Sigmoid Volvulus Showing “a Whirl Sign” on CT

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Figure 1. Plain abdominal X-ray film obtained in the supine position reveals gross dilatation of the colon.

Figure 2a and 2b. Abdominal computed tomography reveals dilated colon with an air/fluid level (A, arrow), as well as the “whirl sign” composed of mesentery (B, arrow) and twisted colon (C, arrow). The center of the whirl sign is shown by arrow in D.

An 80-year-old man was admitted to our hospital with increasing colicky pain and loss of appetite. Abdominal X-ray films revealed gross dilatation of the colon without any characteristic features of volvulus such as the coffee bean sign (Fig. 1). Abdominal computed tomography (CT) revealed a dilated colon with an air/fluid level and the “whirl sign”, which represents twisted colon and mesentery (Fig. 2). Subsequent colonoscopy detected and relieved volvulus of the sigmoid co-
The “whirl sign” was first described by Fisher (1), as suggesting volvulus of the small bowel, and it was considered that this sign represents the superior mesenteric artery at the center surrounded by bowel loops. Subsequently, it has occasionally been recognized in patients with various forms of volvulus, such as sigmoid volvulus or cecal volvulus (2, 3). In a patient with sigmoid volvulus, the whirl sign is caused by tightly twisted bowel and mesentery (4). If the axis of the twisted bowel and mesentery is vertical to the scanning plane, a whirl sign can be detected by CT and is a useful finding in all patients with gastrointestinal volvulus (Fig. 3). When abdominal X-ray films reveal gross colonic dilatation of unknown etiology, a whirl sign on CT scans raises the possibility of colonic volvulus.

References


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