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# [Case report] Unusual Cause of Bowel Obstruction in Adolescent: Wandering Spleen with Internal Hernia and Ectopic Left Kidney. A Case Report.

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## Abstract

**Background:** A wandering spleen is a condition in which the spleen, located in the upper left abdomen, becomes dislocated from its normal position. Although literature on wandering spleen exists, there is very limited literature on wandering spleen causing internal hernia. We present a novel case of wandering spleen, left ectopic kidney with internal herniation leading to intestinal obstruction.

**Case Presentation:** 13-year-old female presented with abdominal pain and imaging showed a wandering spleen with cyst, left ectopic kidney, internal herniation leading to intestinal obstruction. Barium enema showed normal flow of contrast and patient was managed conservatively.

**Conclusion:** Wandering spleen with internal hernia causing transient obstruction are rare and the radiologist needs to know the imaging findings to make a correct diagnosis. To serve that purpose we present such a unique case.

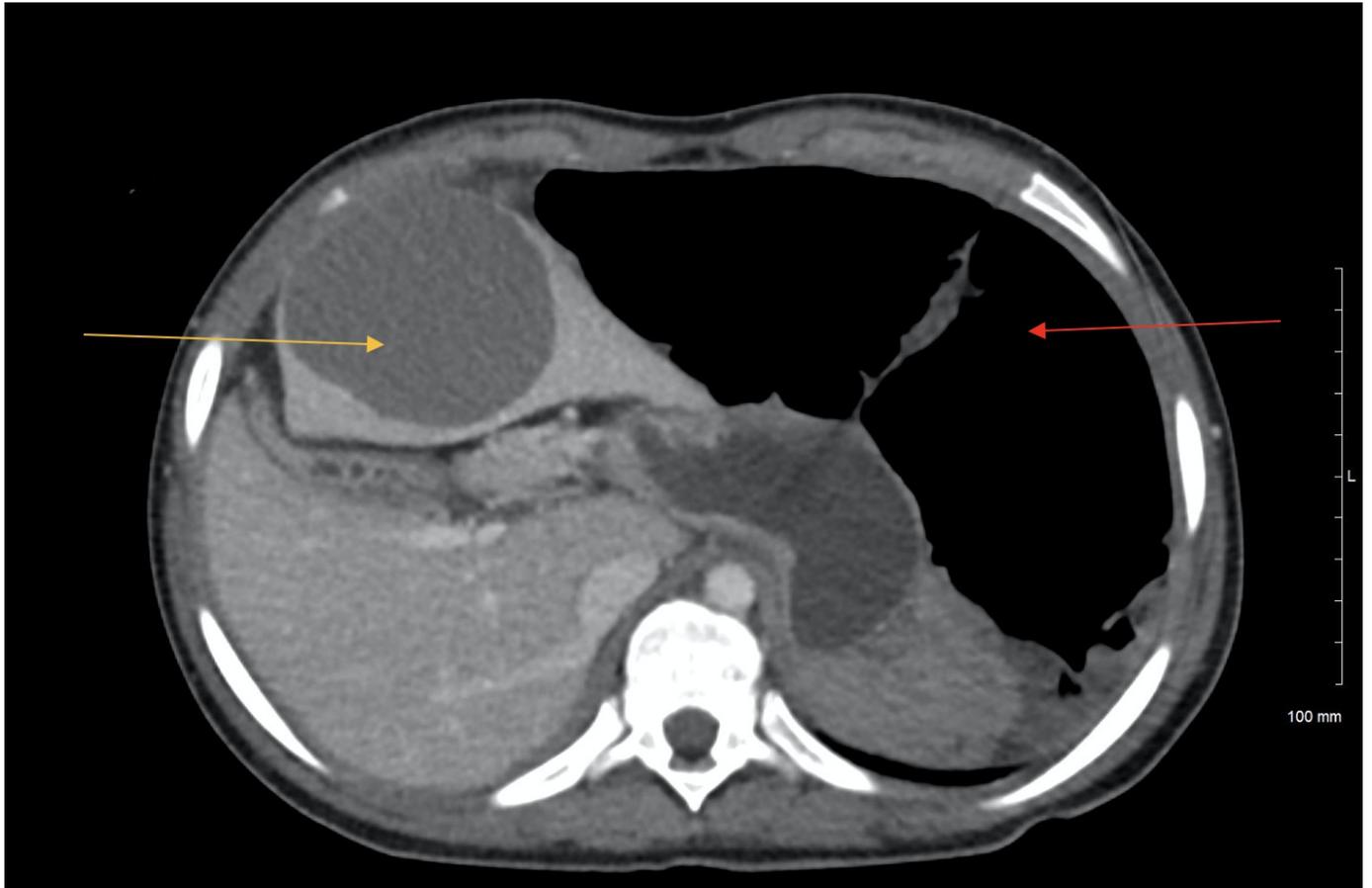
**Keywords:** Wandering spleen, ectopic left kidney, internal hernia, bowel obstruction, case report.

