Wandering Spleen with Venous Aneurysm as the Cause of Recurrent Abdominal Pain and Thrombocytopenia

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Introduction
Wandering spleen is an extremely rare condition with a reported incidence of <0.2% of splenectomies and is characterized by excessive motility and displacement of the spleen from its normal site.1 Because of excessive motility and absence of normal fixation, complications are common. Thrombocytopenia and venous aneurysm are very rare.1,2 Diagnosis is made by abdominal ultrasonography and computed tomography (CT) scan.1,3 We report a case of wandering spleen who presented with abdominal pain and thrombocytopenia.

Case Report
The patient was a 36-years-old man who referred to the Emergency Department due to abdominal pain. He had gradually increasing pain for ten days without nausea and vomiting and with normal bowel function. His pain was mild and recurrent in the past year and he was treated as an outpatient.

There were no pathologic findings in the head, neck and chest examination. In the abdomen, a mobile mass was detected in the left side of the umbilicus without tenderness. His laboratory examinations were normal except for thrombocytopenia with a platelet count of 40000/μL. Ultrasonography of the abdomen revealed that spleen was not in its usual site and was located in mid-abdomen with a 4 cm aneurysm in the splenic vein. He underwent abdominal CT scan with intravenous contrast which showed soft tissue in mid abdomen (Fig 1).

He underwent laparotomy with the diagnosis of wandering spleen and aneurysm of splenic vein and hypersplenism after injection of pneumovax. Operative finding was a large spleen with a long twisted pedicle and a 4-5 cm aneurysm in the splenic vein and sequel of previous infarctions in the spleen (Fig 2). Splenectomy was carried out due to infarced regions in the spleen, aneurysm of the vein and cytopenia. Post-operative period was eventless and the patient was discharged on 4th post-operative day with platelet count of 164000/μL. Four months after operation, he had no problem.

Discussion
Wandering spleen is an extremely rare condition that is characterized by excessive mobility and displacement of the spleen from its normal position due to congenital or acquired absence of splenic ligaments.1,5

Hippocrates, Pliny, Heophilus and Galen recognized that the spleen could be located in an unusual place but a clinical description of wandering spleen (WS) was first noted at autopsy in 1967 by Van Horne.5

As an intraperitoneal organ, the spleen develops as mesenchymal cell clusters within the dorsal mesogastrium at approximately 28 days. The most important structure derived from the dorsal mesogastrium is the gastrolineal and lienorenal
ligaments. It has been hypothesized that spleen develops during foregut rotation, this period influences splenic positioning and a congenital wandering spleen develops as a result of laxity or maldevelopment of its suspensory ligaments. There is improper formation of a long splenic pedicle with increased probability for abnormal fixation and torsion.⁶

In acquired conditions, abdominal laxity, multiple pregnancies, hormonal changes with pregnancy or splenomegaly have also been implicated.³,⁵,⁷

It is observed more commonly in women who are 20 to 40 years old.¹,³,⁵ The age at presentation may vary from 3 month to 80 years. Women constitute 80% of cases and one third are children.¹,²,⁵

The clinical presentation is variable. The patient may be asymptomatic or may have intermittent pain resulting from intermittent torsion and

**Figure 1.** CT scan of abdomen shows soft tissue mass in mid abdomen.

**Figure 2.** Intraoperative finding showing large Spleen with twisted pedicle and venous aneurysm.
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distortion or may present with a mobile palpable mass. 1,4,5

Excessive mobility of the spleen can predispose it
to complications including acute torsion of the
vascular pedicle, gangrenous or splenic abscess
formation, hemorrhage from gastro-esophageal
varices, acute pancreatitis or necrosis of pancreatic
tail secondary to torsion, partial or complete gastric
volvulus and intestinal obstruction. In these
conditions, the patient presents with acute
abdomen and may be confused with appendicitis,
ovarian torsion, diverticulitis, cholecystitis,
pancreatitis and non specific peritonitis. 1-2

Laboratory evaluations are usually non specific
but may rarely reveal evidence of hypersplenism or
functional asplenia by evaluating peripheral smears
for Howell-Jolly bodies or other particles, in
particular when associated with torsion of an
elongated splenic pedicle. 8

Since a clinical diagnosis can be difficult,
noninvasive imaging procedures, such as
sonography, nuclear scintigraphy, CT scan and MRI
are the common diagnostic modalities. 1,5 Plain
radiographs and barium examination are usually
non specific. 1

Ultrasonography and CT scan show absence of
spleen in its normal position and a comma-shaped,
mobile mass in the abdomen or pelvis. CT scan is
the diagnostic modality of choice for the diagnosis
of wandering spleen, especially when there is
suspicous of torsion and when the spleen cannot
be observed on ultrasonography because of bowel
gas. Post-contrast CT scan reveals nonenhancing
low-attenuation area in the regions of splenic
infarction thereby providing crucial information
concerning the viability of the spleen. The "Whir
sign" of the splenic pedicle is diagnostic of splenic
torsion. Another specific sign of splenic infarction
on CT scan is the "rim sign" in which the splenic
capsule is hyper dense compared with its
parenchyma. An angiographic finding characteristic
of the diseases is a tapered and abruptly twisted
distal splenic artery. 1,3

Treatment of WS is operative because
conservative treatment is associated with increased
complications. 1,3 Splenectomy is advocated if there
is functional asplenia due to torsion, splenic
infarction, splenic vessel thrombosis, secondary
hypersplenism or any suspicion of malignancy. 1,3,4
Splenopexy is preferred when a viable WS is found
at laparotomy and there is no evidence of
infarction, thrombosis or hypersplenism. 1,3,5,6

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