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Wandering Spleen - A Case Report

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Abstract

Wandering spleen or hypermobile spleen is a rare clinical finding which is the result of elongation of spleen's suspensory ligaments. It is mainly found in children. It can be congenital or acquired. But this condition is not hereditary. The long pedicle poses a site for torsion which may lead to interruption in blood supply to the point of severe damage causing infarction. Acquired wandering spleen mainly occurs in adults due to any accident or injury, connective tissue disorders, or laxity of ligaments such as in pregnancy. Because there is little to hold it in place, the spleen 'wanders' in the lower abdomen where it may be confused for an abdominal mass.

We present to you the case of a 9-year-old male who presented with pain abdomen due to trivial trauma. The diagnosis was made using a CECT scan and managed with splenectomy.

Introduction

The spleen is typically located in the left upper quadrant of the abdomen. Its normal fixation to the abdominal wall is achieved by various suspensory ligaments. Wandering spleen is a rare clinical entity, the exact cause of which is not known. Researchers suspect that multiple factors play a role in the development of the disorder (multifactorial).

Infants may be born with a wandering spleen that may be the result of a defect in a certain area of the developing embryo (mesogastrium dorsum). This is the area of the embryo that gives rise to the ligaments that normally hold the spleen in the upper left abdomen. Affected children may be missing one or all these ligaments, or, if present, the ligaments are not positioned properly. Fewer than 500 cases of wandering spleen have been reported in the medical literature. The incidence of wandering spleen is unknown and because the condition may be underdiagnosed, is difficult to determine.

It can present as asymptomatic, a bulging mass in the abdomen, pain abdomen due to torsion, with features of obstruction such as vomiting or constipation, nausea, bloating, and/or menstrual problems in women.

Case description

A nine-year old boy presented with pain abdomen for five days after trivial trauma.

On greyscale ultrasound, it showed an enlarged and low-down spleen. A CT scan with contrast of the abdomen was further ordered. The contrast includes both oral and intravenous contrast. On CECT (Contrast-Enhanced Computed Tomography) the spleen showed no enhancement and was found as enlarged, lying lower than its normal position with hilum pointing laterally. Splenic torsion with infarction was missed on ultrasound as no Doppler study was done. Doppler US, if done in this case, could have demonstrated the vascular flow to the spleen

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and helped diagnose splenic torsion or infarction but due to an overload of patients, the Doppler study was not ordered and instead CECT scan was done which remains the gold standard to check the viability of spleen.

