

Twig tea impaction in the colon causing abdominal pain

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Abstract We describe a case of lower abdominal pain caused by a twig tea impaction at the rectosigmoid junction after inadvertent ingestion. The foreign body was detected and successfully dislodged from the colonic wall with grasping forceps during colonoscopy. The post-procedural course was uneventful, and the patient was discharged 10 days after the removal. Colonic injury, including perforation due to foreign body ingestion, must be considered in patients presenting with unexplained symptoms and findings, even when they do not recall any foreign body ingestion.

Keywords Abdominal pain · Foreign body · Endoscopic removal

Introduction

Foreign body ingestion is a common clinical problem for gastroenterologists. It is well known that the majority of ingested foreign objects pass the gastrointestinal tract

spontaneously without complications [1]. Pre-endoscopic series have shown that 80 % or more of foreign objects will likely pass without the need for intervention. However, in cases of intentional ingestion the rate of endoscopic intervention may be much higher (63 to 76 %), and the need for surgical intervention ranges from 12 to 16 % [2]. Impaction generally occurs at sites of narrowing, such as the pylorus, the ligament of Treitz, the ileocecal valve, or the rectosigmoid junction. Furthermore, long, narrow, or pointed foreign bodies are associated with a higher risk of impaction, as well as complications such as perforation [3]. We report here on a patient with twig tea impaction in the sigmoid colon, a complication of accidental ingestion of the Japanese blend tea that was diagnosed and successfully managed with colonoscopy.

Case report

A 79-year-old man was referred for evaluation of a complaint, approximately 2 weeks in duration, of constipation and abdominal discomfort. He also complained about recent lower abdominal pain. The patient was taking laxatives, which did not improve the symptoms. His past medical history included prostatic hyperplasia, with no history of previous surgical procedures. He was not a smoker or alcohol drinker. A review of systems was negative for melena, gross blood per rectum, fever, weight loss, or change in bowel habits. A general examination was normal except for the abdomen, which revealed mild discomfort to deep palpation in the left lower quadrant. There were no palpable masses, and no peritoneal signs. The bowel sounds were normal. The laboratory data (complete blood count, chemistry, urinalysis, tumor markers) showed a slight anemia (red blood cells $402 \times 10^4/\text{mm}^3$,

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Fig. 1 Abdominal X-ray showed dilated loops of the small bowel

hemoglobin 12.0 g/dl) and C-reactive protein was slightly elevated (0.36 mg/dl). A plain abdominal X-ray revealed dilated loops of the small bowel in the left upper quadrant area but showed no evidence of free air (Fig. 1).

The patient was suspected to have subileus and plain CT was performed. There was no evidence of obstruction or perforation, and a colonoscopy was performed after regular

bowel preparation in order to evaluate colonic inflammation. A foreign body was detected lodged in the rectosigmoid junction with one end protruding freely into the bowel lumen and the other end impacted into the bowel wall, where erythematous mucosa with whitish discharge was observed (Fig. 2a). Magnifying observation with a zoom scope (PCF-Q260AZI, Olympus, Japan) of the foreign body revealed a wood-like texture (Fig. 2b). The free end of the foreign body was carefully and firmly grasped with grasping forceps (Fig. 3a), and it was gently dislodged from the colonic wall. The wood-like foreign body was finally removed, and erythematous mucosa and sparse tiny openings with whitish discharge were observed after removal (Fig. 3b). More than half of the foreign body, approximately 3 cm in length, was running into the colonic wall. The procedure was uneventful, and the post-procedure abdominal CT scan was negative for pneumoperitoneum or pericolic abscess (Fig. 4a, b). Subsequent questioning revealed the patient's habit of drinking twig tea, which was found to be the foreign body impacted in his rectosigmoid junction (4.5 by 0.2 cm in size) (Fig. 5). The patient did not recall swallowing the twig.

