

Unusual Cause of Right Inguinal Fossa Pain; Photo Quiz

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Clinical Scenario

This 11-year old girl presented in the emergency department with a history of intermittent abdominal pain for the last 30 hours. She had one episode of vomiting in the emergency department upon arrival. She did not complain of diarrhea or urinary tract symptoms. She had not yet started having period. She was afebrile (37°C), had normal blood pressure (110/75mmHg), a mild tachycardia (130bpm), normal respiratory rate (20bpm) and oxygen saturation (99%). On clinical examination her abdomen was soft with a mild generalized tenderness, a more pronounced intense pain in the right iliac fossa and a positive McBurney sign. We also felt a mass in the area that we thought of as an appendiceal mass. The rest of the physical exam was unremarkable. Laboratory findings included normal hemoglobin (14g/dl) and MCV (95), elevated white blood cells ($16,22 \times 10^3 \mu\text{L}$, with neutrophils 85.9% and C-reactive protein (85). Clotting was within normal limits (PT 11sec, INR 0.9, aPTT 31sec). Urine dipstick was also clear of infection. The upright abdominal X-ray showed an air-fluid level on the left side of the abdomen. Ultrasound was non diagnostic. The appendix was not visualized and no mass was identified but there was a large quantity of free fluid between enteral loops in the right iliac fossa. The patient was transferred to theatre and the intraoperative findings are shown in Fig. 2.

After the operation a more thorough history taking and clinical examination was made. At first her weight was found to be 34kg (<50th centile) and her height 1,42 (<50th centile). She admitted having two previous episodes of abdominal pain of lesser intensity last year that were attributed by her GP to constipation. There was a significant weight loss (2kg past two months) that was attributed to "anxiety" in school.



Fig. 1: Abdominal X-ray showing air-fluid level on the left

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Fig. 2: A 500gr mass removed from the terminal ileum and the ileocecal valve

What is the cause of the patient's symptoms?

- Acute appendicitis
- Ovarian teratoma
- Lymphoma
- Duplication Cyst
- Trichobezoar

CORRECT ANSWER: e

Explanations

The correct answer is **e**. Our patient had a trichobezoar at the level of the ileocecal valve. Bezoars are foreign bodies that form masses in the gastric or intestinal lumen. The word "bezoar" comes from the Arabic word "bazahr" or the Persian word "padzahr," meaning "protecting against poison." At different times in history, bezoars from animal guts were used as precious stones, antidotes to poisons and today as part of traditional Chinese medicine^[1,2]. They are classified according to their composition into phytobezoar (vegetable matter), trichobezoar ("trich" means hair in Greek, seen mostly in children), lactobezoar (concentrated milk formulas, seen in neonates), mixed medication bezoars and food bolus bezoars^[2,3]. Common presentation is gastrointestinal tract obstruction with nausea and vomiting, gut perforation, acute pancreatic necrosis, obstructive jaundice, hypochromic anemia, vitamin B₁₂ deficiency, weight loss, an abdominal mass, or other serious problems^[4,5]. Elevated leukocyte count and fever could also be present^[1-6]. Imaging findings on X-

ray include mottled radiotransparencies in the interstices of solid matter. Ultrasound reveals an intraluminal mass with a hyperechoic arclike surface and a marked acoustic shadow. The CT scanning of a small bowel or gastric bezoar demonstrates a well-defined, oval, non-homogeneous mass consisting of gas and soft tissue. When oral contrast is used, the contrast material typically collects around the lesion. Nevertheless preoperative plain abdominal radiography and ultrasonographic examination are usually nonspecific and inconclusive^[3,7,8]. When not diagnosed early they can present with complications such as ulcer formation, bowel perforation, and intussusception^[3,6]. Sometimes as in our case the clinical presentation and radiologic findings are atypical and trichobezoar is not initially suspected.

Acute appendicitis is the most common cause of right inguinal fossa pain in children. In neglected cases there is an inflammatory mass of bowel loops and omentum but the clinical picture is suggestive of sepsis and the pain on clinical examination is continuous and unbearable. Teratoma of the right ovary can also be the source of pain especially if there is torsion of the ovary. In that case there is no weight loss and the pain is also more intense and continuous. Lymphoma in the terminal ileum also might be a cause for the symptoms. The loss of weight raises suspicion, as well as the increased inflammatory markers. Only the intraoperative findings made it possible to differentiate between the two. Duplication cyst

might also cause intestinal obstruction of the terminal ileum. It does not cause loss of weight and the gross appearance is that of a bowel loop.

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