## Background

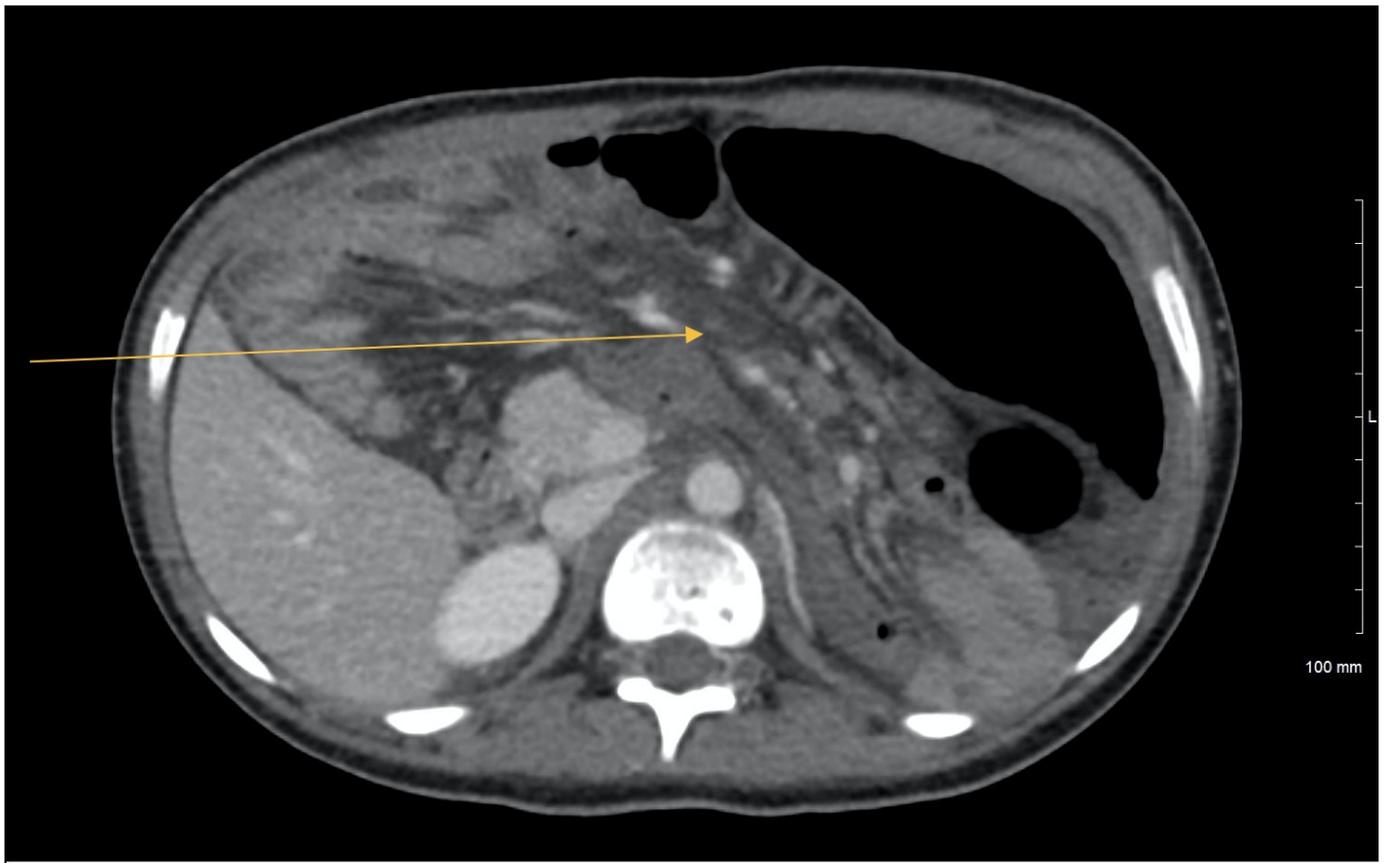
Wandering spleen with splenic cysts are unusual<sup>[1]</sup>. The wandering spleen can undergo torsion or internal herniation as in this case report. That can lead to subtotal or total intestinal obstruction. They can be associated with ectopic kidney that can have internal abnormalities like dilatation of the pelvicalyceal system. Although literature on wandering spleen exists, there is very limited literature on wandering spleen causing internal hernia. We present a novel case of wandering spleen, left ectopic kidney with internal herniation leading to intestinal obstruction.

