



Finding a Needle in a Haystack

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[CC] RLQ Abdominal Pain

[HPI]

A 85-year-old female is referred to ED from nearby clinic for evaluation of **RLQ pain**. The patient has past medical history of primary biliary cirrhosis, which she takes ursodeoxycholic acid for, but otherwise healthy.

She started to feel pain in her RLQ approximately 2 to 3 days prior to ED visit. She states the pain gets worse with standing and associated with soft stool. She initially presented to a local clinic, where she had CT scan without contrast. The CT scan at that time showed **"thickening and inflammatory change in the intestinal wall of ascending colon"**. She was then referred to our ED for further evaluation and management of possible diverticulitis or appendicitis.

The patient denies pain at rest. No N/V/D. Denies fever.

[PE]

VS: A&OX3. Temp 37.3°C (99.1°F), HR 96 bpm, BP 161/88 mmHg
RR 20, SpO2 97%

General appearance: Not in acute distress.

Abdomen: Soft and flat. **Tender to palpation on RLQ, near McBurney's point.** No rebound. No guarding. No abdominal mass.

[US findings]



Ultrasound scan shows a **thin, linear object approximately 2.5cm in length, embedded within RLQ intestinal wall.**

Questions:

1. What is the next test to order?
2. What is the diagnosis?



Answers:

1. Order **CT scan with contrast** to evaluate for perforation or abscess formation.
2. **Perforation of ascending colon and abscess formation due to ingested fish bone.**

[Case Discussion]

Unfortunately, review of the CT scan from the referring clinic was inconclusive due to poor resolution. Thus, bedside ultrasound was performed by ED resident and attending, which showed the findings shown in the Image.1.

With this additional information, the decision was made to obtain **CT scan with contrast** to further evaluate the lesion and to evaluate for possible perforation or abscess formation. **CT scan with contrast showed irregular low density lesion with capsule-like rim enhancement and surrounding fat stranding (Image.2).** Additionally, **there was a linear high density object within the low density lesion.** The findings were highly suspicious for a sharp foreign body such as **fish bone** and concerning for perforation and abscess. **Surgery team was consulted and emergent diagnostic laparoscopy was performed.**

Laparoscopy showed a **firm mass with a diameter of about 4cm**, in ascending colon approximately 10cm distal to ileocecum. Laparoscopic resection of the mass was performed, and pathology of the mass showed **purulent content within the mass and a fish bone about 3cm in length.** Upon further questioning the patient after surgery, **the patient stated that she had sashimi of salmon (sliced salmon) not too long ago.**

Clinical Pearls & Take Home Messages:

1. The sensitivity of the ultrasound for detecting intestinal fish bone is reported to be low. However, if the pain is well localized (as in this case), careful ultrasound scanning can detect intestinal foreign body and it can be very useful in making diagnosis. **Prior to CT scan, ultrasound should be utilized more often as an imaging strategy for detecting the cause of undifferentiated abdominal pain.**
2. CT scan is also useful in detecting ingested fish bone. When CT scan is used, its sensitivity is reported to reach **near 100%**. However, the sensitivity drops down to about 15.9% when plain X-ray is used. This is because **a large portion of fish bone consists of water and soft tissue, and it has low calcium concentration.**
3. It can be very challenging to think of fish bone as a differential diagnosis for abdominal pain, since the patient may not recognize or remember the fact that he or she ingested fish bone. **Keep your differential diagnosis broad when evaluating a patient with undifferentiated abdominal pain.** If ingested fish bone is suspected based upon imaging study, go back to the patient and take detailed history about fish consumption.

TogethER, Do Better, Go Further, To Higher.