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Article type: Clinical image

Received: April 30, 2019.

Accepted: June 7, 2019.

Published online: June 19, 2019.

ISSN: 1897-9483

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Coffee bean sign, beak-shaped transition point, and endoscopic whirl sign of huge sigmoid volvulus in intestinal neuronal dysplasia

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Short title: Signs of sigmoid volvulus

Key words: sigmoid volvulus, intestinal neuronal dysplasia

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Conflict of interest: none declared.

A 27-year-old man presented with chronic abdominal distension and constipation for 6 years. Vital signs were stable and abdominal examination revealed generalized distension and non-tenderness with decreased bowel sounds. Plain spine radiography showed “the inverted U-sign” of dilated sigmoid colon loop with air-fluid level, suggesting sigmoid volvulus (SV)
Abdominal computed tomography (CT) scout view confirmed the huge “coffee bean sign” [1] of SV extending into the subphrenic region (FIGURE 1B). CT scan showed “the steel pan sign” [2] of SV and a beak-shaped transition point, which was the stenotic point due to a fusiform tapering of the bowel loop (FIGURE 1C). Subsequent endoscopy disclosed a whirl-like appearance at the luminal twisted narrowing with torsion (FIGURE 1D). The scope was then inserted through this point into the dilated sigmoid colon (FIGURE 1E) and decompressed the lumen. After that, frequent colonoscopic decompression and detorsion were needed for recurrent refractory SV. He eventually underwent elective colectomy and ileorectal anastomosis. Pathological examination made the diagnosis of intestinal neuronal dysplasia. Postoperative course was uneventful and he reported a favorable improvement in his intestinal function and quality of life.

SV is a common cause of colonic obstruction and a potentially life-threatening condition. It was described in the papyrus of ancient Egypt and later Hippocrates advocated the treatment [3]. Predisposing factors include congenital or acquired anatomical variations, such as a long redundant sigmoid colon and megacolon, previous abdominal surgery, chronic constipation, and neurologic disease [3]. A wide variety names have been given to its radiological appearance [1-5]. Although plain radiographic features seem diagnostic, CT scan signs can be useful for identifying the etiology and disclosing ischemic change. Conservative treatment by endoscopic decompression is acceptable and surgery may be required for emergencies including infarction and perforation, and refractory SV, as in this case [3, 4].

References


Figure 1A. An abdominal plain radiography showing “the inverted U-sign” of dilated sigmoid colon loop with air-fluid level.
Figure 1B. An abdominal computed tomography scout view revealing the huge “coffee bean sign” of sigmoid volvulus extending into the subphrenic region. Apposition of the medial walls of the ascending and descending sigmoid loops form the central cleft of the coffee bean appearance and the lateral walls form the outer walls of the bean [1].
Figure 1C. An abdominal computed tomography scan showing “the steel pan sign” of sigmoid volvulus and a beak-shaped transition point (arrow). The arrangement of haustral fold in a circular pattern resembles the Trinidadian percussion instrument known as the steel pan [2].
Figure 1D. Colonoscopy disclosing a whirl-like appearance at the luminal twisted narrowing with torsion.
Figure 1E. Colonoscopy showing a large “room” of the dilated sigmoid colon.