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THE ARRIS AND GALE LECTURES ON THE ANATOMY AND SURGERY OF THE PERITONEAL FOSSÆ.

Delivered at the Royal College of Surgeons of England,

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LECTURE III.—THE INTERSIGMOID FOSSA: INTER- SIGMOID HERNIA: HERNIA INTO THE FORAMEN OF WINSLOW.

THE INTERSIGMOID FOSSA.

THE first mention of this fossa is made by Hensing in the year 1742 in a Giessen dissertation. No subsequent reference to it is found until 1843. In this year Roser speaks of having seen the fossa very clearly defined on two occasions. In 1857 Engel describes a canal having a length of 3 cm. in infants, extending along the inner border of the left psoas muscle to the level of the bifurcation of the aorta, and in exceptional cases as far up as the pancreas. Treitz in 1857, Gruber in 1859, and Treves in his Hunterian Lectures, give good descriptions of the fossa. The latter author says: "The perfect fossa was met with in 52 per cent. of all the subjects. But if distinct funnel-shaped depression be added to the examples of the true fossa, then the percentage reaches 65. Jonnesco in 1890, and Brösike in 1892, gives accurate accounts of the fossa.

On drawing the sigmoid or omega loop upwards, the left or underlayer of the sigmoid meso-colon is exposed. On this surface can be seen the entrance to the intersigmoid fossa at the line of insertion of the meso-colon (Fig. 20). The fossa

Fig. 20.—Formation of the intersigmoid fossa.

is present in rather over 70 per cent. of bodies examined. Its frequency depends, however, chiefly upon the ages of the subjects. In the fetus of later months and in infants it is invariable. Its frequency becomes less with increasing years. As Treitz showed many years ago, in the aged there are never lacking signs of adhesion, crimping and thickening in the

Fig. 21.—The intersigmoid fossa.

sigmoid meso-colon. Processes of this kind tend to obliterate the fossa, so that in subjects over 50 years of age the pouch is not infrequently wanting. The opening of the fossa is situated in the line of attachment of the sigmoid meso-colon at a point which is near the inner margin of the psoas. It lies over the common iliac artery close to, or in front of, its bifurcation.

The orifice is generally round or oval, and is bounded in front by a fairly well-defined sharp edge of peritoneum. In this edge, or very close to it, may be seen the sigmoid vessels. This orifice leads to the intersigmoid fossa, which lies behind the sigmoid mesocolon and in front of the parietal peritoneum. The posterior wall of the fossa is adherent to the common iliac artery, and through the transparent wall can be seen the ureter as it crosses the vessel. The apex of the fossa extends upwards for a distance that varies very considerably. Sometimes there is merely a dimple representing the fossa; in other cases the depth may be 2 or 3 inches, or even more. I have on several occasions seen the fossa extend beyond the middle of the kidney, and this is usually the case in the fetus. Engel, Brösike, and Rogie describe the pouch as extending as far up as the body of the pancreas. Most frequently the fossa in the adult is of the shape and size of an abbreviated glove finger for an average middle finger.

GENESIS OF THE FOSSA.

Several explanations have been suggested by Treitz, Luschka, Waldeyer, Treves, and others which I believe to be incorrect. It was first shown by Toldt that the disappearance of the mesentery of the descending colon was due to a process of "physiological adhesion" taking place between the left (or posterior) layer of the mesocolon and the parietal peritoneum (Fig. 20). This agglutination begins above, close to the splenic flexure, and spreads gradually downwards. Over the kidney, owing to the projection of this organ, the fusion is earlier and more complete. Along the inner edge of the kidney is a groove, and here, therefore, the opposing surfaces do not so readily come into contact, and adhesion is delayed. At the lower part of the groove union is never complete, and the gap that results is the intersigmoid fossa. On examining a fetus of the seventh month, or a little younger, the descending mesocolon is obliterated. On pulling, even gently, on the colon, however, it will be found to strip up quite readily from the parietal peritoneum, until the primitive mesocolon is reproduced.

HERNIA INTO THE INTERSIGMOID FOSSA.

Treitz refers to two cases of intersigmoid hernia, one recorded by De Haen, and the other by Lawrence. The description and figures given by De Haen negative his case unconditionally. Lawrence in the fifth edition of his work says that hernia may occur in the mesentery of the sigmoid, but gives no case. A case which has been generally accepted is

recorded by Jomini. I have elsewhere¹ analysed this case, which is probably one of gross congenital abnormality, with secondary adhesion processes. It cannot be allowed as a hernia of this class.

