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Infarcted Wandaring Spleen: A Case Report

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Abstract

Introduction: Spleen is fixed by many ligaments and being wandering and especially presentation with torsion is rare phenomenon. If diagnosed, more common in children than adults. Patients with wandering spleen can present with acute abdomen features.

Case presentation: Here we are going to stress as wandering spleen can present as one of differentials for acute abdomen in the form of infarction.

Twenty-year-old male patient from abrajira (malaria endemic area) presented with dull aching abdominal pain of 2 weeks duration with 2 episodes of non-blood mixed non projectile vomiting of ingested matter and lower abdominal swelling of one year.

Conclusion: Wandering spleen, especially with infarction is rare case in the world and if it happens it is due to laxity or absence of supporting structures.

Keywords: Wandering Spleen; Pedicle; Torsion; Abdominal Pain; Splenic Infarction; US

Introduction

Spleen is derived from mesoderm around fifth week of gestation. It is concealed at the left hypochondrium [1]. It is fixed in place with several ligaments. Wandering spleen, also having many different names such as displaced, ectopic, drifting, floating spleen or splenoptosis is a rare condition [2]. The abnormally fixed spleen can twist on its vascular pedicle, leading to vascular compromisation which ends up with infarction if not treated early [3]. Early preoperative diagnosis is difficult without radiological aids. The usual treatment is fixation of the spleen (splenopexy or splenectomy)

Here is a case of infracted wandering spleen in a 20 years old male that presented with acute abdominal pain. This is the first case in Gondar university hospital, Gondar Ethiopia.

Case Report

This is a 20 years old male patient from abrahajira (malaria endemic area), North Gondar presented with dull aching lower abdominal pain which is intermittent and later become constant of 2 weeks duration and has non mobile abdominal swelling of one-year duration, early satiety and nausea. He has also repeated malaria attack and 8 years back he has yellowish eye color change for which he took herbal medication. He was admitted to medical side for symptoms of anemia and low-grade intermittent fever with 2 episodes of non-projectile non-blood mixed vomiting of ingested matter and for in patient workup. On physical examination, he is acutely sick looking on chronic bases, with deranged V/S (PR-120/minute, T0-38.6 0c); HEENT-slightly icteric sclera; abdomen-mild tenderness all over abdomen but no rebound tenderness, huge midline non mobile tender firm supra pubic mass with no signs of fluid collection. Rest of the systematic examination revealed no apparent abnormality. For which medical side consulted surgical duty team considering secondary peritonitis.

We (surgical side team) after evaluating the patient put preliminary diagnosis of intra-abdominal mass+viral hepatitis+ no full blown peritonitis. On investigation, Hct=28%, WBC=3800(N-68%, L-21%), plt=1.5*10^6, HBsAg=+ve, liver enzymes are slightly elevated, serum protein=2.6 mg/dl, Coagulation profile was not done. Abdominal U/S=spleen hugely enlarged with diffusely decreased echo texture and its position is displaced with splenic vessels dilated with twisting. Other visceral organs were normal and huge spleen+? Wandering type with splenic torsion was diagnosed. Having this preliminary diagnosis, the patient has transferred to surgical side and resuscitation done. NGT inserted, written informed consent taken for possible splenectomy.

Then emergency laparotomy done and finding was, huge spleen which is at the midline more in lower abdomen, extending to rt iliac fossa which has adhesion to anterior abdominal wall, to SB,

colon and omentum. It was grossly infracted and vessels were twisted with splenic vein significantly dilated and have thrombus inside. Splenic artery was cord like. The only ligament which has attachment with spleen was lienorenal ligament but it was long and laxed.

There was around 600 ml hemorrhagic ascites and inferior mesenteric vein was dilated. Then splenectomy done and sent for histopathology (result not available…lost). Aspirin started patient discharged after having medical consultation for portal hypertension but decided to discharge with follow up arrangement on both departments. He was discharged after 7 days with advice to have vaccine (pentavalent) after 2 weeks and about risk of OPSI and what measures to take (**Figures 1 and 2**).

