

## **Ectopic spleen position in the pelvis**

*Makki K. Allaw, Mustafa K. Hameed & Ayoub M. Zedan  
Dept. of Surgery, College of Medicine, Tikrit University.*

### **Case Report**

A 20 years old female presented to the gynecological clinic with a four weeks history of anorexia, abdominal discomfort and lower abdominal swelling. Abdominal examinations revealed a smooth 11x5cm mass, which appear to be arising from the true pelvis.

Hematological & biochemical testes were normal & an ultrasound scan of the abdomen & pelvis showed a mass (figure 1) with a vascular pedicle in the lower abdomen, suggestive of ectopic spleen & she was referred for surgical opinion. A subsequent CT scan of the abdomen & pelvis was reported as showing a solid pelvic tumor (figure 2). The spleen not visualized in its normal position.



Figure1: Ultrasound scan of the abdomen and pelvis showing a mass with a vascular pedicle in the lower abdomen.

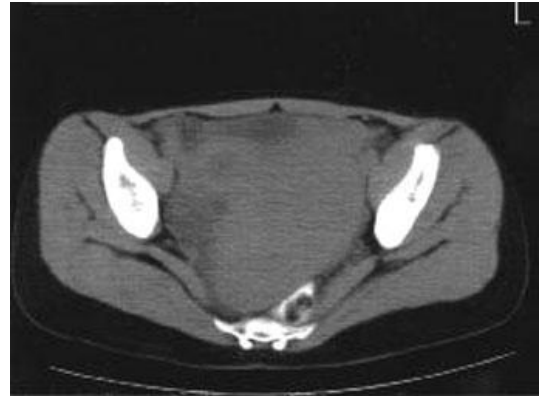


Figure2: Computerised tomography (CT) scan of the abdomen and pelvis showing a solid pelvic mass.

At laprotomy a spleen, measuring 20 x15x10 cm & weight 650 g, was lying in the pelvis and mobilized to the wound. There was a long vascular pedicle no lieno-renal ligament (figure3). The macroscopic appearance of the spleen was ischemic due to twisting of the ectopic spleen. Splenectomy was done (after untwisting of the spleen) by block tying of splenic pedicle, flush with helium of the spleen, and transfixing with silk.



Figure3: The spleen mobilized to the wound  
Histological assessment of the excised spleen showed normal tissue.

## **Discussion:**

The spleen is normally situated in the posterior part of the left upper quadrant of the abdomen. It is fixed in this position by the lieno-renal & the gastro-splenic ligaments, the phrenico-colic ligament provides additional support. These ligaments are embryological condensations that take place in the peritoneum & congenital peritoneal anomalies may result in splenic displacement<sup>1</sup>.

Ectopic spleen is rare. Less than, five hundred cases have been reported in the literature<sup>1</sup>. The splenic pedicle is formed by lieno-renal and gastro-splenic ligaments and contains the splenic artery and vein, and the tail of the pancreas. Embryologically, the splenic anlage is first present in the fifth week of foetal proliferation between the two leaves of the dorsal mesogastrium. The spleen is connected to the dorsal body wall in the region of the left kidney by the lieno-renal ligament and to the stomach by the gastro-splenic ligament. If there is incomplete fusion of the dorsal mesogastrium, the spleen remains on a long pedicle and lie in an ectopic intraabdominal location. An elongated splenic pedicle is almost always found in a case of an ectopic spleen. Malformation or absence of the gastro-splenic and /or lieno-renal ligaments is reported<sup>2,3</sup>.

This absence appears to be due to the incomplete fusion of the dorsal mesogastrium. The elongated pedicle in a case of a wandering spleen can predispose to both acute and chronic torsion, with possible infarction.

Clinical presentation can be acute or chronic. In an extensive review 133 cases in the literature by Buehner and Baker (1998), 76 presented with a mass and non-specific abdominal symptoms, 26 cases were a symptomatic, 25 cases presented with acute abdominal pain, and another six cases had an asymptomatic mass<sup>4</sup>.

