

## Guess the Case

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### INTRODUCTION

A 49-year-old male presented to his primary care physician with worsening abdominal pain 5/10 localized to the right lower quadrant. He had a 2–3 day history of diarrhea and nausea without vomiting. He described the pain as crampy and persistent, with some referral to lower left quadrant. The patient had no blood in stools, melena, or hematochezia. His last bowel movement had been several hours earlier. The patient noted abdominal distention. He had no significant past medical history and had never had surgery.

When referred to Ochsner Clinic Foundation for surgical consultation, vital signs were temperature 100.1 degrees F, blood pressure 110/80 mmHg, and pulse 70 regular. The physical examination revealed a well-developed male in mild distress. An abdominal examination revealed focal moderate tenderness in the right lower quadrant, with rebound tenderness and no guarding. Bowel sounds were diminished. A left inguinal hernia was easily reducible. The remainder of the abdominal examination was unremarkable. A computed tomography (CT) scan was obtained (Fig. 1).

**QUESTION:** What is the diagnosis and what treatment would you recommend?

### DIAGNOSIS AND TREATMENT

CT scan showed multiple loops of dilated fluid-filled bowel consistent with small bowel obstruction (SBO) (Fig. 2). A bulbous, “tear drop” section of small bowel was noted in the right lower quadrant, suspicious for Meckel’s diverticulum (MD). There was no surrounding inflammatory process, and there

was a transition point from dilated to non-dilated small bowel at the same point.

The patient was admitted to the hospital under the surgery service and immediately underwent emergent exploratory laparoscopy. Dilated small bowel was seen through an intestinal hernia between the small bowel and the mesentery of the MD. The Meckel’s mesentery was divided, releasing the trapped bowel (Fig. 3).

### DISCUSSION

This is a case of small bowel obstruction (SBO) secondary to Meckel’s diverticulum. The most common cause of SBO is post-surgical adhesions, followed by hernia and then by neoplasm. Internal hernias are very rare.

MD is a consequence of the incomplete obliteration of the omphalomesenteric (vitelline) duct. This duct connects the fetal yolk sac to the primitive gut and is normally obliterated in the first 8 weeks. It is a true diverticulum, containing all layers of the intestinal wall. Although it can be found anywhere along the small intestine, it is most commonly found 100 cm (2 feet) from the ileocecal valve. MD is considered to be the most common congenital anomaly of the gastrointestinal tract, affecting 2% of the population. However, autopsy studies have shown

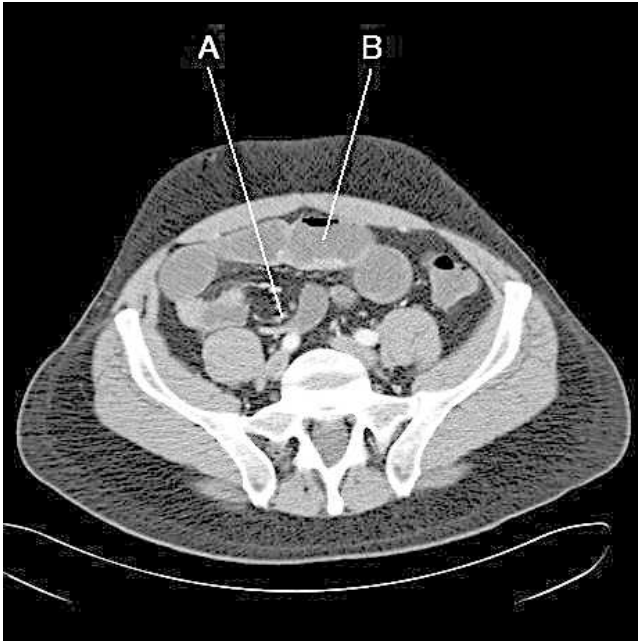
Figure 1. Representative CT scan.



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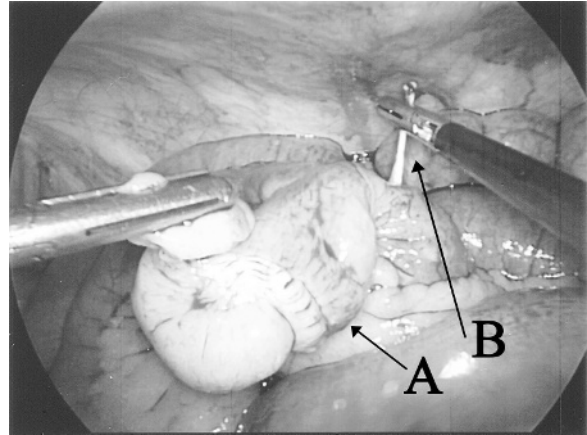
**Figure 2.** A. Bulbous outpouching suspicious for Meckel's diverticulum. B. Dilated, fluid-filled small bowel consistent with small bowel obstruction.



the actual incidence may range from 0.3% to 4% (1,2). The lifetime complication rate is around 4%.

Obstruction, the most common presenting symptom in the adult population, occurs in almost 40% of symptomatic patients (1,2). Obstruction can be due to entrapment of small bowel around a band attached to the diverticulum, intussusception with the diverticulum acting as a lead point, volvulus around an umbilical band, or stenosis secondary to chronic diverticulitis (1,2). Rarely, obstruction is due to incarceration of the diverticulum within an inguinal hernia (Littre's hernia). Gastrointestinal bleeding or pain also occurs due to the incidence of ulceration from ectopic gastric mucosa found in the diverticulum (3,4). The incidence of perforation in severe cases of obstruction or ulceration is reported to be 9%–11% (5).

**Figure 3.** A. Meckel's diverticulum freed from strangulation. B. Mesodiverticular artery after ligation.



Fewer than 10% of cases are diagnosed pre-operatively. Patients with SBO are usually operated on emergently or after kidney-ureter-bladder studies showing SBO. Symptoms of SBO can be further evaluated with small bowel studies, CT scans, or radionuclide scans when one is looking for ectopic gastric mucosa. An arteriogram can occasionally identify the mesodiverticular artery. In this case, we were fortunate to have the likely diagnosis from the CT study and were able to treat the patient laparoscopically.

## REFERENCES

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