. The vomiting will consist of mucus & the contents of the Stomach – the constipation will yield to ordinary means.

The fourth – About the neck of the Stictured one greatest tenderness and tension is felt &c &c.

Now in Strangulation we have a combination or a complexity of these Symptoms and even more.

There is hardness, tension and roundness, especially if it be intestinal. It is not increased in size for a fresh protrusion cannot take place, but it becomes distended by the infiltration of Liquor.

The patient becomes Sick, Urged with pains – The intestinal action is inverted and the vomiting soon becomes Stercoraceous – .

The diagnosis of Simple complete Obligue Inguinal Her

from other diseases occurring that vicinity - both inguinal and Scrotal regions. 1. from Abscess it may descend from the interior of the abdomen or pelvis through the canal and out at the ring - this on reduction does not present firmness or solidity on gurgling in its reduction.

2 from, Hydrocele of the Cord - in this the tumor is circumscribed no pulsation on coughing - there may be a small oval tumor on the cord which may apparently be reduced but returns again on Coughing.

3 from, Fatty or other tumors formed on the Cord, its circumscription irreducibility and the absence of impulse on coughing mark the distinction between them & Hernia.

4 from Lodgement of testicle in the canal - by the absence of it in the Scrotum on its side. the peculiar sickening upon pressure; No gurgling - and irreducible.

5 from. Hydrocele - in this the tumor is circumscribed below the Cord, no fluctuation on Coughing - no gurgling in attempts to reduce it.

6 from - Varicocele - this, the tumor may may be reduced, but if the finger be placed upon the ring, the patient be allowed to stand up the tumor will gradually return through the Spermatic arteries.

7 from - Tumors of the testicle and Haematocele - by their circumscription and the absence of impulse on coughing. The treatment for simply a protrusion is already been spoken of

If though there be symptoms of Strangulation and we have clearly diagnosed it to be hernia, an operation, after the failure of those other potent remedies we have considered is immediately to be performed under the administration of anaesthesia. This consits in cutting through the soft parts down to the Stricture and dividing it. This Structure, as we know, occurs in various parts, Thus in the rings themselves, the cellular tissue, the neck of the sac, or if the intestine be strangulated by its protrusion through the omentum it may be in

this opening - hence the necessity of opening the Sac though gangrene be absent. If from inflammation the the plastic effusion has caused adhesions of any parts within the Sac they are to be dissected apart with much care; The Stricture is to be divided and returned into the abdomen. In the first place an incision is made through the Skin by pinching up a fold over the external ring, a puncture through the fold is made with the cutting edge of the Histoury looking towards the Surgeon, then cutting outw. This wound is to be, continued to the extent of 2 or 3 inches in the direction of the Canal extending downwards into the Scrotum and in a direction upwards and outwards over the external ring, down to the Superfical fascia. it is to be the fascia divided with care, which will bring to view the intercolumnar fascia. this is to be divided upon a grooved director, enlarging the external ring. This incision may divide the Stricture. Internal to the latter lies the Cremaster muscle; it is often

thickened and forms an incomplete covering - its is effected like the latter: internal to this lies the transversalis fascia and inter-cellular substance which must in like manner be dived, with great care. If the Stricture exist in the internal ring, or ab either a slight nib of the knife, up is sufficient for its division. This will avoid the division of the epigastric artery which comes off from the external illiac and lies under the transversalis fascia, between the rings external to the external and internal to the internal one.

The Hernia knife is to glide along the finger and directed within the Stricture by aid of the finger nail and slight cut will suffice: but if the Stricture be inside the Sac it is pinched up a puncture made director introduce and Sac opened to the Stricture which must be divided as already spoken of, and the tumor reduced slowly and with great caution

After this the parts must be closed by 3 or 4 interrupted Sutures and adhesive Slips— There must be left a Small opening for the escape of pus which may be formed from the inflammation or suppuration, to prevent its reflux into the abdomen which would inevitably give rise to peritonitis. Over the plaster should be Spread a layer of patent lint Secured by Bandage. After 3 or four days the Sutures should be removed and cold water dressing applied.

The patient must be suffered to rest quietly— Sleep all Symptoms of peritonitis abated &c. The bowels will act in 24 hours. if not give gruel injection but never purge. The patient, of course, must be kept upon the simplest and most unirritating diet, indeed Should only be allowed barley water and ice for the first day or two, afterwards Some beef tea, but no Solid food till all risk of peritonitis have passed"

Our Chief object is to keep patient quiet, remove irritation, local or constitutional; and prevent the development of extensive inflammation.

M. D. Blanchard. Jan. 5th 1857.