

## Presentation of Case in ED

A 47 years old male without any underlying diseases came to our emergency department because of acute abdominal pain lasting for 12 hours. He described the pain started gradually and localized at hypogastric area of the abdomen. The character of pain was dullness and intermittently cramping without associated vomiting or diarrhea. Physical examination revealed localized tenderness mainly at the left lower quadrant(LLQ) and mid-abdomen without rebound tenderness. The location of the pain in low abdomen and LLQ tenderness made us think that he might have sigmoid colon diverticulitis or left ureter urolithiasis. So we performed emergency point-of-care ultrasound(POCUS) but could only see little ascites at LLQ, there were no signs of diverticulitis or hydronephrosis.

Discovering little ascites urged us to seek where the main problem was. So we scanned his abdomen thoroughly including the liver, gall bladder, kidney and gastrointestinal tract and found more ascites in the Morrison' s pouch and an intestinal target lesion(Fig.1) at the mid abdomen. Tracing this target lesion, we saw a hyperechoic tumor measured about 5 centimeter in diameter with fatty component. Under the impression of intestinal intussusception, the subsequent abdominal computed tomography(CT) proved a transverse colo-colic intussusception caused by a huge lipoma.(Fig.2)

After we consult the general surgeon, the patient was admitted and underwent tumor resection and right hemicolectomy. He did well during the clinical course and was discharged uneventfully a week later.

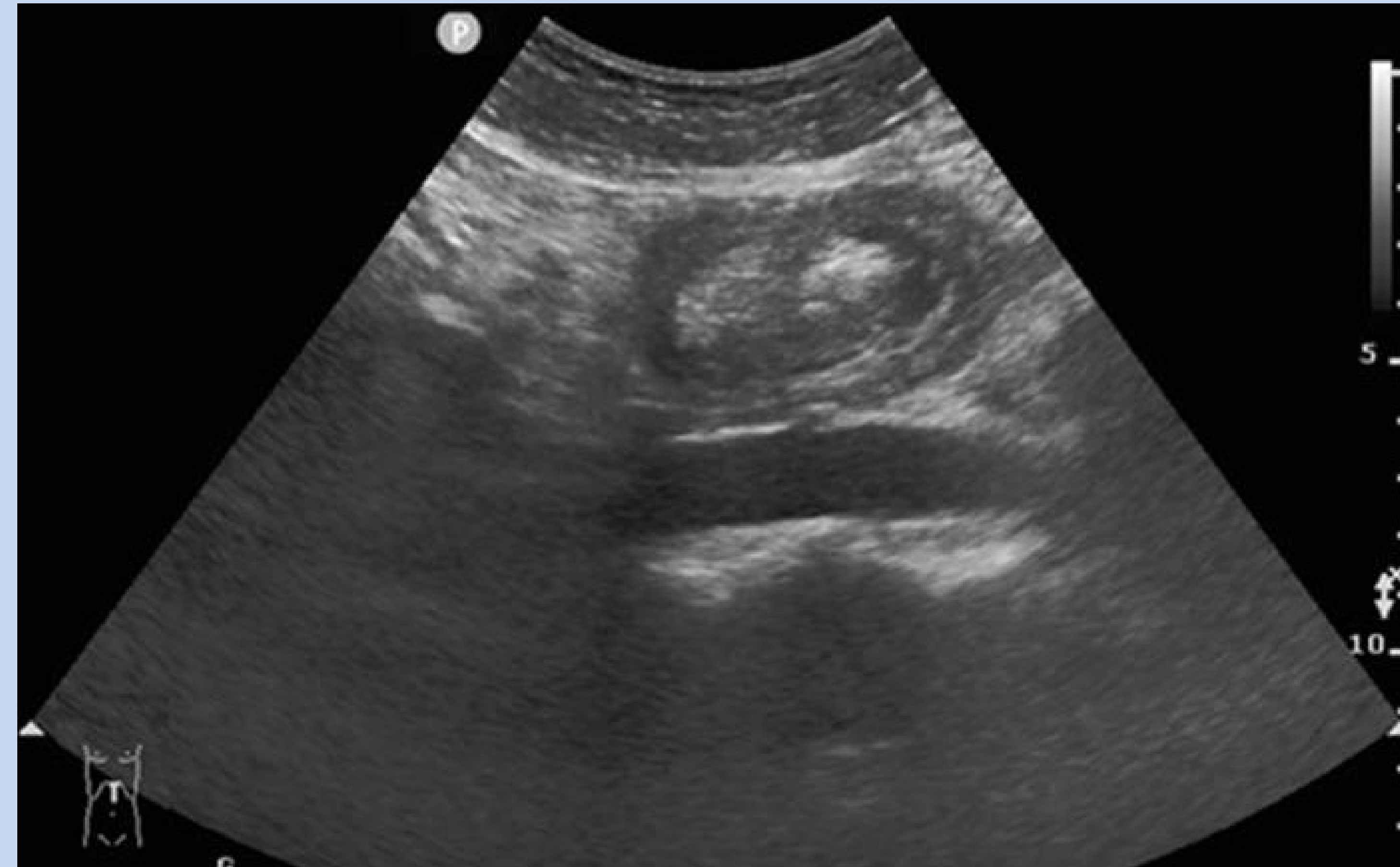


Fig.1 “Target sign” of the intussusception in its short axis view by POCUS.



Fig.2  
Lipoma(white arrow) and the colo-colic intussusception of the transverse colon(red arrowhead).

## Discussion

An adult intussusception is a rarely seen abdominal emergency. Because it onsets insidiously and the presenting symptoms are nonspecific, the majority of cases are diagnosed lately after it causes bowel obstruction and small bowel ileus. In our case, we performed POCUS in the emergency in the first place and made the right diagnosis before small bowel ileus happened, on the other hand, it prevented the patient suffering from more serious symptoms of bowel obstruction and subsequent intestinal ischemia and infection. Interestingly, the patient complained about low abdominal pain throughout the event but not mid-abdominal pain where the lesion was located. This could be explained by the embryologic development theory that transverse colon belongs to hindgut and causes hypogastric pain as the initial symptom. And his LLQ tenderness could be related to peritoneal irritation by ascites.

We think that understanding the pathophysiology of abdominal pain plus properly trained and skillful use of POCUS is imperative in diagnosing and treating patients with abdominal pain in the emergency department.