Case Report

Wandering Spleen: A Diagnostic Dilemma in a Child

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Abstract

A case-report of wandering spleen in a 7-year old boy with an acute abdomen is presented. The pre-operative diagnostic dilemma and management of this rare condition in our environment is discussed.

Keywords: Wandering Spleen, Torsion, child.

Introduction

Wandering spleen (also termed displaced spleen, drifting spleen, floating spleen or splenic ptosis) is a rare anomaly whereby the spleen is attached by a long, vascular pedicle thus increasing its mobility, making it prone to torsion, ischemia and infarction. The clinical presentation may be asymptomatic abdominal mass (especially in adults), chronic abdominal pain with a mass or an acute abdomen, which is the commonest presentation in children. This makes pre-operative diagnosis based on clinical examination very difficult as the condition is rare and laboratory data are nonspecific[1]. Pre-operative diagnosis can be made using imaging studies such as computed tomography and duplex ultrasonography[2]. A case report of a boy presenting with acute abdomen secondary to a wandering infarcted spleen, with a small tear at the hilum, is presented. The dilemma in the management of this rare condition in our environment is discussed.

Case-report

A 7-year old boy presented with one-day history of sudden spontaneous onset of severe pain in the abdomen. The boy strongly denied a history of preceding trauma, which his parent strongly believed had either occurred through a fall while playing or a kick in the abdomen by his peers. There had been no vomiting or fever. On examination he was found to be in severe pain, had mild pallor and was afebrile (Temp. 37.00C). Pulse rate was 88 per



Fig. 1: Infarction of the spleen due to torsion



Fig. 2: Torsion of pedicle with small tear on the spleen

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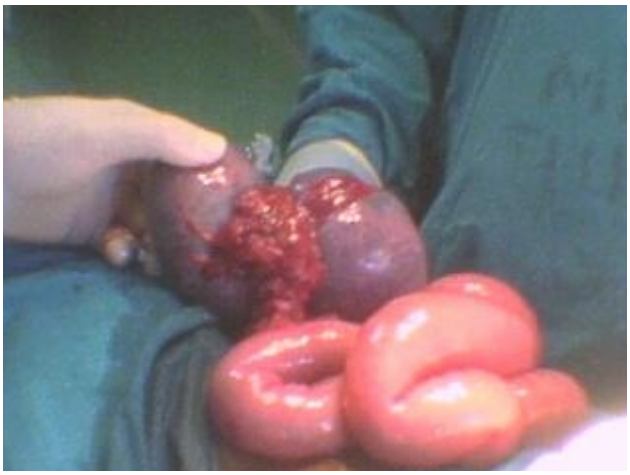


Fig. 3: Severe torsion of the pedicle with spleen infarction

minute, regular. There was generalized mild distension of the abdomen with severe guarding and tenderness. Rectal examination was tender but, no mass could be felt and the gloved finger was stained with normal coloured stools. Abdominal paracentesis was done and this revealed haemoperitoneum. Urine was clear. Emergency abdominal ultrasound scan was inconclusive due to presence of a lot of gas in the bowels. A CT-scan could not be done at our centre. The haemoglobin was 10.7g/dl; sickling test and blood slide for malaria were negative. Examination under general anaesthesia revealed a 16x 10cm, centrally placed, sub umbilical, firm, mobile mass. At laparatomy, there was minimal haemoperitoneum and the mass was an enlarged wandering spleen lying in the subumbilical region and had undergone infarction due to three complete twists on its long pedicle (Figs. 1-3). There was also a small (1x 0.5cm) tear at the hilum. There were also adhesions between the spleen, omentum and the small bowel mesentery. Total splenectomy was effected. Postoperative recovery was uneventful and he was discharged on the ninth postoperative day. Hitherto, he has been followed up for three months without complications.

Discussion

Wandering spleen is a rare condition in children1 and poses diagnostic difficulties. It was first described in 1667 and since then over 400 cases have been recorded worldwide[3]. There has been no case reported in a child in our region (East Africa) in the last 30 years, the only recent report was a case seen in a 23-year old multiparous woman in Kenya in 2002[4]. In the western world, it is seen in adults between 20-40 years of age, especially in child-bearing women who develop the acquired type. This is due to slackening of the abdominal wall and laxity of the splenic ligaments due to hormonal changes during pregnancy[5]. Congenital form is seen in children and account for one third of all cases, 30% of them are younger than 10 years of age[6]. Under the age of 10 years, the male-female ratio is 1:1, but for those older than 10 years, the ratio is 1:73.

The congenital form seen in children has no genetic origin. It is a result of failure of normal development of the dorsal mesogastrium when the lesser sac is formed. The attachments of the dorsal mesentery to the posterior peritoneum and diaphragm are faulty. Suspensory ligaments of the spleen such as the phrenicosplenic, splenorenal, phrenicocolic, pancreaticosplenic, gastrosplenic, splenocolic, and pancreaticocolic ligaments are either attenuated or not fully formed. The absence of some or all of these ligaments determines the length of the vascular pedicle and the consequent displacement of the spleen.

Clinically, the wandering spleen may present as an acute abdomen in children as was seen in this case. Due to abdominal tenderness and guarding, the palpation of the splenic mass was difficult and this was obviated by examination under anaesthesia. In this case, acute torsion of the splenic pedicle resulted in the spontaneous severe abdominal pain and tenderness, secondary to vascular occlusion and ischaemia to the splenic pedicle. Abdominal ultrasonography in a competent hand could determine diagnosis preoperatively. Computed tomography (CT) scan and duplex ultrasonography are reliable diagnostic tools where such investigative procedures are available. Evidence of good blood flow to the spleen on duplex

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scan would determine the choice of surgery, splenopexy or splenectomy[2,7]. Radionuclide imaging and arteriography can also be done to assist evaluation of blood flow to the spleen although this investigation modality is expensive and unsuitable in emergency situations.

Treatment for wandering spleen is operative due to risks of splenic infarction and recurrence[8]. Splenectomy rather than splenopexy was used in this report as in others[9] because the spleen was infarcted. Following splenectomy, prophylaxis against postsplenectomy sepsis as was instituted in this patient, is essential for a good prognosis. As there was splenic trauma, development of splenosis with its complications is a possibility in the long term[10].

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