Treatment with intravenous broad spectrum antibiotics was started while the patient remained fasting. A regular diet was instituted gradually during the next few days, and

Fig. 2 Endoscopic appearance of the foreign body in the sigmoid colon. **a** A long thin foreign body impacted the colonic mucosa. **b** Magnified observation showed a wood-like texture

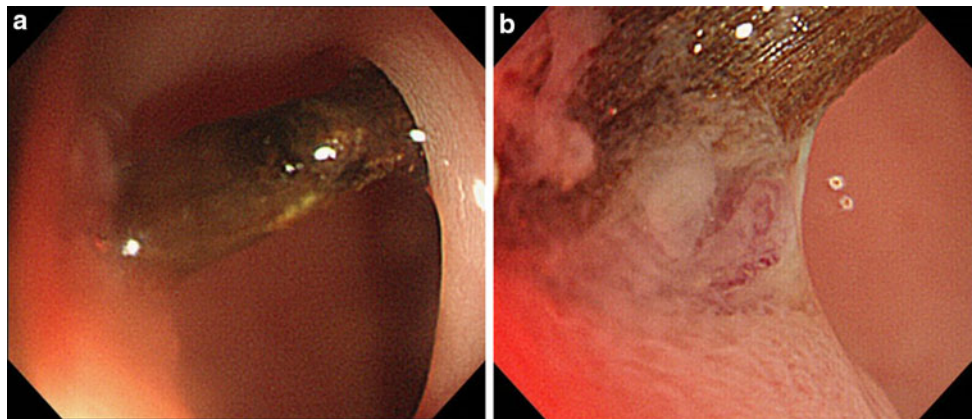
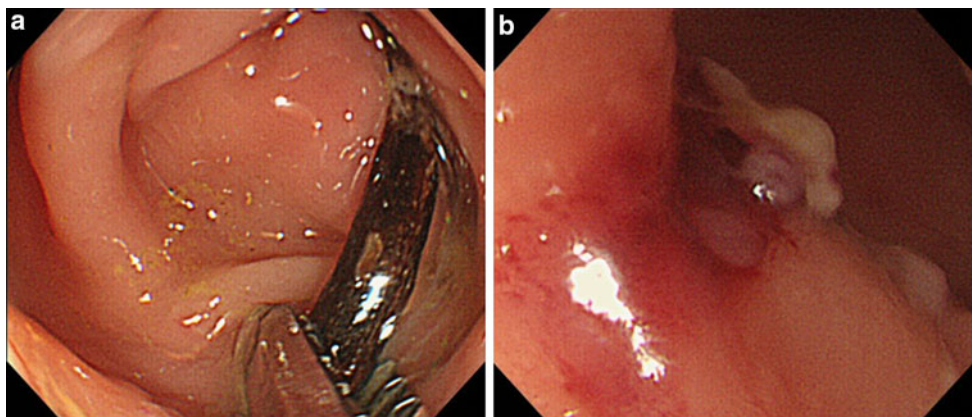


Fig. 3 Endoscopic removal of the foreign body. **a** The free end of the foreign body was carefully and firmly grasped with grasping forceps. **b** The foreign body was gently dislodged from the colon wall, and erythematous mucosa and sparse tiny openings with whitish discharge were observed after removal



