Wandering spleen: Case report and literature review

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ABSTRACT

The spleen is fixed in the left upper abdominal quadrant by various ligaments. Any ligament laxity or defect will result in a rare condition called "wandering spleen." <500 cases have been reported in the literature. This study presents the case of 22-year-old female who was presented with nonspecific chronic abdominal pain and distention although; she had normal abdominal examination and laboratory investigations. A computed tomography scan showed a homogenous pelvic mass, suggesting a wandering spleen; therefore, a laparoscopic splenectomy was performed. The objective of this study was to report and review a rare condition that requires a high index of suspicion to make a correct diagnosis.

Key words: *Abdominal pain, Displaced spleen, Splenectomy*

The spleen is fixed in the left upper quadrant of the abdomen by various suspensory ligaments. Ligament elongation and/or maldevelopment can cause splenic hypermobility and wandering which is a rare condition [1]. Those females who are of reproductive age, are the most common presenting group in adults [2] This condition has a wide range of clinical presentations ranging from asymptomatic to constant abdominal pain. The symptomatic presentation is caused by torsion to the vascular pedicle leading to ischemia or pressure in the surrounding organs. The wide range of clinical presentation raises a challenge for diagnosis [3], and surgical intervention is the treatment of choice [4]. This study presents a case report of a 22-year-old female who had nonspecific chronic abdominal pain and distention although, she had a normal abdominal examination and laboratory parameters. A computed tomography (CT) scan showed a large homogenous pelvic mass; therefore, the case was further decided to be performed with a laparoscopic splenectomy. Nonspecific chronic abdominal pain should be investigated thoroughly to rule out some rare conditions like wandering spleen.

CASE REPORT

A 22-year-old female was referred to our clinic with a history of abdominal pain and distention for 1 day every 2 months for 2 years. These episodes were mild to moderate in intensity. She went to a local hospital with each presentation and was provided with some relief. However, these episodes became more severe, and she was referred to our hospital. She had no previous surgical history. She had two spontaneous vaginal deliveries without any complications and had two normal, healthy living kids.

On physical examination, she was afebrile (temperature of 37.2°C) with no pallor or jaundice, pulse rate of 72 beats per minute, and blood pressure of 112/74 mmHg. An abdominal examination revealed a normal abdomen with no tenderness, guarding, or any palpable abdominal lumps and her digital rectal examination was normal. Her lab results were within normal limits with hemoglobin 10 gm/dL and white blood cells 9000/mm^3. The platelet count was also normal (300.000/mcL). A CT scan showed a large homogeneous pelvic mass measuring approximately 7 cm × 14 cm × 10 cm with peripheral areas of calcification and scarring, suggesting necrosis (Figs. 1 and 2).

The patient underwent diagnostic laparoscopy; during the operation, no spleen was found in the normal anatomical position. However, a large homogenous mass was found in the lower pelvic cavity. Her bowels were not adhered to the mass, and the mass had a long vascular pedicle. No ligamentous attachments were found while all other organs were normal. The mass was totally resected and was sent for histopathological examination; grossly, the mass weighed 382 g, measuring 13.5 cm × 13 cm × 8.2 cm. The mass had multiseptate (Fig. 3). The pathology report confirmed the diagnosis of a wandering spleen.

Her post-operative course was uneventful, and she was discharged on the 5th post-operative day. She received vaccinations against pneumococcal and meningococcal diseases and *Haemophilus influenza*. She was followed uneventfully in the clinic for 5 months.

