Intestinal obstruction caused by small bowel volvulus

— Image in Radiology —

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Funding: There was no funding for this article.

Conflict of Interest: All authors have nothing to disclose that is relevant to this manuscript.

Authorship: All authors had access to the data. All authors had a role in writing the manuscript, have read the manuscript, and agree with its content.

Running title: small bowel volvulus

Keywords: intestinal obstruction; small bowel volvulus; computed tomography; whirl sign

Case Report

A 94-year-old woman presented to our hospital with a 1-day history of abdominal pain. She also experienced poor appetite for one month, but denied having nausea and vomiting. She had no history of abdominal surgery. On examination, she had a distended abdomen with diffuse tenderness and hypoactive bowel sound. No palpable abdominal mass or hernia was identified. An abdominal radiograph showed dilated small bowel loops with a whirlpool appearance (Figure 1). The coronal and axial views of abdominal computed tomography (CT) demonstrated rotational abnormality of superior mesenteric artery and vein which contributes to “whirlpool” configuration (Figure 2A&2B, arrows). Surgical intervention was not suitable due to the high risk of morbidity and mortality. Finally, her symptoms improved after the conservative treatment with nastrogastric tube decompression and total parenteral nutrition. Small bowel volvulus is a rare but potentially fatal surgical emergency. There is a predilection ratio of 2:1 for males and its peak incidence is in the sixth to eighth decade [1]. Primary small bowel volvulus is rare, and it is usually secondary to predisposing conditions, which include narrow mesenteric root, malrotation, postoperative adhesion, internal hernias, diverticulum, and tumor. The clinical presentations of this disease include abdominal pain, nausea, vomiting, and intestinal obstruction. Laboratory tests may show elevation of leukocyte counts, transaminase,

amylase and lactate levels. Currently abdominal CT plays an import role in diagnosing small bowel volvulus [2]. The whirl sign, consisting of twisting of mesenteric pedicle with twisting configuration of the mesenteric artery and vein, can be demonstrated with CT [2]. A high index of suspicion is required and an early diagnosis is essential to avoid mesenteric ischemia and gangrene.

References

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Figure legends

Figure 1. A radiograph of the abdomen showed dilated bowel loop with whirlpool appearance without air-fluid level.

Figure 2. Coronal (A) and axial (B) CT study showed distension of small bowel and rotational abnormality of superior mesenteric artery and vein which contributes to "whirlpool" configuration.