WANDERING SPLEEN WITH & WITHOUT COMPLICATION IN EITHER SEX

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Abstract:- Wandering Spleen Is a condition in which the spleen migrates from its usual anatomical position, commonly to lower abdomen or pelvis caused by the weakening of the ligaments that help to hold the spleen stationary. Wandering spleen usually occurs at 20-40 years of age and most cases are seen in young children & women between the age of 20 & 402. Wandering spleen can present with a variety of symptoms with abdominal pain, abdominal mass, acute abdomen and is also found silent until diagnosed by routine imaging study. Here we present two cases of the wandering spleen. Both of the cases are symptom free and the diagnosis is made incidentally by imaging investigation for some other problem.

Keyword: wandering spleen, acute abdomen, torsion, surgical removal.

INTRODUCTION:
The wandering spleen has multi factorial etiology and incidence both congenital and acquired causes16. It mainly occurs consequent to an embryonic disturbance in the development of the ligament connecting the spleen with the surrounding tissue8,9,10,11,12. It occurs 15 times more often in women than men, suggesting a hormonal factor8,9,13,14. The spleen can be found anywhere in the abdomen or the pelvic region depending on the length of its pedicle8,22. This predisposes it to rupture, infection or trauma15,16. 60% of patients experiment abdominal pain & discomfort, while the rest are asymptomatic. Laboratory findings are non specific and non diagnostic. These includes leucocytosis thrombocytopenia and anaemia8. Ultrasonography is the standard investigation for diagnosis. However CT scan, MRI, angiography, scintilography and Doppler Scanning are used to confirm the diagnosis11,19,20,21,22,23. Splenectomy should be considered in case of non-viability of the spleen. Splenopexy is for those with viable spleen and laproscopic splenopexy is very useful in place where it is available19,20,21,22. In children, splenic preservation is always preferred in order to minimize the risk of infection especially with encapsulated organism such as pneumococcal infection. Torsion from its long pedicle is the most common complication. It presents as an acute abdominal emergency. This is sometime associated with other manifestation like gastric or pancreatic tail volvulus which can lead to acute pancreatitis and its sequelae1,9,10,18.

EPIDEMIOLOGY:
The disease is very rare & less than 500 occurrence of the disease have been reported till 20051 and of which around 148 cases were documented to have been from 1960 to 19923 and less than 0.5 % surgical removal of the spleen have been performed due to having disorders5. Wandering spleen is often found at birth. It can occur in adults as a result of injuries and other similar conditions that cause the ligament to weaken, such as connective tissue disease or pregnancy4. In 1992, the youngest case of torsion of wandering spleen at two days of birth was reported in Lebanon, by Dr. Edouard Sayad5. This rare condition of wandering spleen has reported incidence of 0.2 to 0.5 %19 & the diagnosis is most commonly made between ages 20 & 40 & is more common in multi Porous women1,6.

PATHOGENESIS:
Due to abnormality of suspensory ligament of the spleen, which may be in the from of congenital absence or underdevelopment of these ligaments or an acquired laxity of the ligaments caused by pregnancy etc., may lead to the formation of long vascular pedicle containing the splenic vessels resulting into the wandering spleen and predisposing the splenic torsion consequently splenic infarction26.

RADIOGRAPHIC FEATURES:
Following Radiological investigation may allow the identification of the wandering spleen.
X-Ray – An abdominal X-Ray25,28 may help in diagnosis like # Absences of splenic shadow in the left upper quadrant
# Space occupying soft tissue mass in abnormal location
# Distended bowel loops

ULTRASOUND: is used to identify the abnormal anatomical position of the spleen, usually low-lying or an absence of spleen in left upper quadrant25,26.

DOPPLER ULTRASOUND: can demonstrate the vascular flow to the spleen and help in diagnosis of splenic torsion or infarction28.