DISCUSSION

Wandering spleen is a rare surgical condition wherein, <500 cases have been reported in the literature accounting for about 0.25% of splenectomies [1,5]. This condition is 2.5 times more common in males under the age of 1 year. However, it is 7 times more common in females after age 10. The most common age of presentation is

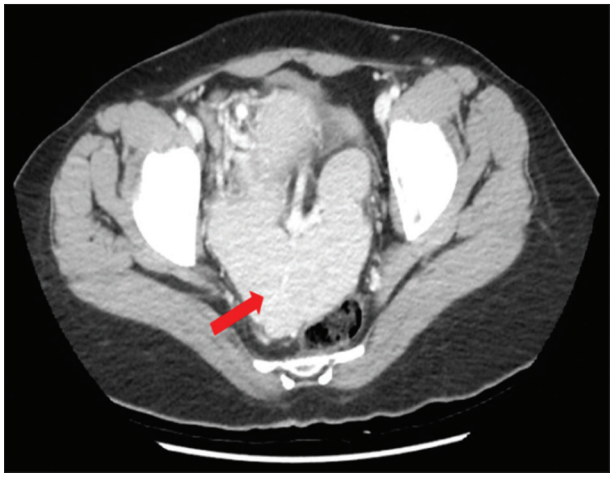

Figure 1: Axial view of the computed tomography scan showing the spleen in the pelvic cavity

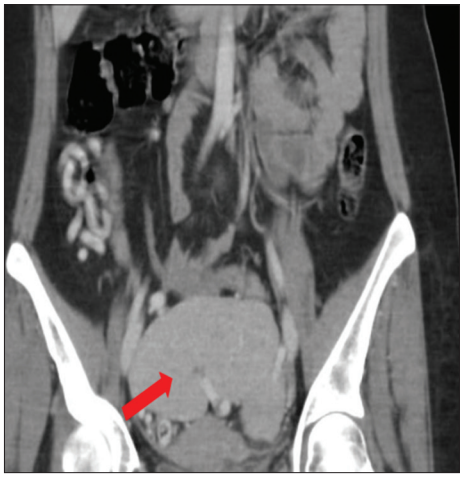

Figure 2: Coronal view of the computed tomography scan showing the spleen in the pelvic cavity

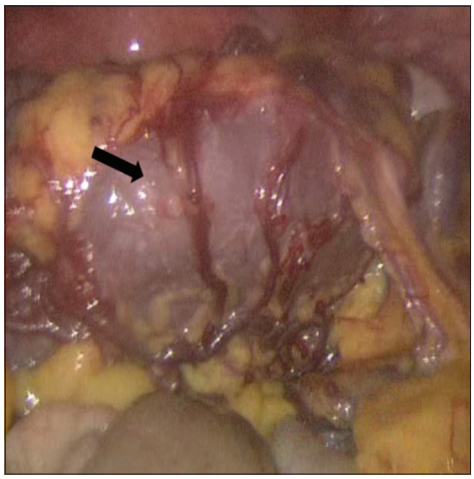

Figure 3: Intraoperative image for the spleen showing clearly the vascular pedicle

childhood, directly followed by the third decade of life. It is more common in females of reproductive age [2].

Anatomically, the spleen is held in the left upper quadrant by five different ligaments. Splenogastric, splenorenal, and splenocolic ligaments are constantly present, while splenoomental and splenophrenic ligaments are variably present. Laxity or congenital absence of those ligaments will cause the spleen to fall in the lower abdomen [6].

Ligamentous laxity can be caused by the effects of estrogen, similar to that in pregnancy and multiparity [3,7]. Furthermore, splenomegaly can contribute to the condition as a result of the effects of gravity. However, maldevelopment of dorsal mesogastrium and the absence or malformation of normal splenic suspensory ligaments is more probable causes [3]. Some congenital anomalies were found to be associated with these conditions such as hypermobile colon and prune belly syndrome [8].

Clinically, this condition has a wide range of presentations from asymptomatic to an abdominal emergency being the condition that the patient may remain asymptomatic for a long time. Up to 50% of the patients never manifest symptoms [9] which can be caused by torsion, congestion, leading to ischemia, infarction, and/or rupture. More often, the patient will complain of nonspecific chronic abdominal pain due to the splenomegaly or pressure effects on adjacent organs [3]. The most common finding on clinical examination is a palpable lower abdominal mass. Usually, lab results are nonspecific, but sometimes they show functional asplenia or hypersplenism [3].

Radiological imaging such as CT, magnetic resonance imaging, or Doppler ultrasound can help in the confirmation of the diagnosis [10]. Doppler ultrasound has the advantage of measuring the spleen blood flow, which will allow clinicians to follow asymptomatic patients [11].

