Case report

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Wandering spleen in a child with symptoms of acute abdomen: ultrasonographic diagnosis. Case report.

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Abstract

We report the initial and follow-up ultrasonography (US) findings in a pediatric case of wandering spleen with symptoms of acute abdomen, as a rare entity. A four-year-old boy was referred with complaints of blunt abdominal pain, vomiting and fatigue. US detected an oval-shaped, mildly enlarged spleen with inferomedial displacement. In right lateral decubitus, the spleen showed further medial displacement. Five months later, control US revealed further enlargement of the displaced spleen. Seven months later, due to acute torsion of the spleen, splenectomy was performed.

Keywords: Wandering spleen, child, ultrasonography

Introduction

Wandering spleen, also referred to as aberrant, floating, ptotic, displaced or prolapsed spleen, is characterized by excessive mobility of the spleen, which presents an elongated pedicle and is displaced from its usual position in the LUQ (LUQ). Embryologically absent or malformed gastrosplenic, splenorenal ligaments and lax abdominal musculature during pregnancy are causes of this pathology. It can be diagnosed at any age, but it has higher frequency in women of childbearing age [1]. Wandering spleen is a rare cause of abdominal pain in childhood and pediatric cases are less frequent than adult cases. We report the ultrasonography (US) findings in a pediatric case of wandering spleen referred for symptoms of acute abdomen.

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Case report

A four-year-old boy was referred with complaints of dull abdominal pain, vomiting, fatigue and failure to thrive. Physical examination revealed a left paramedian mobile abdominal mass on palpation. Laboratory findings were nonspecific. Abdominal US examinations were performed using 3–3.5 MHz convex and 7.5–8 MHz linear probes, in supine and right lateral decubitus positions. The spleen, absent from the LUQ, was found in a more inferomedial location in the abdomen. It measured 80x39 mm, consistent with mild enlargement. The spleen was oval-shaped with homogenous, normal echotexture. In the right lateral decubitus position, the spleen showed further displacement, shifting 35 mm from the midline to the right side (fig 1). After consideration of all the data, a decision of follow-up was made. On control US, which was performed five months later, the size of the spleen was 95.3x38.5 mm, demonstrating further enlargement compared to the previous measurement but still with normal echotexture. This time, in the right lateral decubitus position, the spleen showed 28 mm shift from midline to the right side (fig 2). On this second US, minimal free fluid at the inferior pole of the spleen and cholecystolithiasis

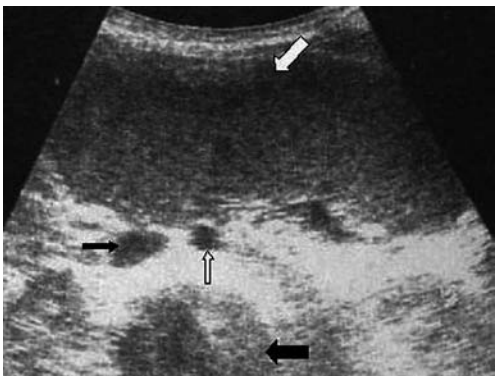


Fig 1. Axial US view with 3.5 MHz convex probe in right lateral decubitus position. On this first examination, the spleen showed 35 mm displacement from the midline to the right side (thick white arrow: Spleen, thin black arrow: Inferior vena cava, thin white arrow: Abdominal aorta, thick black arrow: Vertebra).

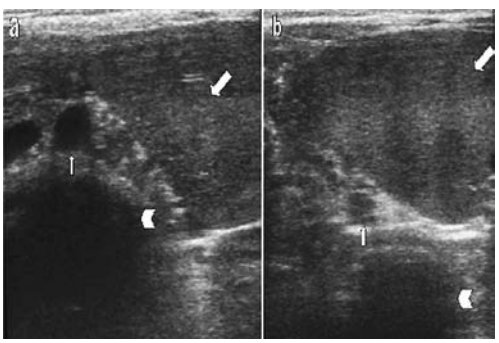


Fig 2. Control US examination five months after the first examination. Axial view with 7.5 MHz linear probe. In supine position, the inferomedially displaced spleen does not cross the midline (a). In right lateral decubitus position, the spleen shows 28 mm shift from the midline to the right side (b). Thick white arrow: spleen, thin white arrow: abdominal aorta, white arrowhead: vertebra).

with minimal gall bladder wall thickening were also detected. Computed tomography (CT) was performed and it was consistent with US findings. The patient was hospitalized but since the clinical status was good, no emergency surgery was performed. During the two months' period of control after being discharged from the hospital, the patient complained only of mild abdominal pain. Seven months later, due to the sudden onset of the symptoms, emergency splenectomy was performed. Acute torsion of the spleen was confirmed by surgery.

Discussion

In wandering spleen, the suspending ligaments of the spleen may be absent or may elongate due to congenital or acquired causes. This leads to migration of the spleen from its normal location in the LUQ. Consequently the organ becomes susceptible to torsion and possible infarction [2]. Wandering spleen may present as a mobile abdominal or pelvic mass, asymptomatic or associated with subacute/acute abdominal symtoms. In symptomatic patients, major symptoms are chronic vague lower abdominal or back pain, nausea, vomiting and flatulance. If splenic infarction as a complication of splenic torsion occurs, acute abdomen develops. Torsion with prolonged venous occlusion can cause perisplenitis, localized peritonitis, adhesions, venous thrombosis, and hypersplenism. Torsion with arterial occlusion may result in hemorrhagic infarction, subcapsular and intrasplenic hemorrhage, gangrene, degenerative cysts, and functional asplenism [1,2].

In addition to anamnesis and physical examination, imaging methods and sometimes scintigraphy are required to make an accurate diagnosis of wandering spleen and to investigate its complications. On plain films, absence of the splenic silhoutte in the LUQ with intraabdominal soft tissue density may be detected. Barium enema may demonstrate medial and anterior displacement of the splenic flexure or a bandlike colonic impression caused by pressure from the splenic pedicle [2]. On US, CT or magnetic resonance imaging (MRI), absence of the spleen in the LUQ with an ectopic localization leads to the diagnosis of wandering spleen, as in our case. Wallace et al reported that, in an asymptomatic woman, US and nuclear medicine were useful to make a definitive diagnosis of wandering spleen [3]. In cases of acute torsion, accurate and prompt diagnosis is crucial. Diagnosis of acute torsion of a wandering spleen by CT, colour Doppler US and ^{99m}Tc-sulfur colloid scans has been reported [4]. MRI has also proved to be useful [5].

Follow-up is recommended in asymptomatic cases of wandering spleen [1]. Splenopexy can be performed for the fixation of spleen if necessary; in cases of acute torsion, with infarction and necrosis, treatment by splenectomy has been reported [4−7].

US was a safe (free of ionizing radiation), rapid, efficient, relatively low-cost imaging modality in the diagnosis of this initially uncomplicated pediatric case of wandering spleen; Other imaging modalities may be necessary to exclude acute torsion, in cases presenting with severe clinical symptoms and signs.

Conflict of interest disclosure: the authors declared no conflicts of interest.

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