



## A RARE CASE OF TORSION OF WANDERING SPLEEN IN A YOUNG FEMALE PATIENT

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**ABSTRACT** wandering spleen is a rare condition and defined as the spleen that is not in its anatomical position due to lack or laxity of suspensory ligaments , etiological factors are congenital and acquired, A 17 yr old girl presented to ER with severe pain abdomen for 2 days and non bilious vomtings 8 episodes , on examination tenderness in left hypochondrium and large palpable mass is noted in mid of abdomen, ultra sound shows enlarged spleen, Contrast Enhanced CT abdomen iv contrast confirmed it as torsion of wandering spleen and lead to splenic infarction . Emergency exploration is done and spleenectomy done due to non viability of spleen with splenic infarction . A wandering spleen can lead to twisting of splenic vessels causing torsion of spleen , the objective of this study is to report and review a rare condition that requires a high index of suspicion to make correct diagnosis

### KEYWORDS :

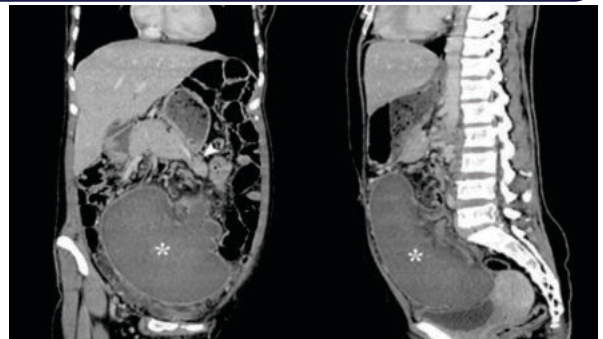
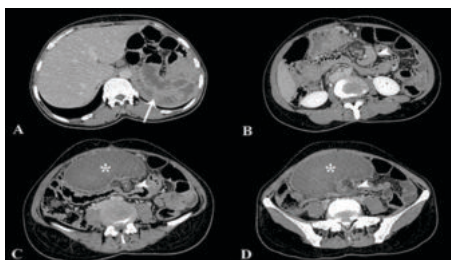
#### INTRODUCTION

A uncommon clinical condition known as wandering spleen occurs when the spleen is discovered improperly somewhere else rather than in the left hypochondrium, where it should be located. The condition can either be congenital and acquired and has no genetic basis. The spleen is held stationary in the left hypochondrium by one or more splenic ligaments, which are absent, malformed, or hyperlax. It can show up clinically in a variety of ways, from being asymptomatic to having an acute abdomen that requires prompt surgical surgery. In patients who are asymptomatic, the diagnosis could come by accident. Complications such splenic torsion, which can cause splenomegaly, infarction, splenic rupture, hemoperitoneum, and peritonitis, may be diagnosed in symptomatic instances.

#### CASE PRESENTATION

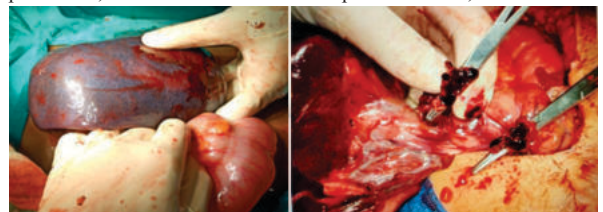
A 17 yr old girl presented to ER with severe pain abdomen for 2 days and non bilious vomtings 8 episodes , on examination tenderness in left hypochondrium and large palpable mass is noted in mid of abdomen, The pain was relieving with analgesics but exaggerated with physical activity, The vital signs were BP 110/70 mmHg, RR 22/m, PR 70 b/m, Temp 37.5 °C, and SpO<sub>2</sub> 97%. On physical examination, the abdomen was mildly distended , A movable, palpable lump with a smooth surface that extended into the pelvis and was uncomfortable to move was seen. Peritonitis-related symptoms were not seen.

**INVESTIGATIONS:** TLC 11,000/mm<sup>3</sup> (normal: 4000-11,000), neutrophil 83% (normal: 40-75), Hb 12.8 g/dl (normal: 11.5-16.5), INR 1.18, and blood group A+ were the results of the blood investigation. An abdominal CT scan with and without contrast was recommended since the results of the ultrasound were not diagnostically significant. The results revealed an empty splenic fossa and a mildly enlarged ectopic spleen measuring 15.5 cm in length that was present in the right lower abdomen and that extended into the pelvis resting on the bladder fundus. After the IV contrast, the spleen did not appear to be enhanced. It was noted that the spleen's colourful capsule indicated collateral flow (rim sign). Additionally observed was regional ileus of the small and large bowel, as depicted . on the axial section, a whirl sign indicating torsion of the spleen's pedicle was visible.



\* = spleen

laparotomy was performed, and mildly enlarged congested and ischemic spleen with twisted pedicle was found, as shown , After detorsion of the spleen and waiting for some time, no colour change was observed. The spleen was not viable, and a spleenectomy was performed, which showed thrombosed splenic vessels, as shown



Intra operative images of Torsion of wandering spleen with splenic congestion , thrombosis of splenic vessels and splenic infarction.