## Case Presentation

13-year-old female came with 1 day history of abdominal pain, diarrhea followed by constipation and 3 episodes of non-bloody non bilious vomiting. Clinically she was suspected to have chronic constipation, celiac disease or lactose intolerance. A computed tomography of the abdomen was performed that revealed wandering spleen, left ectopic kidney with internal hernia leading to colonic obstruction [Fig.1] [Fig.2] [Fig.3]. The spleen was located in the right upper abdomen inferior to the liver [Fig.3]. A splenic cyst of 6x6.4x6 cm is seen within the splenic parenchyma with no septation or calcification [Fig.1]. The pancreatic head was normal in position with the body and tail deviating superiorly and to the right towards the displaced spleen. The superior mesenteric artery is tortuous. There is herniation of mesenteric fat seen [Fig.2]. There is dilatation of the distal transverse and proximal descending colon at the left upper quadrant with rest of the proximal and distal colon being nondistended [Fig.3]. These findings indicated colonic obstruction secondary to internal herniation. The internal herniation was favored to be paraduodenal rather than transmesenteric. There was no pneumatosis, free intraperitoneal air or portal venous gas appreciated. The left kidney was ectopic in location at the midline lower abdomen and demonstrated pelvicaliectasis and associated renal cortical thinning. There was no dilatation of the ureters. The right kidney was orthotopic in location. Hemorrhagic cyst was also noted in the left ovary. Surgery was consulted and barium enema was advised. Barium enema was performed the next day. The scout radiograph redemonstrated dilated gas filled distal transverse and proximal descending colon in the left upper quadrant. There was no free intraperitoneal air. The water-soluble contrast flowed freely throughout the colon to the level of the cecum, that was noted in the right lower quadrant. The rectum, descending and transverse colon were markedly dilated [Fig.4]. These findings indicated transient obstruction rather than complete obstruction. There was bunching of colonic loops within the mid and left upper abdomen in keeping with CT evidence of internal hernia. Patient was tested for transglutaminase IgA and total IgA and was found negative for celiac disease. Gastrointestinal surgery prescribed laxative (Miralax) to achieve loose stools and then reduce it to produce at least 1 soft bowel movement a day. Lactose free diet was advised for 2 weeks, and family was instructed to restart lactose containing foods and drinks after that to monitor recurrence of gaseous distension. Patient was advised to follow up in Gastro-intestinal outpatient clinic after 2 months. On follow up patient was found to be passing stools normally with no abdominal pain. Ultrasound abdomen redemonstrated the spleen in the right upper quadrant with a stable splenic cyst [Fig.5]. Left kidney was unchanged in location at midline lower abdomen with pelvicaliectasis [Fig.6]. The ovarian hemorrhagic cyst had resolved. Patient was advised to continue on the prescribed medical management and follow up. Splenectomy was avoided as splenectomy itself has its complications [2].



**Fig. 1.** Computed tomography axial images showing right sided spleen with splenic cyst (yellow arrow) and colonic dilatation (red arrow).

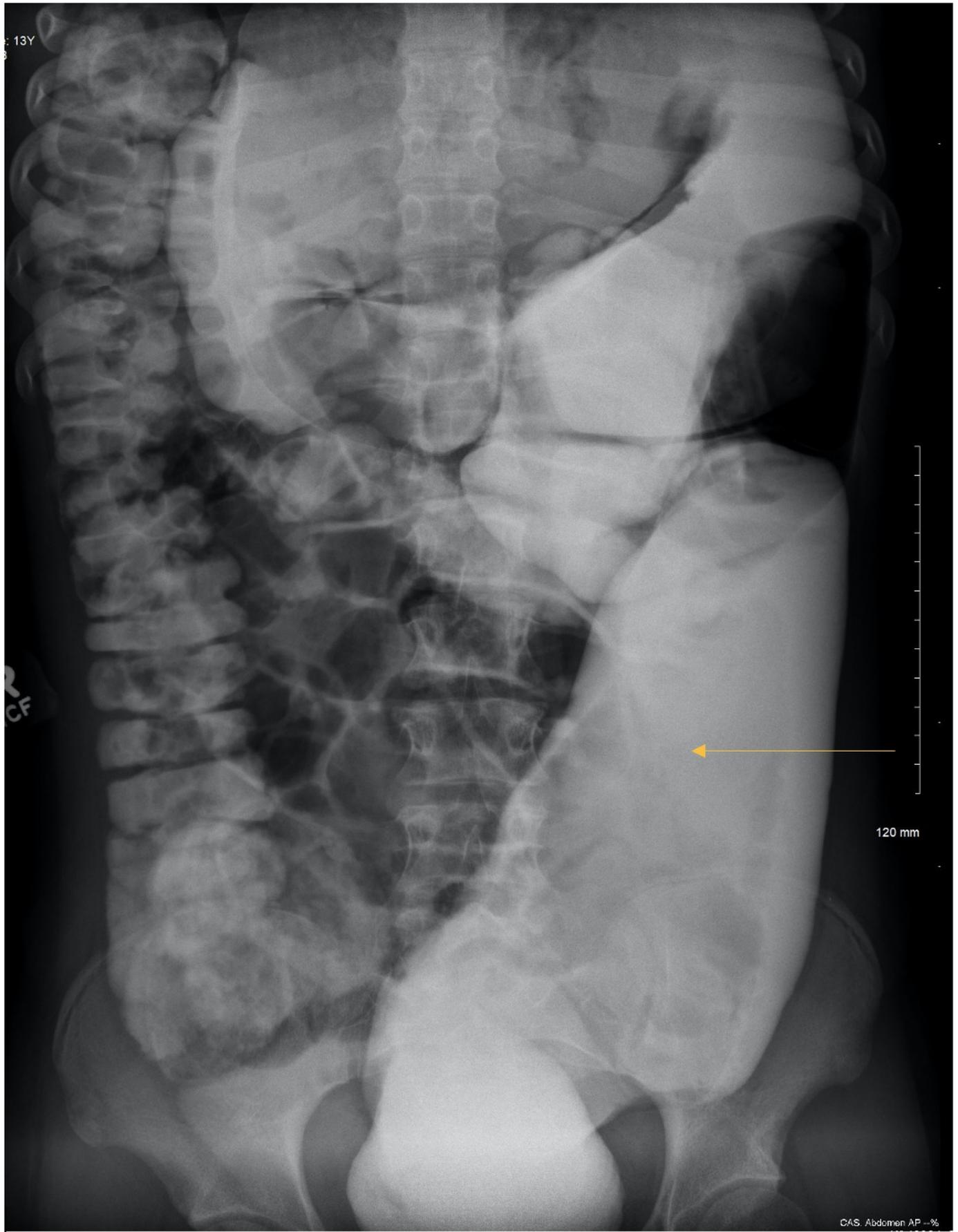


**Fig. 2.** Computed tomography axial images showing herniation of mesenteric fat to right (yellow arrow).



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**Fig. 3.** Computed tomography coronal images showing right sided spleen with splenic cyst (yellow arrow), midline ectopic kidney with pelvicaliectasis (green arrow), and colonic dilatation (red arrow).



