

Surgical Education and Self-Assessment Program (SESAP)

Category 1, item 13

Question

A 48-year-old construction worker has a 2-week history of vague left lower abdominal-wall pain. The pain is described as an aching sensation without radiation. The pain is now severe, localized to the left lower abdominal wall, and accompanied by nausea and vomiting. He is afebrile, has an obese, tender abdomen without rebound and hyperactive bowel sounds. There is no evidence of an inguinal hernia. The upright abdominal film and the abdominal computed tomographic (CT) scan shown are obtained.

The next step should be

- A Ultrasonography
- B Expectant observation
- C Colonoscopy
- D Barium enema
- E Celiotomy



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Critique

The differential diagnosis in patients with severe abdominal pain, nausea and vomiting, hyperactive bowel sounds, and tenderness to palpation should include intestinal obstruction regardless of whether the patient has had a previous abdominal operation. Hernia and malignancies, the common etiologies of bowel obstruction in the absence of adhesive disease from previous surgical manipulation, should be considered. The history of vague abdominal-wall discomfort should also raise the suspicion of an abdominal wall defect.

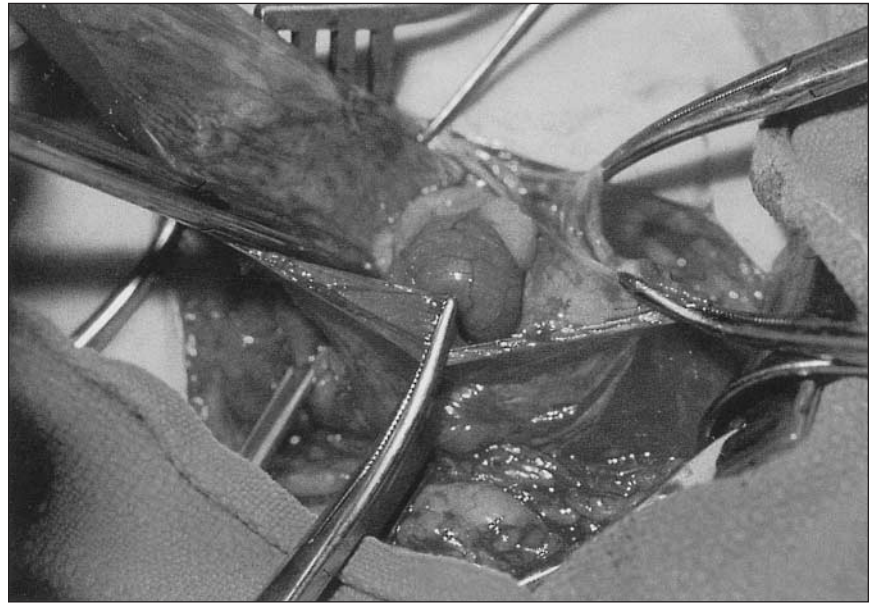
The upright abdominal radiograph shows a dilated loop of small bowel and air-fluid levels, suggesting bowel obstruction. Computed tomographic imaging dramatically demonstrated a Spigelian hernia with an incarcerated loop of small bowel, which is responsible for the bowel obstruction in this patient.

Spigelian hernias classically occur lateral to the edge of the rectus muscle and medial to the linea semilunaris. They occur most commonly above the junction of the inferior epigastric vessels and the abdominal muscle aponeurosis, but can occur at any point along the linea semilunaris. Above the umbilicus, the aponeurotic fibres of the transversus abdominus and internal oblique muscle cross at right angles and form a strong barrier. Below the umbilicus, these fibres transition to constitute the abdominal wall fascia. This transitional area is prone to defects that allow preperitoneal fat to herniate, initiating the development of a hernia ring that subsequently allows abdominal viscera to be included in the hernia sac. The defect commonly does not include the external oblique, and the hernia sac and its contents may be trapped beneath this muscle, obscuring the diagnosis by visual inspection of the abdominal wall. Spigelian hernias are uncommon, constituting only 1%–2% of all abdominal wall hernias, and represent about 2% of all operations performed emergently for abdominal wall hernias.

Spigelian hernias are usually asymptomatic, but when symptomatic, patients usually complain of localized abdominal-wall pain or fullness. The association with obesity makes the diagnosis even more difficult. Newer imaging modalities such as CT scanning and ultrasonography may detect these defects incidentally, which may explain the increased frequency with which they are found.

This patient does not require further diagnostic imaging, and expectant observation would be ill advised because of the risk of small bowel ischemia, necrosis and perforation. Urgent exploration of the abdomen with reduction of the incarcerated hernia and repair of the abdominal wall defect is indicated. Techniques of repair include primary tissue reapproximation, prosthetic mesh and plugs. Some authors report a recurrence rate of 40% when simple tissue reapproximation is used.

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Bibliography

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