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Medical Image

CT Findings in the Afferent Loop☆

1. Case report

A 77-year-old man was brought to our emergency department due to acute onset of epigastric pain with brownish vomiting. He had a history of gastrectomy with Billroth II anastomosis because of a bleeding gastric ulcer that was treated 40 years prior. He was febrile (38.5 °C) and demonstrated tachycardia (120 beats/minute). On physical examination, upper abdominal tenderness was detected. Plain film of the abdomen demonstrated segmental dilated bowel loops over the upper-mid abdomen. Laboratory work-up indicated leukocytosis with left shift and elevated amylase and lipase levels. Transverse echogram of the upper-mid abdomen revealed a markedly dilated bowel loop crossing over midline located in front of the inferior vena cava (IVC) and abdominal aorta (AA) (Fig. 1). A computed tomography (CT) scan revealed a dilated afferent loop with fluid between the aorta (large arrow) and superior mesenteric artery (small arrow). None of the oral contrasting agent passed into the afferent loop. In addition, a "whirl sign" (triangle) was found in front of the afferent loop (Fig. 2). Laparotomy demonstrated congested and obstructive afferent loop caused by kinking.

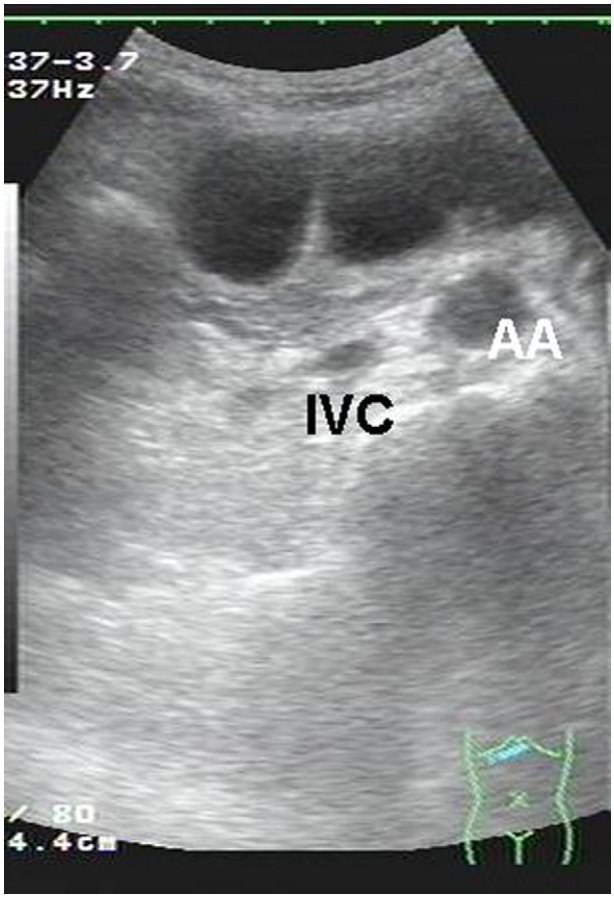

Fig. 1. Transverse echogram of the mid-abdomen showing a dilated bowel loop in front of the inferior vena cava (IVC) and abdominal aorta (AA).

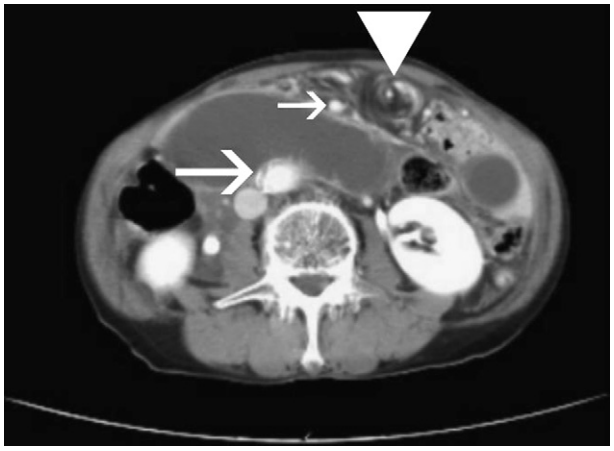

Fig. 2. Abdominal computed tomography (CT) scan showing the dilated afferent loop between the small arrow (SMA) and aorta (large arrow). CT also shows anterior displacement of SMA and that none of the contrasting agent passed into the afferent loop. A "whirl" formation (arrowhead) may have lead to the obstruction of the afferent loop. No oral contrasting agent was found in the afferent loop.

The symptoms of afferent loop syndrome are nonspecific. High pressure of the afferent loop may cause acute pancreatitis, dilated bile tract, and, rarely, obstructive jaundice[1]. A dilated bowel loop that crosses over the midline and is anterior to the aorta on sonogram, in combination with a history of gastric surgery, may indicate afferent loop syndrome[2]. Early CT imaging can be diagnostic and alert the physician to use early surgical intervention, rather than conservative treatment[3].

References

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☆ All contributing authors declare no conflict of interest.

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