CECT: can be useful in identifying the wandering spleen, including its setting of torsion and infarction26,27 with ‘whirl sign’ (a whirled appearance of hyperdense, no enhancing splenic vessels).
NUCLEAR MEDICINE: Technetium sulfur colloid liver, spleen scan, can be used to identify an abnormal abdominal mass as the spleen.  

DISCUSSION:  
Wandering spleen is a condition in which the spleen migrates for an unusual anatomical position, commonly to the lower abdomen or pelvis. Wandering spleen is a very rare condition with the danger of splenic torsion and can lead to splenic infarction, varicose, haemorrhage. Physical factors may cause ischuria, constipation, hypersplenism, thrombocytopenia and lymphoma. However, blocking of arteries and torsion in the spleen can also result in abdominal pain or swelling. Congenital wandering spleen is characterized by the absence or weakness of one or more of the ligaments that hold the spleen in its normal position in the upper left abdomen. The disorder is not genetic in origin. If the vascular pedicle is twisted in the courses of the movement of the spleen the blood supply may be interrupted or blocked (ischemia) to the point of severe damage to the blood vessels (infarction).  
The spleen removes or filters out unnecessary or foreign material, breaks down and eliminates worn out blood cells and produces white blood cells which aid the body in fighting infection. Symptoms of wandering spleen are typically those associated with an abnormally large sized spleen (Splenomegaly) or the unusual position of the spleen in the abdomen. Enlargement is most often the result of twisting (torsion) of the splenic arteries and veins or in some cases, the formation of a blood clot (infarct) in the spleen. Acquired wandering spleen may occur during adulthood due to injuries or other underlying conditions that may weaken the ligaments holding the spleen in its normal position (e.g. Connective tissue disease or pregnancy).  

CASE REPORT 1  
A 12 years old girl came to our diagnostic centre for ultrasonography for some other problems and was found not having spleen in its normal anatomical position. The patient was then found having spleen in pelvic area. The patient was then evaluated with following images investigations.  
1. X-ray abdomen – soft tissue area noted at the level of L5 - S1 on left side.  
2. Non contrast CT abdomen axial section at the level of kidneys shows absence of spleen in splenic fossa.  
3. NCCT abdomen axial sections at the level of acetabulum shows triangular shaped attenuation structure in pelvis anterior to uterus more towards left side.  
4. Axial section of CT after administration of oral contrast show absence of spleen in splenic fossa.  
5. NCCT abdomen coronal sections after administration of oral contract shows soft tissue attenuation structure in pelvis in left perivesical region.  
6. Topogram of abdomen after administration of oral contrast shows higher up splenic flexure.  
7. CECT pelvis after administration of rectal contrast shows soft tissue attenuation structure which resembles spleen anterior to the uterus in the left perivesical region.  
8. CECT pelvis after administration of rectal contrast shows soft tissue attenuation structure which resembles spleen in pre-sacral region.  
9. CECT abdomen after administration of rectal contrast shows arterial supply of spleen arising from aorta.  
10. CECT abdomen after administration of rectal contrast shows arterial supply of spleen arising from aorta.
A 35 year young male presented with recurrent attacks of abdominal pain over a period of 2 year duration. The pain was throbbing in nature, associated nausea and the current episode of pain was so severe and was advised for hospitalization. The patient underwent ultrasonography which shows absence of spleen at its normal anatomical position and was located at pelvis. The penitent then was screened by following imaging investigations.

1. CECT abdomen axial sections shows soft tissue attenuation structure in lower abdomen abating parietal wall.
2 & 3. CECT abdomens axial sections at the level of kidneys shows wirling / twisting of artery adjacent to soft tissue attenuation structure.
4, 5 & 7. Abdomen coronal sections shows soft tissue attenuation structure having attenuation less than that of liver in lower abdomen, compressing superior surface of urinary bladder. No evidence of contract filling noted in splenic artery. Free fluid is also seen in right paracolic gutter and perivesical space (suggestive of splenic infarct with thrombosis of splenic artery).
6. CECT abdomen coronal section shows absence of spleen at splenic fossa.

**CASE REPORT 2**
REFERENCES:


