AN UNUSUAL CYST OF THE MESENTERY

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Mesenteric cysts and enteric or enterogenous cysts are described with certain essential and characteristic differences, and their differentiation is often important in the management of a case at operation.

I should like to describe a case which does not conform to the classical and which is of sufficient rarity to warrant publication.

Incidence

Mesenteric cysts are recorded as occurring in the omentum, mesentery, and retroperitoneal regions on an average of 1 per 100,000 admissions. Beahrs *et al.*[2] report an incidence for the chylous variety of 9 per 1,000,000 admissions to the Mayo Clinic, being 9 of 174 mesenteric cysts. Gross,[1] on the other hand, apparently found a higher incidence—5 of 19 cases reported.

Description

Mesenteric cysts are described as thin-walled, usually single, lying between the leaves of the mesentery or mesocolon, or in the omentum.

As they are seldom tensely filled, they are flabby, soft tumours of a slow growth, and usually freely mobile. A dumb-bell shape is common, with the tumour bulging out on either side of the mesentery and the bowel saddling the mass.

The walls consist of connective tissue with an inner lining of endothelial cells. They may be unilocular or multilocular, and the variety known as chylangioma has been described as an anastomosing network of lymph spaces supported either by thin walls or thick septa.

The contents of these mesenteric cysts are usually serous, but may be chylous—a thick, milky, white fluid.

The absence of a muscle coat in these cysts has been emphasized by Gross,[1] but Thompson and Chambers[5] report a chylangioma in the walls of which some smooth-muscle fibres were found.

Aetiology

Various theories for their origin are propounded. Beahrs *et al.*[2] postulate that they are mainly pre-formed developmental abnormalities. He feels that a few cases may be traumatic in origin or that they are occasionally formed by degeneration of lymph nodes.

Ewing[6] states that they are all true chylangiomata due to congenital or acquired obstruction of the lacteals.

Gross[1] postulates their development from misplaced lymphatic tissues, which proliferate and accumulate fluid due to the lack of communication with the normal lymphatic system.

Lee[7] advances the theory of rupture of a lymphatic with extravasation and cyst formation, for which he has some experimental evidence.

Enterogenous cysts or duplications of the alimentary tract are all presumably embryonic aberrations, though the theory of the mechanism of origin varies. This is thought by some to be a sequestration of groups of cells, by others diverticulae of the intestinal canal, or, again, errors during vacuolation from the solid phase of development.

These cysts vary enormously in their site of development, arising anywhere from the tongue to the anus; and in their size and shape, from small cystic tumours to extensive reduplications of large segments of bowel.

Differentiation

Certain features are emphasized in the differentiation between enterogenous cysts and mesenteric cysts:

1. Mesenteric cysts are thin-walled with an endothelial lining. Enterogenous cysts are thick-walled, the walls containing muscle coats. They are lined with mucosa.

2. The duplication lies immediately adjacent to the bowel, and its musculature is so intimately associated with that of the bowel that they cannot be separated easily from one another.

3. The blood supply of an enterogenous cyst is the same as that of the adjacent bowel, so that it cannot be removed without impairing the blood supply of the adjacent intestinal segment.

The clinical picture in these two conditions may be identical in that many present with a painless, slowly enlarging mass in the abdomen, which is usually freely mobile and shows a gasless shadow on X-ray, displacing the intestines.

However, the majority will present with complications in the cyst that will alter the clinical picture accordingly.

These complications arise as result of (*a*) interference with the blood supply, (*b*) infection, (*c*) rupture of the cyst, (*d*) pressure on the bowel causing obstruction, (*e*) pressure on the contents of the pelvis, (*f*) volvulus, (*g*) intussusseption, (*h*) haemorrhage into the cyst, (*i*) accumulation of gastric acid or pepsin in the reduplications, and (*j*) obstruction of the renal tracts.

The case which I have to report presents an atypical picture and does not truly conform to either group.

Case Report

A young lady presented with a 24-hour history of pain in her upper abdomen on her 17th birthday.

She had a fairly rapid onset of symptoms which commenced in the central abdomen and were later localized in the left hypochondrium.

The pain was constant and aching in character, and was not associated with any nausea or vomiting although she was now anorexic. There was no diarrhoea or constipation.

Movement aggravated the pain and she had not slept that night.

There was nothing significant in her menstrual history and micturition was normal.

Besides a mild headache there were no other relevant symptoms, nor any previous history of illness apart from the usual childhood ailments.

On examination her temperature was 100°F., pulse 80, and respiration normal. There was no evidence of jaundice, anaemia, or lymphadenopathy. Her blood pressure was 120/65 mm. Hg.

Her abdomen was scaphoid, and the pain was indicated to be in the left hypochondrium.

Voluntary guarding was present, but with patience a tender mass was palpable. It was about the size of a naartjie. The lower edge was at the level of the umbilicus at the outer margin of rectus abdominis, and the upper position disappeared underneath the left costal margin.

There was slight downward movement on inspiration, but deep respiration was restricted by the pain. Lateral mobility could not be elicited owing to the tenderness of the mass.

Bowel sounds were present and normal. Resonance on percussion suggested bowel overlying the mass.

A blood examination showed a haemoglobin level of 14·2 g. per 100 ml., haematocrit 34%, white-cell count 9,300 per c.mm., neutrophils 79%, lymphocytes 18%, monocytes 3%, and eosinophils and basophils 0%. The platelets appeared normal. Serum amylase was less than 160 Somogyi units, and her urine contained no albumin, sugar or bile.

A straight X-ray of the abdomen showed a gasless shadow in the left upper abdomen, with a fairly well-defined outline lying opposite L 2 and L 3. It was also possible to distinguish the lower pole of the kidney and of the spleen apart from this shadow.

At laparotomy a rounded, tense, cystic mass was found in the mesentery of the upper jejunum with considerable oedema of the overlying and surrounding mesentery of this area. There was marked injection of the vessels of this region.

The mass was about 2½ inches in diameter.

It was not immediately adjacent to the bowel, there being a fingerbreadth of mesentery separating the bowel from the cyst.

On incising the overlying peritoneum, a plane of cleavage was readily found and the cyst shelled out.

Haemorrhage was minimal and easily controlled, and there was no evidence of any interference with the blood supply to the adjacent segment of bowel. The defect was closed.

Recovery was uneventful.

The cyst contained a milky white fluid and both the cyst and its contents were examined by pathologists who reported as follows: 'Sections taken from this cyst from the mesentery show the histological features of an enterogenous cyst. The lining of the cyst consists of subacutely inflamed granulation and xanthomatous tissue and contains an acute inflammatory exudate. Underlying this layer there are areas in the wall which consist of one or two layers of smooth muscle, arranged in some parts in a circular and longitudinal pattern. The remainder of the wall consists of a fairly loose connective tissue, infiltrated by a subacute inflammatory-cell infiltrate and histiocytes.'

A subsequent communication reads: 'We reviewed the section. No epithelial lining is present, but because of the presence of what appears to be a subacutely inflamed mucosa and a surrounding muscular coat, the features suggest intestinal origin'.

Analysis of the fluid from the cyst was reported on as: Total protein 1·8 g. per 100 ml., fat 12%, and specific gravity 1·011. The fluid had an opalescent white colour.

The cyst, therefore, had the macroscopic differentiating features of a mesenteric cyst and the microscopic features of an enterogenous cyst.

SUMMARY

Mesenteric and enterogenous cysts are briefly described with special reference to the differentiating features.

A case is described of a cyst which does not conform to either group in all its features.

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