#### DISCUSSION

wandering spleen, also known as floating spleen, ectopic spleen, ptotic spleen, or spleenoptosis, can occur anywhere in the abdominal or

pelvic cavity and is only connected to the surrounding organs by its vascular pedicle. It can get complicated because of the lengthy pedicle's propensity for twisting. According to the literature, torsion can be anywhere between 90° and 2160°. The dorsal mesogastrium's developmental abnormalities, which do not fuse with the posterior peritoneum during the fifth and sixth weeks of foetal development, are the congenital reasons, and they result in the lack of one or more suspensory splenic ligaments or their incorrect development (gastrosplenic, phrenocolic, and spleenorenal). Connective tissue problems, multiparity, hormonal changes, splenomegaly, trauma, and abdominal wall weakening are acquired causes resulting from the laxity of these ligaments. Children make one-third of all the cases of wandering spleen, and under the age of ten, there is no gender difference in terms of occurrence, but in adults, it is more common in women than men.

The presentation is quite general. Asymptomatic instances may go undiagnosed or only receive an inadvertent diagnosis. Clinical signs and symptoms reported in the literature, such as acute, intermittent, or chronic pain due to the splenic pedicle's torsion and detorsion, vomiting, abdominal distention, constipation, a palpable, movable mass in the abdomen or pelvis, similar to the one in our case, or other signs and symptoms of an acute abdomen, may be present in symptomatic patients. The symptoms may vary depending on the type of issue the patient has. For instance, a patient who has an intestinal blockage caused by a wandering spleen may have discomfort, abdominal distention, vomiting, and constipation. The patient may experience splenic rupture or infarction if the pedicle is torn when it first manifests.

All of the symptoms and indicators that our patient displayed were consistent with what was written in the literature. When we were looking into the origin of stomach pain and discovered the palpable, movable mass with a smooth surface during a physical examination, it was thought to be the only possible explanation. The first thing that stood out was the torsion of an ovarian cyst, taking into account her age and gender. However, after an ultrasound revealed a complicated mass in the right lower abdomen and an x-ray revealed no splenic shadow from the splenic fossa, it was more likely that the patient had a wandering spleen, which was finally identified on a CT scan and verified during surgery. The splenic pedicle's twisting, which caused splenic ischemia, was the source of the acute pain.

A thorough physical examination, ultrasonography, a CT or MRI scan, scintigraphy, angiography, and other tests can all be used to make the diagnosis. A wandering spleen is suggested by the absence of the spleen from its typical anatomical place and the appearance of a soft tissue mass with a splenic shape in the pelvis or abdomen on a CT scan. Additionally, a "whirl sign" on an iv contrast-enhanced CT scan of a patient who had an acute abdomen is very predictive of a wandering spleen's pedicle being torn, which was also the situation in our instance. Because it is an uncommon entity, a radiologist who does not take it into account or give it significant attention may misdiagnose it. The expertise of surgeons is also important.

Surgery is the best option for a wandering spleen. The complication rate for conservative therapy of asymptomatic wandering spleen is 65%. Depending on the state of the wandering spleen, surgeons have the choice between splenopexy and splenectomy. Martin BA carried out the first known splenectomy in 1877 [16], and Ludwick Rydygier carried out the first splenopexy in 1895 to secure the spleen's roaming to the peritoneum. Bardenheuer's approach, where the spleen sits in the retroperitoneal pouch with the body hanging from the tenth rib and the pedicle attached to the peritoneal incision, is the best and simplest method for doing a splenopexy. Laparoscopic splenopexy, when the wandering spleen is of normal size, has become the new gold standard in laparoscopic abdominal procedures. Splenectomy is the recommended course of treatment when the spleen is enlarged, infarcted, ruptured, or exhibiting indications of hypersplenism. This procedure can be performed laparoscopically or by laparotomy.

## CONCLUSION

The clinical phenomenon known as wandering spleen is relatively uncommon and can exhibit a variety of signs and symptoms. Surgeons and emergency department doctors should be aware of this condition, especially if the patient has an acute abdomen. The most likely diagnosis of a wandering spleen is the absence of the spleen from its typical anatomical place and the presence of a soft tissue mass with a splenic shape somewhere else in the abdomen or pelvis. The most

likely diagnostic for pedicle torsion of the ectopic spleen in patients presenting with acute abdomen is the whirl sign and partial or no elevation of the splenic shape mass on contrast-enhanced CT imaging. Spleen preservation and preventing potentially fatal consequences depend on early identification and treatment. The preferred course of treatment is splenopexy or splenectomy surgery.

Children make one-third of all the cases of wandering spleen, and under the age of ten, there is no gender difference in terms of occurrence, but in adults, it is more common in women than men. Abell Irvin, in 1933, by analysis of 93 wandering spleen cases with pedicle torsion, concluded that 88 cases occurred in women, most of them were of childbearing age, ranging from 21 to 40 years, and the mortality rate was 17.6% in patients with splenectomy. The higher incidence in women of childbearing age is associated with hormonal changes, multiple pregnancies, and abdominal wall weakness. It is a rare entity with a reported incidence rate of less than 0.2% and accounts for 0.002% (two per thousand) splenectomies. Till now, less than 600 cases of wandering spleen have been reported in literature ranging from 3 months to 82 years.

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