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Current Management of Sigmoid Volvulus. A Therapeutic Approach

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ABSTRACT

When an air-filled loop of the sigmoid colon coils around its mesentery, this is referred to as sigmoid volvulus. When the degree of torsion surpasses 180 and 360 degrees, respectively, the intestinal lumen is obstructed, and vascular circulation is impaired. A sigmoid volvulus is suspected in individuals who have stomach discomfort, nausea, abdominal distension, constipation/obstipation, and a distended and tympanitic belly on physical examination. To confirm the diagnosis of sigmoid volvulus and rule out alternative causes of stomach discomfort and intestinal blockage, we do an abdominal computed tomography scan. The treatment of individuals with sigmoid volvulus is dependent on the presence of warning symptoms.

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INTRODUCTION

Volvulus is the twisting of a portion of the alimentary canal, which frequently results in bowel blockage. The sigmoid colon and cecum are the most prevalent locations for volvulus. Volvulus of other parts of the gastrointestinal system, such as the stomach, gallbladder, small intestine, splenic flexure, and transverse colon, is uncommon.[1]

The discomfort associated with sigmoid volvulus is often continuous and intense, with a colicky component superimposed during peristalsis. The illness may be less visible in elderly, institutionalized persons who have modest symptoms. Because of the insidious nature of the presentation, the majority of patients arrive three to four days after the beginning of symptoms. On physical examination, the abdomen is distended and tympanitic, with palpable discomfort. There may be empty space in the left iliac fossa in rare circumstances. In the early stages of the illness, fever, tachycardia, hypotension, abdominal guarding, stiffness, and rebound tenderness are absent, but if present, are symptomatic of perforation and/or peritonitis.[2]

Approximately 17% of patients come within 48 hours of the beginning of symptoms, with fulminant clinical symptoms that include rapid onset of acute severe pain, obstipation, and vomiting that precedes or coincides with the onset of stomach discomfort. In rare cases, a disruption in the blood flow to the sigmoid colon can lead to gangrene, peritonitis, and sepsis.[3]

DIAGNOSIS

Patients with stomach discomfort, nausea, abdominal distension, constipation/obstipation, and a physical examination that reveals a distended and tympanitic belly are commonly suspects. Imaging is used to confirm a sigmoid volvulus diagnosis (abdominal computed tomography scan). [4] A CT scan of the abdomen confirms the diagnosis of sigmoid volvulus and rules out alternative causes of abdominal discomfort and intestinal blockage. Abdominal radiographs should be taken if a CT scan is not available right away. Contrast enemas are rarely used to diagnose sigmoid volvulus.[5]

A swirl pattern formed by the dilated sigmoid colon surrounding its mesocolon and vasculature, as well as a bird-beak appearance of the afferent and efferent colonic segments, are diagnostic signs of sigmoid volvulus. However, these characteristics may be missing in one-fourth of CT images. [6] A U-shaped, distended sigmoid colon observed as an ahaustral accumulation of gas (also referred to as a "bent inner tube") stretching from the pelvis to the right upper quadrant as high as the diaphragm is one of the diagnostic findings on abdominal radiography.[7]

However, only 60% of individuals can be diagnosed with sigmoid volvulus with abdominal radiography. Distended large bowel proximal to the sigmoid and elevated air-fluid levels in the small intestine are common in sigmoid volvulus

patients, but they can also be found in individuals with other causes of distal colonic blockage, colonic pseudoobstruction, and toxic megacolon. The appearance of linear pneumatosis shows that intestinal necrosis is causing bowel perforation. Free intraperitoneal air indicates bowel rupture.[8]

A sigmoid volvulus on contrast enema has a twisted taper or a bird's beak shape where contrast tapers to the site of blockage.[9]

DIFFERENTIAL DIAGNOSIS

Other causes of colonic blockage are included in the differential diagnosis of sigmoid volvulus. Based on clinical characteristics and abdominal imaging, sigmoid volvulus can be separated from these causes.[10]

Toxic megacolon is distinguished by complete or segmental colonic dilatation in addition to systemic toxicity. On physical examination, patients with toxic megacolon often seem quite sick, with fever, tachycardia, and generalized abdominal discomfort. They typically have a history of bloody diarrhea or other chronic inflammatory bowel disease signs or symptoms. In individuals with toxic megacolon, abdominal imaging may reveal "thumbprinting" owing to intestinal ischemia, although U-shaped distension of the sigmoid colon on abdominal radiography and computed tomography (CT) scan findings of a whirl pattern and a bird-beak appearance are missing. [11]

Acute colonic pseudo-obstruction (Ogilvie's syndrome) is a condition marked by extensive dilatation of the whole colon, generally extending to the rectum, in the absence of an anatomic lesion obstructing the flow of intestinal contents. It is frequently associated with other disorders. In individuals with acute colonic pseudo-obstruction, an abdominal CT scan frequently demonstrates widespread colonic dilatation, although in certain cases, a more proximal colonic dilatation occurs with an intermediate transitional zone at or near the splenic flexure. [12]

CONCLUSION

The treatment of individuals with sigmoid volvulus is dependent on the presence of warning symptoms (perforation or peritonitis).

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