The only two authentic cases, so far as I am aware, are recorded—the first by Mr. F. S. Eve, and the second by Mr. McAdam Eccles. Mr. Eve's case was described and figured in the BRITISH MEDICAL JOURNAL of June, 1885, and I must refer the reader to this article for full particulars. In that case the most likely explanation of the history seems to me to be this. There had been originally a common mesentery for the jejunum, ileum, cæcum, and ascending colon. The splenic flexure and the descending colon became fixed in the usual manner by adhesion of the left or posterior layer of the original descending mesocolon to the parietal peritoneum of the posterior abdominal wall. As a result of peritoneal adhesion, most probably pathological, the cæcum and ascending colon had adhered to the descending colon, and the sigmoid and the united gut had been dragged over to the right, laying bare and rendering patent the orifice of the intersigmoid fossa.

Mr. McAdam Eccles's case occurred in 1895. I am indebted to him for a reprint of his account in the *St. Bartholomew's Hospital Reports*. The symptoms were those of acute intestinal obstruction. On opening the abdomen "a tightly constraining edge, which afterwards proved to be the margin of the aperture of the intersigmoid fossa," was revealed. A loop of gut 4 inches in length was nipped in the fossa, and about half an inch of it was gangrenous. The loop was removed and the ends stitched by Maunsell's method. The patient died of exhaustion. At the *post-mortem* examination there were signs of "some general peritonitis, most marked in the region of the sigmoid flexure, which was itself thrown over to the right side of the body."

These two cases illustrate as well as possible two quite opposite conditions. In the one there was congenital abnormality, gross in extent, and peritoneal adhesion, probably pathological and extrauterine, and in the other a peritoneal cavity in all respects normal.

HERNIA INTO THE FORAMEN OF WINSLOW.

This form of hernia is very uncommon. I have been able to find only 8 cases recorded, 4 very imperfectly by Rokitsansky, Treitz, Moir, and Novello, and 4 more fully by Blandin, Majoli, Elliot-Square, and Treves. After reading carefully the reports of these cases, it seems to me almost certain that in order to permit of the occurrence of this form of hernia, there must be some extreme congenital abnormality. In the carefully-recounted cases this has been observed. Thus in Treitz's case there was "a common mesentery for the intestine from the duodenum to the rectum." In the cases recorded by Elliot-Square and Treves there was an absence of the secondary fusion process between the ascending colon and the posterior abdominal wall. The causes leading to the formation of this form of hernia are probably:

1. A common mesentery for the whole intestine. Rogie has collected 53 examples of this, and he has not included all the cases.
2. Absence of the secondary fusion of the ascending colon to the posterior abdominal wall.
3. Abnormally large size of the foramen of Winslow.
4. Abnormal length of mesentery, and, consequently, undue mobility of the intestine.

In the absence of one or other of these abnormalities, the occurrence of the hernia may be considered almost a physical impossibility.

SYMPTOMS.

On analysing the series of cases, it seems that a hernia into the foramen of Winslow on becoming strangulated presents a fairly well-defined group of symptoms. These are:

1. *Pain*.—This is generally epigastric. Square speaks of "pain over the ensiform cartilage and immediately below it"; Treves, of "pain like cramp at and above the umbilicus"; Majoli, of "a painful rounded tumour" in the epigastrium.
2. *Tumour*.—An epigastric tumour has usually been observed. Thus, Majoli says, "a persistent bulging of the anterior abdominal wall in the epigastric region" was present. Treves speaks of "a conspicuous bulging of the anterior

abdominal wall in the epigastric and hypochondriac regions." Square says "the umbilicus was somewhat prominent."

3. *Percussion*.—A tumour when present is dull on light percussion, but deep percussion sounds a more resonant note.

It is interesting to note that there are no recorded symptoms of pressure on the hepatic artery, portal vein, or bile duct.

REFERENCE.

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THE THERAPEUTICS OF HEAT AND LIGHT AND ELECTRIC HEAT AND LIGHT BATHS.

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WITH the house-to-house distribution of electric currents from central supply stations the application of the current from the mains to purposes other than the lighting of rooms will gradually become more general. Especially does the use of the current as a source of heat recommend itself on the score of convenience and ease of application, and a number of appliances for adapting electric heating to medical practice have lately been contrived. In some of these appliances incandescent lamps are used as the thermal generators, and certain special advantages have been claimed for them on the ground that in an incandescent lamp the heat emitted is from a source at a very high temperature, and is radiated rather than conducted, and that the light which is also given out by the lamps may have a beneficial effect. Thus Winternitz¹ has a paper on this subject with the title of *Electric Light Baths*, and with figures of some of the apparatus he uses. These consist of wooden boxes or cabinets arranged for the reception of a patient's body or limbs and fitted within with incandescent electric lamps and reflectors. In them the patient can be subjected to the light (and the heat) given out by the lamps. The diseases in which the treatment is said to have been found useful are rheumatism, asthma, anæmia, neurasthenia, and obesity.

Fig. 1.—Electric light bath of Winternitz.