

TRANSMESENTERIC HERNIA

By K. T. Chan, M.B.,B.S., F.R.C.S., F.R.C.S.E.

(From the Department of Surgery, University of Singapore)

A transmesenteric hernia is the protrusion of viscera through a defect in the mesentery of small bowel, transverse or sigmoid colon and usually has no sac. It is a very rare condition and the literature on it consists largely of reports of isolated cases. In all fewer than a hundred cases have been recorded. Ling reported a case in Perak in 1939.

The following is a report of a case with some unusual features:

CASE REPORT

A 21 year old Chinese, L.C.T., (Reg. No. 028255) was seen at the Casualty Department of the General Hospital, Singapore, on 6th October, 1961 at 1 p.m. complaining of severe upper abdominal pain. The pain started suddenly at noon and soon became very severe. It was colicky in nature and at first was centred around the umbilicus but later became generalised with maximum pain in the epigastrium. He had vomited twice. When seen by the Casualty Officer he was in great distress, rolling about and groaning loudly. The abdomen was of normal contour, soft on palpation with no masses or area of tenderness or guarding. The other systems were also normal. He was kept under observation and the symptoms soon subsided. At 2 p.m. he had another attack of severe pain. He was then seen by another doctor who again could not elicit any abnormal physical signs though the patient was obviously in severe pain. He was admitted to the Surgical Unit for investigation.

On arrival in the surgical ward he was no longer in pain. The pulse was 88/minute, blood pressure 150/90 mm. Hg. There were no abnormal physical signs. A straight X-ray of the abdomen showed no radio-opaque calculi nor any evidence of intestinal obstruction. Haemoglobin was 88%; total white count 14,800/c.mm; neutrophils 83%, lymphocytes 15%, eosinophils 1%, monocytes 1%; blood urea was 21 mgm%.

He gave a history of having had similar attacks of pain on several occasions in the past five months. Each bout of pain lasted 10 to 15 minutes, was colicky in nature and maximal in the epigastrium. It was never sufficiently severe for him to seek medical advice. He had been previously admitted on 24th April, 1961 to a medical unit with sub-tertian malaria, proven

by peripheral blood smears. He then had no abdominal symptoms.

He was diagnosed as a case of intestinal colic and it was decided to keep him under observation.

He had his third attack of pain at 5.15 p.m. and again there were no physical signs—the abdomen was soft with no palpable masses or area of tenderness. It was decided to explore his abdomen because an internal strangulation could not be ruled out.

Under general anaesthesia entry of the peritoneal cavity was effected via an upper right paramedian incision. A pint of clean serous fluid was aspirated. Several loops of jejunum presented and were of a dusky red, oedematous appearance. Further exploration revealed that 20 inches of jejunum had herniated through a hole in the mesentery of the small bowel. The hernia was reduced with no difficulty and a circular defect, 3 inches across, was exposed lying fairly close to the duodeno-jejunal junction. The edges of the defect were rounded and smooth and a vascular arcade ran all around it close to the free edge (Fig. 1). The herniated bowel was quite viable. The defect was closed with a continuous atraumatic catgut stitch (Fig. 2). There were no other abnormalities in the abdomen. The appendix was removed and the abdomen then closed.

He recovered quite uneventfully and was discharged on the ninth post-operative day and has remained well since.

DISCUSSION

A transmesenteric hernia is a form of internal hernia. Internal herniae have been classified by Steinke (1932) as follows:

- A. Retroperitoneal:
 1. Paraduodenal,
 2. Paracaecal,
 3. Intersigmoid,
 4. Foramen of Winslow.
- B. Through Anomalous Openings:
 1. Mesentery of small bowel,
 2. Mesentery of transverse colon,
 3. Mesentery of sigmoid colon,
 4. Omentum,
 5. Broad ligament.

It will be noticed that the term "internal hernia" is applied to internal herniae of the peritoneal cavity only.