**Fig. 4.** Barium enema showing dilated colonic loops with free passage of contrast (yellow arrow).

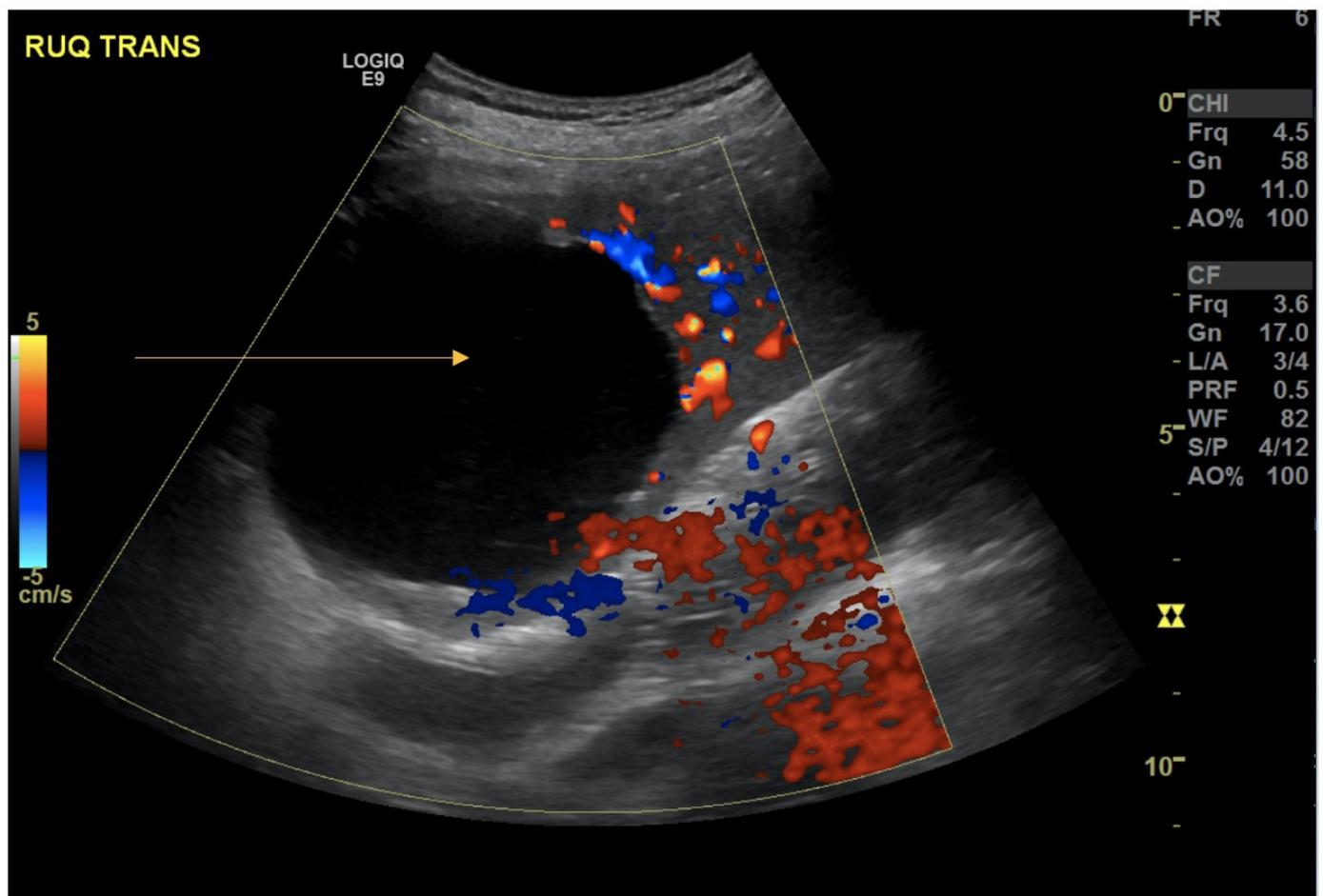
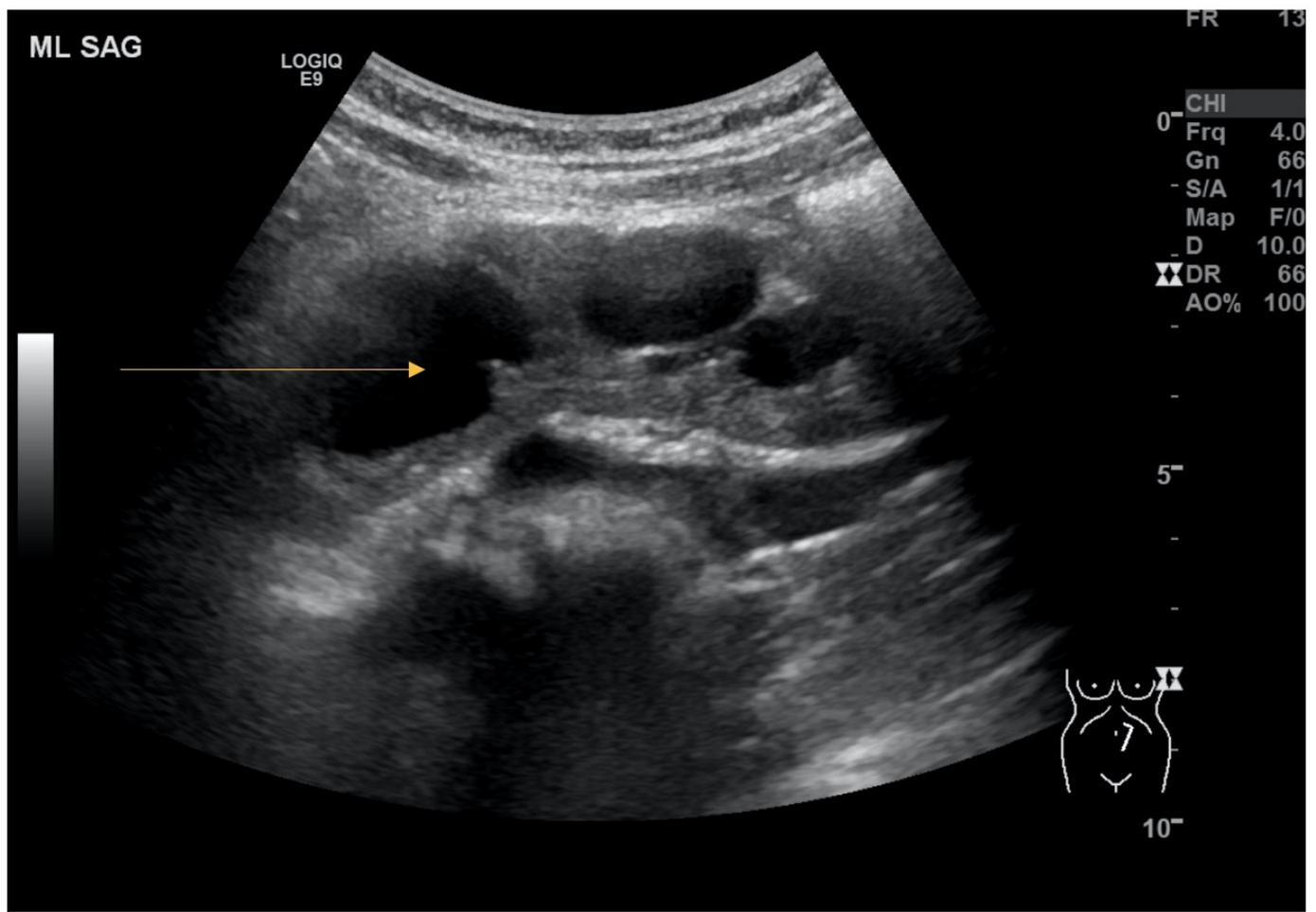