The operative choice, even in asymptomatic patients, is preferred due to the high rate of complications (65%) without removal of the mass [4], while the laparoscopic approach is preferred due to less morbidity [12,13]. Splenopexy has been chosen in correctable torsion, in a viable spleen, is found incidentally at laparotomy. Open or laparoscopic techniques with or without a mesh have been reported in the literature [14] also; splenopexy should be considered in children [15,16]. Splenectomy is the preferred choice in the presence of gangrenous spleen. Moreover, partial splenectomy and splenopexy or splenectomy and splenic implantation have been reported in cases with partial infarction of a wandering spleen [17].

CONCLUSION

The wide range of clinical presentation of this condition raises a challenge for diagnosis. We recommend that a high index of suspicion reach the diagnosis.

REFERENCES

1. Blouhos K, Boulas KA, Salpigktidis I, Barettas N, Hatzigeorgiadis A. Ectopic spleen: An easily identifiable but commonly undiagnosed entity until manifestation of complications. Int J Surg Case Rep 2014;5:451-4.
2. Allen KB, Andrews G. Pediatric wandering spleen-the case for splenopexy: Review of 35 reported cases in the literature. J Pediatr Surg 1989;24:432-5.
3. Buehner M, Baker MS. The wandering spleen. Surg Gynecol Obstet 1992; 175:373-87.
4. Dawson HM, Roberts NG. Management of the wandering spleen. Aust New Z J Surg 1994;64:441-4.

5. Magowska A. Wandering spleen: A medical enigma, its natural history and rationalization. World J Surg 2013;37:545-50.
6. Varga I, Galfiova P, Adamkov M, Danisovic L, Polak S, Kubikova E, *et al.* Congenital anomalies of the spleen from an embryological point of view. Med Sci Monit 2009;15:RA269-76.
7. Gilman RS, Thomas RL. Wandering spleen presenting as acute pancreatitis in pregnancy. Obstet Gynecol 2003;101:1100-2.
8. Satyadas T, Nasir N, Bradpiece HA. Wandering spleen: Case report and literature review. J R Coll Surg Edinb 2002;47:512-4.
9. Padilla D, Ramia JM, Martin J, Pardo R, Cubo T, Hernandez-Calvo J, *et al.* Acute abdomen due to spontaneous torsion of an accessory spleen. Am J Emerg Med 1999;17:429-30.
10. Gayer G, Zissin R, Apter S, Atar E, Portnoy O, Itzchak Y, *et al.* CT findings in congenital anomalies of the spleen. Br J Radiol 2001;74:767-72.
11. Tait N, Young J. The wandering spleen: An ultrasonic diagnosis. J Clin Ultrasound 1985;13:145-6.
12. Kinori I, Rifkin MD. A truly wandering spleen. J Ultrasound Med 1988; 7:101-5.
13. Fiquet-Francois C, Belouadah M, Ludot H, Defauw B, McHeik JN, Bonnet JP, *et al*. Wandering spleen in children: Multicenter retrospective study. J Pediatr Surg 2010;45:1519-24.
14. Fukuzawa H, Urushihara N, Ogura K, Miyazaki E, Matsuoka T, Fukumoto K, *et al.* Laparoscopic splenopexy for wandering spleen: Extraperitoneal pocket splenopexy. Pediatr Surg Int 2006;22:931-4.
15. Haj M, Bickel A, Weiss M, Eitan A. Laparoscopic splenopexy of a wandering spleen. J Laparoendosc Adv Surg Tech 1999;9:357-60.
16. Soleimani M, Mehrabi A, Kashfi A, Fonouni H, Büchler MW, Kraus TW, *et al.* Surgical treatment of patients with wandering spleen: Report of six cases with a review of the literature. Surg Today 2007;37:261-9.
17. Fonseca AZ, Ribeiro JR, Contrucci O. Torsion of a wandering spleen treated with partial splenectomy and splenopexy. J Emerg Med 44:e33-6.

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