Transverse Colon Diverticulitis with Calcified Fecalith

Kalsifiye Fekalitin Yol Açtığı Transvers Kolon Divertiküli

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Abstract

Left colonic diverticula are common in Western populations, whereas right colonic diverticulosis primarily occurs in Oriental populations. Diverticulitis of the transverse colon is very rare, with very few cases reported in the literature. Herein, we report a case of transverse colon diverticulitis caused by a calcified stone in a 69-year-old female. This was a solitary diverticulum. The signs and symptoms of the disease are similar to acute pancreatitis. To the best of our knowledge, this is the first report describing the MRI findings of a patient with transverse colon diverticulitis caused by a calcified stone.

Key Words: Diverticulitis, Fecalith, Transverse colon

Case Report

A 69-year-old female was admitted with clinically suspected acute pancreatitis. She complained of a four-day history of severe epigastric pain, anorexia and vomiting. Her white blood cell (WBC) count was elevated to 16,000 cells/mcL. Her blood amylase and lipase levels were within normal limits (amylase: 69 U/L, lipase: 53 U/L). A physical examination identified a painful epigastric mass. The patient had previously undergone a cholecystectomy, and the epigastric fat planes were heterogeneous on ultrasonographic images. Pancreatitis was suspected due to a choledoch stone. Magnetic resonance imaging (MRI) and magnetic resonance cholangiopancreatography (MRCP) were ordered for further evaluation. MRI demonstrated thickening of the transverse colon wall, contrast enhancement and disseminated edema in the anterior pericolonic adipose tissue. In the center of the edematous
region, all sequences had a persisting 12 mm formation without a signal (Figure 1, 2). An MRCP examination demonstrated a normally sized ductus choledochus, and no stone formation was observed. The other intra- and extrahepatic bile ducts were normal. To better evaluate this signal-less formation with suspected calcifications, the patient underwent CT (computed tomography). In the tomographic sections, a hyperdensity similar to an ectopic gallstone and surrounding lipoid tissue heterogeneity were detected in the epigastrium (Figure 3). To evaluate the colonic mucosa, contrast material was rectally introduced, and BT was repeated because there was insufficient distention of the neighboring transverse colon. Upon a second evaluation, a diverticulum with a calcified fecalith in the middle and an opaque air level inside and its connection with the colonic lumen were observed. The peridiverticular fat planes were thickened, and contrast material leakage was not observed outside of the lumen. The patient was diagnosed with transverse colon diverticulitis, and treatment with antibiotherapy was initiated. The endoscopic removal of the calcified fecalith was suggested, but the patient did not accept. After antibiotherapy, the patient was healthy. The patient is currently observed regularly at a follow-up outpatient clinic.

Discussion

A normal colon is strong and relatively smooth. Small pouches or sacs, called diverticula, can form along the inner lining of the intestine. The presence of these pouches on the colon wall is termed diverticulosis. Although diverticulosis can occur anywhere in the colon, it is most commonly observed in the lower portion of the colon (rectosigmoid region) because the colon is narrowest and the inner pressure is highest in this location [1, 3]. In developed countries, a diet low in fiber increases the risk of diverticulum formation and subsequent diverticulitis. In those countries, diverticula are frequently retained in the left and distal colon, while in Eastern countries, they are more frequently retained in the right colon. There are very few cases with a transverse colon diverticulum in the literature. Thus, our case is very unique with respect to the lesion location [1, 2, 4].

Most patients suffering from diverticulitis are elderly, making it difficult to interpret the symptoms and delaying the diagnosis. Diverticula do not possess a muscle layer on their walls, and if not treated, the wall of the diverticulum will gradually thin and may become perforated due to inflammation. After perforation, the lesion might spread to the peritoneal cavity and lead to generalized peritonitis. Occasionally, repeated diverticulitis attacks may lead to fistulization in colon structures and other intestinal segments. Therefore, early diagnosis and treatment is critical for a favorable outcome [2, 3]. In the acute phase of diverticulitis, barium colonography and endoscopic examinations are contraindicated due to the risk of perforation [5]. Tomography is the gold standard for diagnosis because it shows mucosal defects and inflammation in the adjacent fat planes and displays the extramural components of the disease. Oral contrast tomography cannot create adequate intestinal distention, so the diverticulum lumen may not be filled with the contrast material. Moreover, when administered orally, the contrast material requires at least two hours to fill the colon [6]. Kircher et al. [7] used a rectal contrast material instead of an oral or
intravenous contrast material in 312 patients and reported 99% sensitivity and specificity in their study. Thickening of the intestinal mucosa and fat stranding are the most specific symptoms of diverticulitis [8]. In our study, we also used rectal contrast tomography to evaluate the diverticulum lumen and its relationship with the colon lumen in a patient who could not be evaluated using oral contrast tomography.

To our knowledge, only two studies in the literature have shown that fecalith may result in diverticulitis and become calcified and visible [6, 7]. In our patient, the fecalith became calcified and visible, and we were therefore able to make an appropriate diagnosis.

We performed abdominal MRI due to the suspicion of potential pancreatitis as a result of choledoch stones and observed the calcified fecalith. Similar to the findings in BT, thickening of the colonic mucosa, contrast enhancement of the colonic and diverticular wall, thickening and stranding in the pericolonic fat planes and edemas were observed using MRI. One should consider a calcified fecalith when a hypointense lesion is observed in heterogeneous thick pericolonic fat tissue in cases similar to the one described above.

**Figure 3.** A) CT of the abdomen with oral and intravenous contrast material reveals thickening and stranding of the anterior epigastric fat planes. The white arrow indicates a hyperdense fecalith mimicking the peripherally calcified ectopic gallstone. B) CT after the contrast material was administered through the colon. A coronally reformatted image showing the entire lumen and communication with the transverse colon of the diverticulum. The calcified fecalith and barium are isodense, and the calcified fecalith is therefore indistinguishable.

**Conflict of interest statement:** The authors declare that they have no conflict of interest to the publication of this article.

**References**