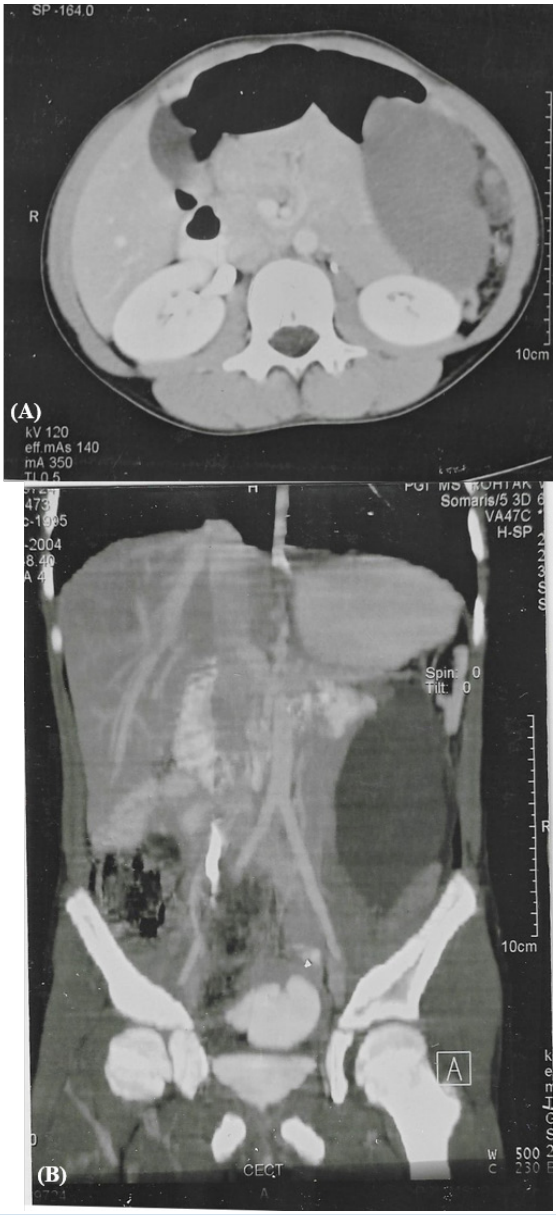

Figure 1: (A) CT showing enlarged nonenhancing spleen suggestive of infarct (Grade V injury) due to torsion- confirmed on surgery.
(B) MPR Coronal section of same patient.

The patient was managed surgically, and splenectomy was done as this is the only definitive treatment. The conservative management is avoided in this case because it accompanies many complications like gangrene of spleen, splenic abscess formation, acute pancreatitis, and necrosis.

Role of radiology

Diagnosing wandering spleen is challenging and the decision to choose the ideal imaging modality is often debatable. Conventional radiography may often miss the finding and hence is of limited use. Although it may aid in moving towards the diagnosis of acute abdomen if presenting symptoms are of obstruction. A CT scan can be a very useful tool to diagnose wandering spleen and any other abnormality associated with it, if present. Another advantage comes with the use of contrast with CT that can even detect infarcted spleen occurring due to torsion. However, due to the high radiation exposure and the test being expensive, it cannot be casually ordered as a choice of investigation. More non-invasive, affordable and radiation-free investigations like greyscale ultrasound can be used as first-line to detect the position and size of spleen. Greyscale sonography clubbed with Doppler can be valuable in diagnosing a wandering spleen and determine its viability by evaluating the blood flow to spleen parenchyma.

Discussion

Wandering spleen is a rare condition where spleen becomes hypermobile and is often found in an ectopic location anywhere in abdomen or pelvis. The incidence of this entity is very low and can be congenital or acquired. More commonly found in children, the presentation of this can vary from being asymptomatic to showing signs and symptoms of obstruction. This is the reason why diagnosing wandering spleen is very difficult. Some patients are asymptomatic, and it can be detected incidentally when an imaging is ordered for some other ailment. It may also present as mild intermittent abdominal pain due to spontaneous torsion and detorsion of the long splenic pedicle. Patients may also present with nausea, vomiting, fever, leukocytosis and a palpable mass in abdomen or pelvis.

If the case is an incidental finding with no torsion, splenopexy can be performed to avoid further complications. If it presents with torsion and infarction the general treatment remains splenectomy till date. If left untreated it can lead to gangrene, abscess formation, acute pancreatitis, and necrosis.

Due to so many complications accompanying wandering spleen, its diagnosis becomes important. Nonetheless, it is tough and remains challenging to many radiologists all over the world. The vague presentation often poses a difficulty to the clinician to follow a proper protocol in determining the diagnosis. Laboratory tests often do not reveal any definitive findings. Though the imaging modalities can be very helpful in diagnosing the dislocated spleen, the challenge remains if the spleen notoriously moves back to its normal position before any scan, resulting in a normal study. Despite that, the role of radiology is vital in this condition and can save patients from morbidity and mortality. The quickest, non-invasive, and radiation-free greyscale US and Doppler sonography are reliable imaging modalities. Without a Doppler scan one cannot confirm the presence of infarction as greyscale ultrasound will only determine the location of spleen. CECT scan can also be done to look for infarcted spleen. A CT scan can also give a better look of other organs in the abdomen if there's any associated condition. But it is expensive and exposes patients to ionizing radiations and can also predispose a patient to allergic reactions from contrast dyes.

Conclusion

A case of wandering spleen is presented of a boy who comes with complain of pain abdomen for which correlative imaging is done which is greyscale US and CECT and hence the diagnosis is confirmed on CECT scan. It is a rare diagnosis. The patient was managed surgically, and spleen was removed.

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