The 'true' splenic wanderer

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R Kanthan, JM Radhi. The 'true' splenic wanderer. *Can J Gastroenterol* 1999;13(2):169-171. Wandering spleen is an unusual entity and remains an elusive clinical diagnosis. Among the modern imaging modalities including computed tomography, magnetic resonance imaging, nuclear scans and ultrasonography, the latter appears to be the least invasive and the most effective in reaching a definitive diagnosis. A patient with 'true' wandering spleen who presented with chronic, intermittent abdominal pain, weight loss and a right lower quadrant mass that was interpreted as a pelvic lymphoma or a primary pelvic malignancy on computed abdominal tomography (CAT) scan is presented. Abdominal ultrasonography conducted a few weeks before the CAT scan showed a normal splenic shadow in the left upper abdomen.

Key Words: *Abdominal mass, Wandering spleen*

La splénectomie « vraie »

RÉSUMÉ : La splénectomie est un problème peu fréquent dont le diagnostic clinique est équivoque. Parmi les nouvelles techniques d'imagerie, y compris la tomodensitométrie, l'imagerie par résonance magnétique, les tests par balayage nucléaire et l'échographie, cette dernière semble la moins vulnérante et la plus efficace pour l'obtention d'un diagnostic définitif. On présente ici le cas d'un patient atteint de splénectomie « vraie », qui se plaignait de douleurs abdominales intermittentes chroniques, de perte de poids et d'une masse au quadrant inférieur droit, qui avait été interprétée comme un lymphome pelvien ou une néoplasie pelvienne primaire à la tomodensitométrie abdominale. L'échographie abdominale effectuée quelques semaines avant les tomodensitométrie révélait une opacité splénique normale au quadrant supérieur gauche de l'abdomen.

Wandering spleen is a rare clinical diagnosis. Despite advances in medical imaging techniques, this diagnosis may be missed in a 'true' splenic wanderer due to the presence of the spleen in the normal site at some points of clinical presentation and subsequent wandering to its new 'temporary' home. The case presented illustrates this phenomenon and highlights the protean manifestations of a 'true splenic wanderer'.

CASE PRESENTATION

A 21-year-old woman was admitted in July 1996 with undiagnosed abdominal pain. Her main symptom was intermittent, sharp, right lower quadrant pains that had been present for the past two months. When her symptoms first began, she was admitted to hospital and an ultrasound showed a fluid collection in the right lower quadrant consistent with a ruptured ovarian cyst. The left upper quadrant showed a normal splenic shadow in the left upper abdomen (Figure 1). Her pain subsided, and she was discharged. She was re-admitted with increasing abdominal pain on three further occasions

and discharged pain-free. Her most recent admission was following a three-week history of increasing pain in the right lower quadrant and weight loss of 9.1 kg, and abdominal and rectal examination revealed a definite mass palpable in the right lower quadrant. An urgent computed tomography (CT) scan showed a large solid mass in the right lower quadrant that extended into the pelvis and along the aorta (Figures 2,3). Contrast-enhanced CT was not done. The findings were interpreted as consistent with either a lymphoma or a primary pelvic malignancy. Her pain gradually worsened, and she developed symptoms of large bowel obstruction. These symptoms were felt to be a result of extrinsic compression on the bowel. She underwent an urgent explorative laparotomy. At laparotomy, the 'pelvic mass' was discovered to be her spleen, which was in the right lower quadrant on a long vascular pedicle (Figure 4). A splenectomy was conducted with no complications. The spleen weighed 743.6 g and on histological examination showed an expansion of

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Figure 1) Abdominal ultrasonogram showing normal splenic monographic architecture in the left upper quadrant

Figure 2) Computed tomography scan of the lower abdomen showing the pelvic mass (M)

the red pulp with marked congestion consistent with congestive splenomegaly.

DISCUSSION

Wandering spleen is a rare condition that is characterized by excessive mobility and displacement of the spleen on an elongated vascular pedicle from its normal position in the left hypochondrium. This condition is distinguished from 'accessory spleen' or 'splenosis', wherein the normal spleen is undisturbed with additional splenic tissue found elsewhere in the abdomen, and from 'ectopic spleen', wherein there is anomalous splenic development as in the scrotum or pelvic retroperitoneum.

The etiology of this condition is not completely understood. Congenital and acquired factors have been implicated in the acquisition of splenic mobility. Congenital factors include anomalies of the supporting splenic ligaments – gastrosplenic, splenorenal, splenophrenic, splenocolic, pancreaticosplenic, pancreaticocolic, phrenocolic

Figure 3) Computed tomography scan showing extension along the aorta identified as the vascular pedicle at surgery (arrow)

Figure 4) The congested spleen with a long vascular pedicle as seen during surgery

and presplenic fold; defects of the dorsal mesogastrium; associated left diaphragmatic hernia; and anomalies of the left kidney.

Acquired causes include generalized visceroptosis, increased parity and splenomegaly (1,2). The latter condition, though a causative factor, could be a result of the splenic displacement leading to splenic congestion and progressive enlargement.

Spleens found in unusual locations have been recognized since the days of Hippocrates; a description of a wandering spleen at autopsy was first noted in 1667 (1). Since then there have been sporadic case reports and reviews of the condition. Nevertheless, diagnosis remains a challenge. The classical clinical triad of palpation of a hard ovoid abdominal mass with a crenate border, special mobility of the mass (that is painless towards the left hypochondrium but painful and limited in other directions) and resonance to percussion in the left upper quadrant is not present in all cases (3). Wandering spleens can occur in children and adults. Among adults, the condition is more common in females of reproductive age. Presentation can be protean, and wandering spleens can be asymptomatic

and discovered incidentally. Patients may present with an undiagnosed abdominal mass or with an acute abdomen due to torsion of the vascular pedicle with resultant infarction or thrombosis of the spleen. As in the case described here, patients with wandering spleens present with varying degrees of intermittent abdominal pain (with or without gastrointestinal symptoms) due to chronic intermittent torsion of the vascular pedicle. Uncommon presentations include gastrointestinal bleeding due to varices, pancreatitis, frequency of micturition, dysuria, urinary retention, hematuria and abnormal uterine bleeding.

A variety of radiographic findings have been described and compiled (4). Ultrasonography often demonstrates a solid mass with echo characteristics suggestive of a displaced and sometimes mobile spleen in the abdomen or pelvic area with a concomitant absent spleen in the left hypochondrium. Therefore, ultrasonography is not useful in the 'truly mobile spleen' as in our case, wherein the spleen was in its normal location at the time of the ultrasound examination. Whorled appearance of the vascular pedicle at the medial side of the displaced spleen on a computed tomograph is characteristic of this entity. This was seen in our case (Figures 3,4) but was erroneously interpreted as lymphadenopathy in view of the normal ultrasonogram done previously. Localization by nuclear imag-

ing with splenic scans is helpful in cases with viable splenic tissue.

Angiography has been described to be the most definitive diagnostic imaging modality (4); however, it is not popular because it is invasive.

CONCLUSIONS

We have presented the case of a patient with 'true' wandering spleen that clinically presented with symptoms of chronic intermittent abdominal pain and an abdominal mass. Accurate diagnosis requires a high index of clinical suspicion. We recommend combined simultaneous imaging by ultrasound and CT scan to diagnose the 'true' splenic wanderer.

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