Torsion of the spleen, whether acute or chronic, with infarction can lead to the development of an acute abdomen. Malignant involvement of a wandering spleen is rare and we could find only four reports in the English literature; all four cases had malignant lymphomatous disease<sup>1,5-7</sup>.

Wandering spleen is diagnosed relatively more commonly in children than in adult. Dawson & Roberts (1994) found that under the age of 10 years, the sex distribution was even, but for those older than 10 years, females outnumbered males by 7:1.2. Women were found to be affected 13 times more than men in a study of 97 cases<sup>8</sup>.

There have been suggestions that the flaccidity of the abdominal wall may also play a role in the development of wandering spleen and this may explain the higher incidence in women of child bearing age. The clinical diagnosis may be difficult and hematological and biochemical testes may be non-specific. Non-invasive imaging such as ultrasonography, CT scanning, nuclear scintigraphy and magnetic resonance imaging are usually diagnostic.

The recommendations in the literature for the management of a wandering spleen are varied. The significant risk of post-splenectomy sepsis supports a conservative approach especially in asymptomatic patient or those with few symptoms<sup>4</sup>.

In the absence of infarction, thrombosis and hypersplenism, in patients presenting with an acute abdomen, detortion and splenopexy is recognized surgical option<sup>9</sup>. Different techniques for splenopexy have been described in the literature. Recently, splenopexy has been performed laproscopically<sup>9,10</sup>.

Splenopexy is considered to be the optimal treatment for the non-infracted wandering spleen and splenectomy should be done only when there is evidence of splenic ischemia after detortion of the spleen.<sup>11,12</sup>.

In our patient, she was thin and the spleen was clearly palpable above the pelvic brim. There was possibility that even trivial trauma could lead to splenic rupture. Intraoperatively, a long splenic pedicle was found and lienorenal ligament was absent. Along with this, the tail of the pancreas was malpositioned, indicating a congenital maldevelopment. The spleen was enlarged, weighing over 650 gm and was histologically normal. The patient was given the appropriate regimen for prophylaxis against post splenectomy sepsis syndrome.

**References:**

1. Kinori I and Rifkin MD. A truly wandering spleen. *J ultrasound Med* 1988; 7:101-5
- 2- Robinson AP. Wandering spleen: case report and review. *Mt Sinai J Med* 1988; 55:428-34.
- 3-Woodward DA. Tortion of the spleen. *Am. J surg.* 1967; 114:953-5.
- 4-Buehner M and Baker MS. The wandering spleen. *Surg Gynecol Obstet* 1992;175:373-87.
- 5-Waldman I and Suissa L. Lymphosarcoma in an ectopic pelvic spleen. *Clin Nucl Med* 1978; 3:417-9.
- 6-Barloon TJ and LUC. Lymphoma presenting as an abdominal mass involving an ectopic spleen. *Am J Gastroenterol*, 1974; 79:684-6.
- 7-Dautenhahn LW, Rona G, Saperstein ML, Williams CD and Vermess M. Lymphoma in a pelvic spleen: CT features. *J Comput Assist Tomogr* 1989;13:1081-2
- 8-Abell I. Wandering spleen with torsion of the pedicle. *Ann Surg*, 1933;98:722-35
- 9-Hirose R, Kitona S, Bando T, Ueda Y, Sato K, Yoshida T, Suenobu S, Kawano T, Izami T. Laproscopic splenectomy for paediatric wandering spleen. *J paediatr Surg*, 1988;33:1571-3.
- 10-Cohen Ms, Soper NJ, Underwood RA, Quasebarth M, Brunt LM. Laproscopic splenectomy for wandering spleen. *Surg Laproscopic Endosc*, 1998;8:286-90.
- 11-Steel RD. A torqued pelvic spleen. *Aust NZJ Surg*, 1988;58:157-159.
- 12- Rodkey ML, Maknin ML. Paediatric wandering spleen: Case report and review of the literature. *Clin pediatric (phila)* 1992; 31:289-94.