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Wandering Spleen with Splenic Vein Thrombosis: A Case Report

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Introduction

A wandering spleen is a rare clinical occurrence with fewer than 500 cases reported and an incidence of less than 0.2%[1, 2]. The spleen is an important component of the reticuloendothelial system, which is involved in immunological defence and can serve as a storage site for red blood cells[3]. The spleen is normally supported by the gastrosplenic, splenorenal and splenocolic ligaments, whereby failure of attachment of these ligaments to the spleen's overlying peritoneum results in a hypermobile spleen[3, 4]. All cases of a wandering spleen have been found associated with a long splenic pedicle which consists of the splenic vessels and the tail of the pancreas[2-4]. A wandering spleen can be either congenital or acquired. In the congenital condition the ligaments fail to develop properly, whereas in the acquired form the hormonal effects of pregnancy and abdominal wall laxity are proposed as determining factors [5-7]. In addition, failure of fusion of the dorsal mesogastrium during foetal development resulting in the characteristic long vascular pedicle has been attributed[8]. However, the precise aetiology of the wandering spleen is not known [2].

Key words: Spleen, wandering, splenic, vein, thrombosis
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Case Report

A 15-year-old girl, presented to the emergency department with a longstanding history of central abdominal pain which had worsened in the last 3 days, she described as a tight band spanning from her right lumbar region to her left lumbar flank. The pain was associated with a swelling in the umbilical area and exacerbated by movement and eating. There was associated vomiting; clear vomitus and no haematemesis. Her bowels were opening regularly and there was no reported blood in her stools. Her past medical history entailed oesophageal gastric reflux with no history of haematemesis.

On examination, she appeared in discomfort, was apyrexial but had a tachycardia of 100beats per minute, with otherwise normal cardiorespiratory function. Her abdomen was soft, with a mass and localised tenderness in the umbilical area. On admission her haemoglobin was 11.7g/dL, white cell count 16.6×10^9/L, neutrophils 14.8×10^9/L, her renal, liver function, amylase and lactate were within normal limits. An abdominal ultra sound scan was ordered to describe the mass in the umbilical region and according to the sonographer he pointed the echo texture and pattern of the mass was consistent with those of a spleen and he concluded an ectopic spleen. A chest radiograph was normal.

She was resuscitated with intravenous fluids, given analgesia, antiemetics and started on prophylactic antibiotics. She was prepared for urgent laparotomy. An infarcted wandering spleen was found in her mid-abdomen. Her spleen was enlarged to 20cm at its maximum diameter due to venous congestion and resultant infarction. There were no ligamentous attachments to her spleen and the tail of her pancreas was attached to the hilar vessels of her spleen which were on a long mesentery. The infarct was probably due to recurrent torsion and splenic vein thrombosis. Patient was managed on antibiotics, maintenance intravenous fluids and analgesics on first postoperative day. Second postoperative day oral feeding was started, there were no eventualities and the patient was discharged from hospital on the fifth postoperative day.

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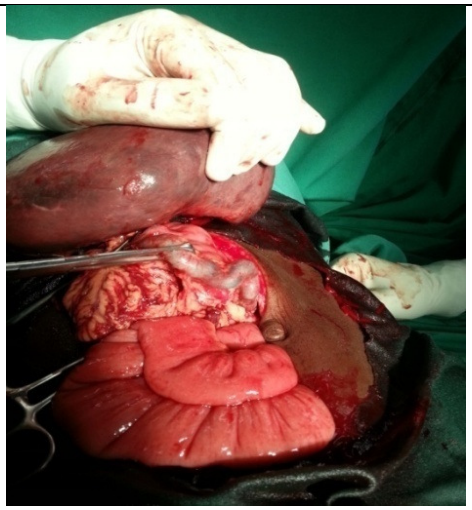

Figure 1. shows a haemostat applied on to the splenic hilum and a babcock applied on the splenic vein with blood clots inside.

Discussion

A literature review by Buehner and Baker[3] showed that patients most commonly presented with: an asymptomatic mass, in the subacute setting with nonspecific gastrointestinal complaints and could also present with an acute abdomen. The use of biochemical blood tests has been found to be nonspecific in terms of helping with diagnosis[3].

Symptoms may remain quiescent over long periods, but complications are related to torsion or compression of abdominal organs [3]. These can include pancreatitis, bowel obstruction, gastric volvulus, gastric and duodenal compression and most commonly splenic infarction[7]. Splenomegaly is usually a result of torsion of the pedicle and splenic sequestration.

A wandering spleen usually presents between the ages of 20 and 40 years, being more common in women. Children make up one-third of cases, with an equal preponderance in boys and girls under 10 years [9,10]. US imaging with duplex scanning can be used as an initial mode of imaging which can show the position of the wandering spleen with concomitant replacement of bowel in the left upper quadrant [7]. CT contrast imaging is the preferred mode of investigation, with the contrast helping to elucidate the viability of the spleen[6, 7]. The most characteristic finding is the absence of the spleen in its normal position and an ectopic mass found somewhere else in the abdomen or pelvis [6]. The whirl sign of the splenic pedicle and surrounding fat is specific for splenic torsion as was the case with our patient [5, 6]. Splenopexy is the treatment of choice if the spleen is not infarcted but a splenectomy proceeding detorsion is necessary if there is any sign of infarction[3, 11-13]. This should be appropriately followed up by the prophylactic vaccines against postsplenectomy sepsis syndrome. Ideally they should be administered before surgery; however, in emergencies this is not always possible.

Conclusions

The wandering spleen is a rare differential diagnosis of an acute abdomen but must be considered if a patient presents with abdominal pain associated with a palpable mass and displacement of bowel loops to the left upper quadrant. The best method of confirming the diagnosis seems to be a CT scan, however, US imaging is an equally helpful modality.

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