An Unusual Cause of Abdominal Pain in Pregnancy: Omental Infarction.

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Case Report

An unusual cause of abdominal pain in pregnancy: omental infarction☆,☆☆

Abstract

We report a case of a 33-year-old, 28-week pregnant woman who presented to our suburban emergency department twice with symptoms of upper abdominal pain. She had a benign examination result, which elicited only mild tenderness and fullness in the right upper quadrant. Complete laboratory and radiographic studies, including computed tomographic scan of the chest, revealed only herniation of the left lobe of the liver through a divarication of the abdominal wall. At laparoscopic surgery, she was noted to have omental infarction, apparently secondary to entrapment and vascular compromise from postoperative adhesions. Omental infarction is a rare condition, which has been associated with obesity, blunt trauma, heavy lifting, occupational vibration, and laxative use. Pregnancy has not been considered a risk factor. Emergency physicians should be aware of this rare entity, which mimics a variety of more common causes of abdominal pain.

A 33-year-old, 28-week pregnant woman with a medical history of ectopic pregnancy (treated with left salpingectomy) and endometriosis presented to our suburban emergency department complaining of right upper quadrant abdominal pain that began several days prior. She described her symptoms as a constant "gnawing" 4/10 pain with occasional radiation to her left upper quadrant. The pain was alleviated by standing and exacerbated by sitting and laying supine. The patient also reported intermittent shortness of breath, pleuritic chest pain, and dizziness but denied any recent history of trauma, gastrointestinal illnesses, or prior similar symptoms. She had been evaluated in the emergency department for identical symptoms 2 days prior and discharged home after complete blood count, basic metabolic panel, troponin, and chest x-ray were unremarkable. A chest computed tomographic (CT) revealed subxiphoid ventral abdominal wall divarication with a portion of the left lobe of liver herniating through the defect; there was a suggestion of a small area of arteriovenous shunting in the left lobe of the liver.

The patient was in no acute distress. Initial vital signs were entirely normal; the O_2 saturation was 99%. On physical examination, her abdomen was gravid and soft with normal bowel sounds and a slight fullness just below the right costal margin. There was significant tenderness in the right upper quadrant and epigastrum without peritoneal signs. The remainder of the physical examination was within normal limits. Laboratory studies were significant only for an increased white blood cell count of 13.0 g/dL (9.2 g/dL on evaluation 2 days previously) and a left shift with 77% neutrophils and 6% bands.

Chest x-ray, gallbladder ultrasound, and magnetic resonance imaging of the abdomen were all interpreted as unremarkable. Review of the previously performed chest CT confirmed the findings of herniation of the liver with the suggestion of arteriovenous shunting in the left lobe (Figure).

Based on the CT chest results and continued symptoms, the patient underwent a mini exploratory laparotomy, lysis of adhesions, and partial omentum excision secondary to infarction. Intraoperatively, there were no hernias identified; however, there were multiple adhesions of the liver to the anterior abdominal wall. In addition, a section of omentum was trapped within the adhesions and this infarcted portion was successfully removed. The patient tolerated the procedure well and was discharged home in stable condition on postoperative day 3. She subsequently had a spontaneous vaginal delivery of a healthy boy at term.

Spontaneous omental infarction in pregnancy is extremely rare and may be difficult to diagnose. There have only been 2 prior case reports of omental infarction in pregnancy [1,2] and 1 after cesarean section [3]. Based on a 2012 review article, there have been approximately 400 reported cases of omental infarction, with the majority occurring in the fifth decade; it appears to be more common in males [4].

Omental infarction is a mimic of more common causes of abdominal pain, including appendicitis, cholecystitis, or diverticulitis [5]. Anatomically, omental infarction can occur in various locations within the abdominal cavity, as the omentum originates from the stomach and proximal portion of the duodenum and tracks downward to the small intestine and anterosuperior aspect of the transverse colon [6]. Most often, the pathology is appreciated on the right (88.4% [38/43 reported cases]) presumably because the omentum is longer and more mobile in this area [7] and contains altered vasculature that is less forgiving of venous stasis and constant twisting [8].

Most cases of omental infarction are idiopathic but torsion of the omentum is a recognized cause as well. Notably, pregnancy has not been recognized as a precipitating factor. In most idiopathic cases, obesity is common and omental infarction may be related to accumulation of fat within the omentum. This abnormality increases the weight of the omentum and may obstruct the right epiploic artery, thus increasing the likelihood of both torsion and infarction. Factors such as overeating, blunt trauma, heavy lifting, occupational vibration, and laxative use are also associated with omental infarction, as are postoperative adhesions, cysts, hernias, and vascular abnormalities [8].

The most efficient diagnostic study is a contrast-enhanced abdominopelvic CT scan with the pathognomonic feature described as

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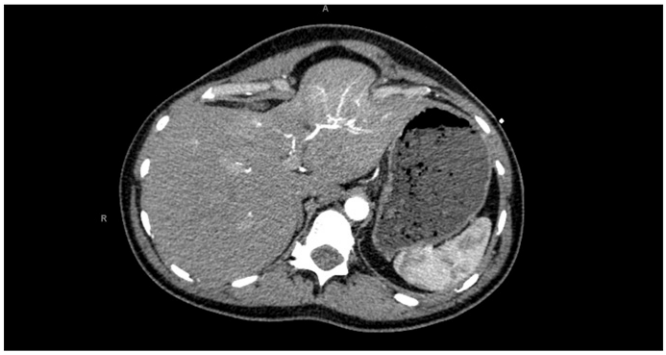

Figure. Subxiphoid abdominal wall divarication with apparent liver herniation through defect.

an "oblong or triangular shaped fatty mass" [4] or "interspersed area with a hyperattenuating streaky infiltration…between the gastric antrum and anterior abdominal wall" [2]. Radiographically, this is referred to as a "whirl-sign" [6]. The criterion standard for identifying the infarction is histologic examination of the affected segment of omentum.

Given the rarity of this diagnosis, the standard of treatment has yet to be established. To date, there is an evolving discussion of the risks and benefits of conservative vs aggressive (surgical) management. There are several documented cases of uncomplicated omental infarction that were treated successfully with fluids, analgesics, and anti-inflammatories where follow-up CT scans at 1 and 3 years after diagnosis showed a decrease in the affected necrotic lesion [8,9]. However, not all cases of diagnosed omental infarction are candidates for conservative management; patients with intractable pain, peritoneal signs, or additional complicating factors, perhaps including pregnancy, may require laparoscopic or open surgery for definitive management.

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