Hensing was the first to describe the surgical anatomy of some varieties of internal herniae in 1742 in his book "Die Peritonaeo". Treitz gave his classical and detailed description of the para-duodenal fossae in 1856 and the ligament of Treitz in that region continues to remind us of his contribution. Treves (1885) was the first to describe the various fossae and mesenteric defects in the ileo-caecal region and again has given his name to a structure in the region — the "bloodless fold of Treves".

Hansmann and Morton (1939) collected 467 cases of internal hernia from the literature. Of these only 38 or 8 per cent were transmesenteric in nature. Since then a further 50 or so cases have been reported. Herniation through the small bowel mesentery appears to be less common than herniation through the transverse mesocolon. (Ménégaux, 1934). Herniation through an omental defect is also extremely rare, only 20 cases have been recorded up to date (Clark, 1962).

Defects in the mesentery of the small bowel may be congenital or acquired.

Congenital cases do not give a significant past history of trauma and a developmental origin of these defects is most probable. It is realized that closed abdominal injuries can produce tears of the mesentery but no recorded case gave a relevant history. King (1934) has pointed out that the term "congenital" is not strictly correct as these defects may not be present at birth but develop later. The rarity of the condition was shown by Mitchell (1899) who found only three instances of mesenteric defects in 1600 autopsies. In all three the hiatus was in the ileo-caecal region; the largest was 2.5 cm. by 4.75 cm. and in none was there evidence of herniation.

An acquired defect may follow after operation, trauma or inflammation. Post-operative herniations have been well described, the causes of which are now widely known and hence rare. Stammers (1959) has described the various types that can occur after gastrectomy and those complicating colostomies have been well known. The cases of inflammatory origin usually involve the ileo-caecal region. King (1934) reported a case following appendicular inflammation which had involved the mesentery of the terminal ileum leading to thrombosis of the adjacent vessels, a thinning of the mesentery and finally the presence of a hiatus. At operation

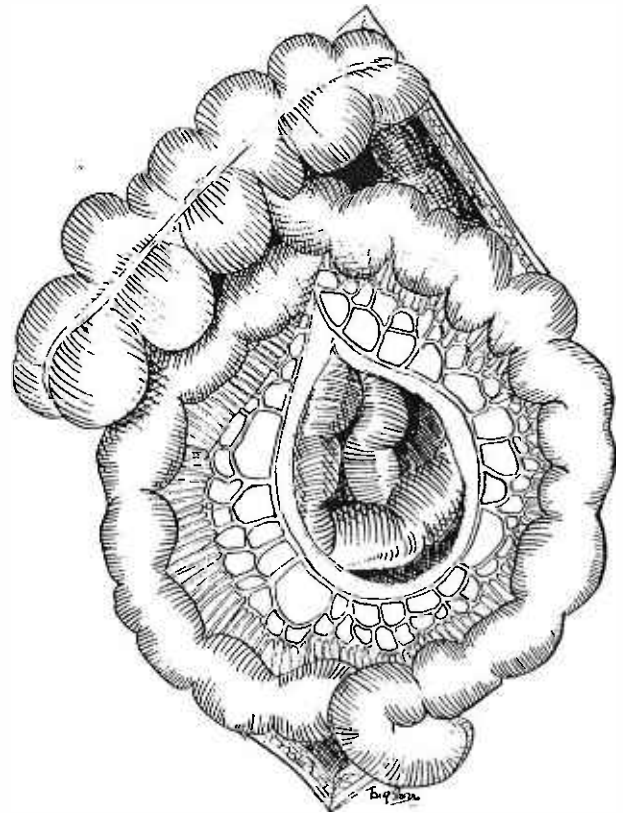


Fig. 1. Showing the defect as found at operation after reduction of the herniated bowel. Note the vascular arcade along the edges of the defect.