Fig. 5. Follow up ultrasound shows stable splenic cyst with no internal color flow (yellow arrow).



**Fig. 6.** Follow up ultrasound shows midline ectopic kidney with pelvicalyectasis (yellow arrow).

## Discussion

The wandering spleen is a condition in which the spleen, located in the upper left side of the abdomen, becomes dislocated from its normal position [3]. This can occur as a result of a birth defect or due to trauma. Symptoms of a wandering spleen can include abdominal pain, a feeling of fullness or bloating in the abdomen, and a change in the position of the spleen. The spleen may also become enlarged and may be felt as a mass in the abdomen.

Internal hernia is a condition in which a section of the intestines or other abdominal organs protrudes through a defect or weakness in the mesentery [4]. There are several different types of internal hernias, depending on the location of the defect. The most common type is the paraduodenal hernia, which occurs when a portion of the small intestine protrudes through the fossa of Landzert or the fossa of Waldeyer. Internal hernia can sometimes cause bowel obstruction. The clinical diagnosis of internal hernia is difficult and computerized tomography and barium studies play a very significant role [5].

Treatment for an internal hernia depends on the severity of the condition and the underlying cause. In mild cases, treatment may involve medications to control symptoms and dietary changes to reduce the risk of bowel obstruction. In

more severe cases, surgery may be necessary to repair the defect in the abdominal wall and prevent further complications. It is important for individuals with an internal hernia to receive prompt and appropriate treatment to prevent complications and maintain overall health. Regular follow-up with a healthcare provider is also important to monitor the condition and ensure that it is properly managed.

## Conclusions

We present an unusual case of wandering spleen with splenic cyst causing internal herniation with transient intestinal obstruction. Given the transient nature of intestinal obstruction, and inherent complication of splenectomy surgery was deferred. Patient was managed medically and did well.

## References

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