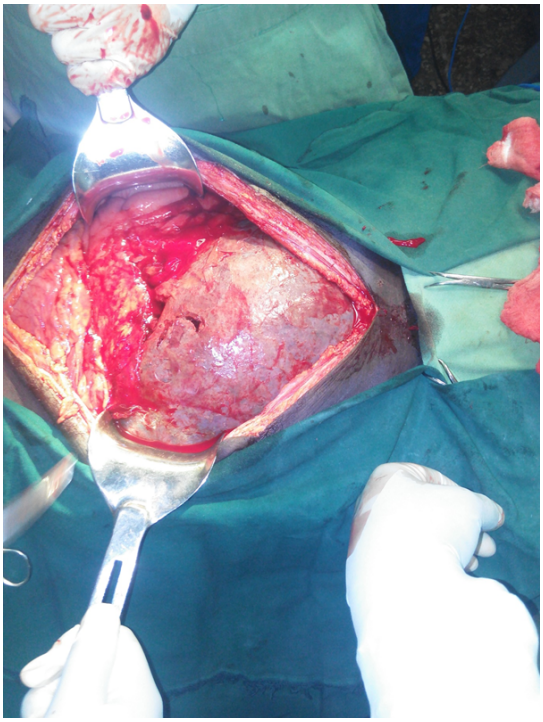

Figure 1 Intra operatively-taken photo

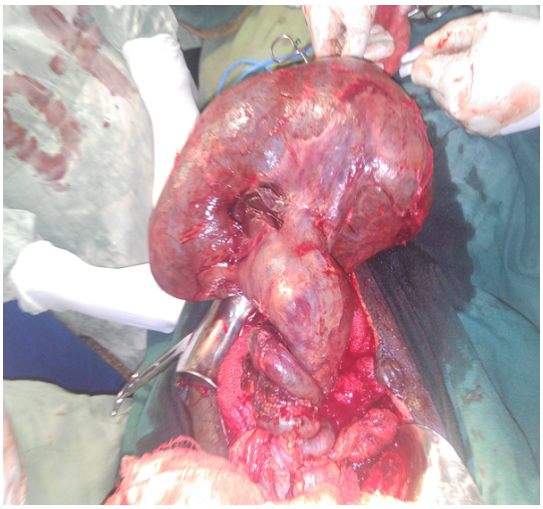

Figure 2 wandering spleen

Discussion

Wandering spleen is a rare entity with no sex predilection. Literatures show only reports of 500 cases in the world and one in Ethiopia [4]. Van Horne, a Dutch physician, is credited in literature with describing this condition in 1667 after performing an autopsy. The first splenectomy was done in 1875 by one of a German obstetrician called Martin for wandering spleen [5]. The incidence is less than 0.5%. In our country there was one case report from ayder hospital, Mekelle, Ethiopia. The most common risk for wandering spleen is failure in the development of dorsal mesogastrium, but acquired factors/commonly associated with hormonal changes or weakness of abdominal wall/may have a role in certain instances. The acquired form mostly occurs in multiparous females as the ligaments which are holding the spleen in its position become lax and such spleens are usually enlarged. The spleen in our patient was palpated as a significantly enlarged, fixed, mildly tender and ectopically located lower midline of abdomen mainly hypogastrium.

Wandering spleen in adults commonly is asymptomatic and radiologic incidental finding is possible while investigating for other GIT problems [5]. Complications related to torsion or compression of abdominal organs by the spleen or the pedicles are reported in literature. The most common presentation in children is an acute surgical abdomen occurring due to infarction from torsion of the splenic pedicle. The triad of a firm ovoid mass with a notched edge, tender movements of the mass except when the mass is moved toward the left upper quadrant and resonance to percussion in the left upper quadrant has been described to point towards the diagnosis of a wandering spleen. Ben Aly A et al have reported one instance of familial wandering spleen where two sisters presenting with acute torsion of a spleen within a 3-year interval [6].

Lab investigations usually are non-specific. But it may reveal elevated inflammatory markers and evidence of hypersplenism or functional asplenia. Splenomegaly is usually a result of torsion of the pedicle and splenic sequestration. Complications of wandering spleen include infarction, gangrene, splenic abscess, variceal hemorrhage, colonic volvulus, gut obstruction and pancreatic necrosis [7-8].

The diagnosis can be confirmed by imaging studies including Duplex USG, nuclear scintigraphy, CT and MRI. Doppler sonographic helps in evaluation of organ blood flow. CT findings of wandering spleen include absence of spleen in the left upper quadrant and a soft tissue mass resembling spleen elsewhere in the abdomen. Radio-isotopic scanning (technetium 99 sulfur colloid scan) allows the assessment of location as well as the functioning of spleen. Arteriography allows definitive evaluation of the splenic vasculature and features of left-sided portal hypertension [5].

If significant torsion of the splenic pedicle occurs, the torted pedicle may mimic bowel intussusceptions in appearance. The most specific sign of splenic torsion is a "whirl-like" (or 'whorled') appearance of splenic vessels and surrounding fat usually noted at the splenic hilum [9].

Definitive treatment for wandering spleen is surgical, since conservative/non-operative treatment has been found to be associated with a complication rate as high as 65% [5]. Splenopexy is the treatment of choice for a non-infarcted wandering-spleen. Splenectomy is ideally reserved for patients presenting with acute abdomen and splenic infarction (like our patient) or thrombosis or with hypersplenism and patients in whom splenopexy is technically infeasible. Subtotal splenectomy and splenic auto-transplantation may be of limited value. Recently laparoscopic procedures have been introduced for splenic surgery and it has shown to offer the benefits of minimally invasive surgery [10-11].

Anti-Pneumococcal, Hemophilus influenza and meningococcal vaccines are indicated before elective splenectomy and shortly after nonselective splenectomy [12]. Significant morbidity and mortality rates seem to be considerably less and are limited primarily to patients presenting initially with acute abdominal findings [4].

Conclusion

Even if wandering spleen is rare phenomenon infracted wandering spleen should be considered as differential for patients who present with acute abdomen and abdominal mass and absent spleen on its position and no history of splenectomy.

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