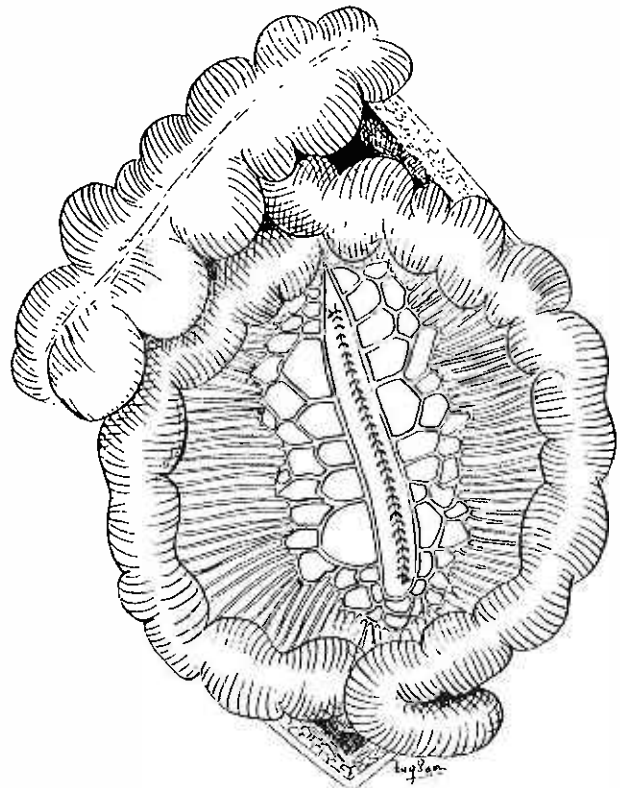


Fig. 2. The defect repaired with a continuous atraumatic catgut suture.

the tip of the appendix had passed through the mesentery and was adherent to a loop of ileum on the other side of the mesentery. Baty (1952) and Johnson (1952) each reported a case of herniation following tuberculous mesenteric adenitis.

The congenital defects are usually small being less than 5 cm. across (Brown, 1920), and the majority lie in the ileal mesentery, (Cutler, 1944). The present case is unusual in that the defect is large, being 9 cm. by 7.5 cm., and situated in the jejunal mesentery near the duodeno-jejunal junction. When herniation occurs, bowel usually passes from left to right owing to the normal relation of bowel to mesentery — the small bowel lies to the left of the stalk of the mesentery, (Iason, 1941).

CLINICAL FEATURES

A mesenteric defect, with or without herniation of bowel through it may be symptomless, or symptoms may be so minor as to attract little or no attention. When obstruction or strangulation occurs, symptoms come on with dramatic suddenness and usually progress with great rapidity to a fatal issue.

In the early cases, sudden, severe, colicky pain is the cardinal feature; vomiting occurs early, constipation is absolute and there are no physical signs. In late cases visible peristalsis and abdominal distension may be present; a mass is only rarely felt. Bowel sounds are those of intestinal obstruction; with perforation and peritonitis, paralytic ileus may supervene. The features of a late case are those of intestinal obstruction, shock and when perforation has occurred — peritonitis.

Gangrene occurs in over 50% of cases and is of early onset and rapid progression, (Cutler and Scott, 1944). Gangrenous bowel may be present on both sides of the mesenteric defect, (Moroney, 1946; Leech, 1946). The reason for this is not clear.

Radiographic examinations are usually not helpful — the presence of dilated loops of bowel will only confirm the clinical diagnosis of "intestinal obstruction".

TREATMENT

A correct pre-operative diagnosis has never been made and laparotomy is carried out for "intestinal obstruction".

On opening the abdomen free fluid is always present. If strangulation has occurred the exudate is dark or bloodstained. If gangrene has

supervened with bowel perforation, intestinal contents and pus will be present. The affected bowel will have the characteristic changes of a strangulated hollow viscus in its various degrees.

The definitive treatment consists of reducing the hernia, resecting the bowel if not viable and repairing the defect. In moribund cases and in children, a Mickulicz exteriorization is advocated when the bowel is not viable. Of the 50 cases collected by Culter and Scott, 5 were diagnosed only at autopsy. Of the rest, 4 had laparotomy only, 19 required no resection and 22 had non-viable bowel resected. The cases with resection of non-viable bowel have a poorer prognosis. In view of this, any case presenting with severe, repeated abdominal colic should be observed carefully and early laparotomy considered.

SUMMARY

A case of strangulated transmesenteric hernia is reported and the incidence, aetiology, clinical features and treatment of such herniae discussed.

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