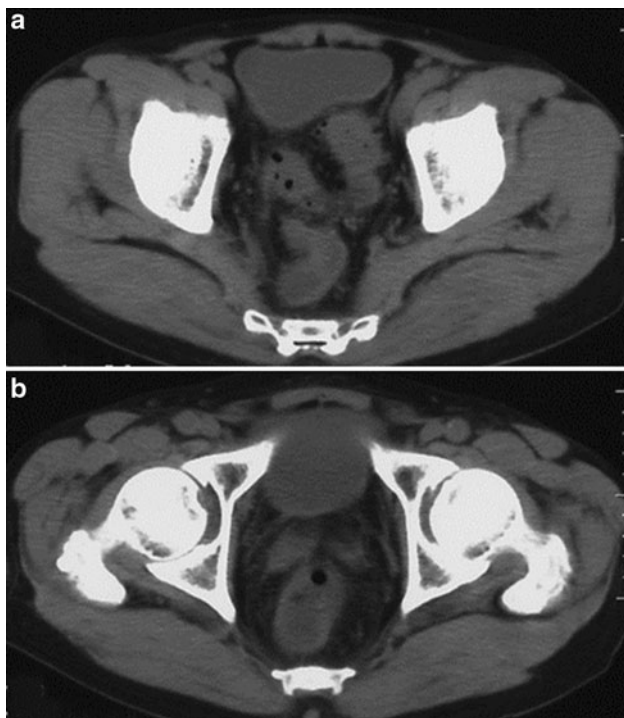


Fig. 4 Abdominal CT scan. The post-procedure abdominal CT scan was negative for pneumoperitoneum or pericolic abscess

administration of antibiotics was switched from intravenous to oral administration. During this period, the patient noted a complete remission of his abdominal pain. Follow-up colonoscopy up to the terminal ileum was normal except for mild segmental mucosal erythema and edema at the rectosigmoid junction. Finally, the patient was discharged from the hospital in excellent health 10 days later.

Discussion

Foreign body ingestion is a common occurrence, and the majority of ingested foreign bodies will pass spontaneously through the esophagus and eventually pass through the entire gastrointestinal tract uneventfully. In a retrospective analysis of 542 cases of ingested foreign bodies (esophageal foreign bodies excluded), it was reported that 75.6 % (410 out of 542) of foreign bodies passed spontaneously [4]. In general, the navigation of an ingested foreign body depends on the anatomic conditions of the gastrointestinal tract and on factors related to the ingested foreign body. Complications after a foreign body ingestion, such as impaction, perforation, or obstruction, most often occur in areas of acute angulation or physiologic narrowing of the gastrointestinal tract [5]. Foreign body ingestion is usually asymptomatic but the risk of perforation is higher when long, sharp or pointed metallic objects, animal or fish bones, or toothpicks are ingested [3, 4, 6], which may cause various symptoms.

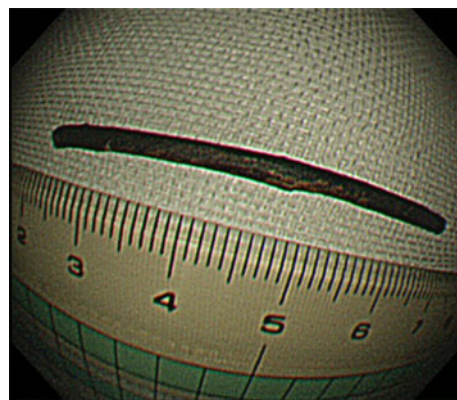


Fig. 5 The wooden foreign body was found to be a twig from tea (4.5 cm × 0.2 cm)

Toothpick ingestion is commonly implicated in gut injuries due to the sharply pointed end and the length of this indigestible, hard foreign body. It has difficulty in traversing the intestinal lumen, especially the narrow or tortuous sections of the gastrointestinal tract or the transition from a mobile portion of the bowel (ileum and sigmoid) to a more fixed portion (cecum and rectum) [7]. In a review of 57 cases of toothpick ingestion-related gut injuries, it was reported that the majority of patients did not recall the swallowing of a toothpick, while only 12 % of patients remembered swallowing one [8].

Twig tea is a Japanese blend made of stems, stalks, and twigs. It is available as a green tea or in a more oxidized form. It has a unique flavor and aroma among teas, due to its being composed of parts of the tea plant that are excluded from most other teas. Although it is less known generally, twig tea pieces are somewhat hard and the lengths vary. Tips are not pointed but this depends on each piece. In our case, the retrieved foreign body found at the rectosigmoid junction was 4.5 cm in length and looked similar to a toothpick, although neither end was pointed. It turned out to be a stalk of twig tea, as deduced from the detailed questioning of the patient's eating habits, although he did not recall swallowing it. We performed a plain CT before starting regular bowel preparation for colonoscopy, to assure that there was no obstruction or perforation. It makes sense that no foreign body was detected with CT due to the radiolucency of the foreign body.

Some cases of colonic foreign bodies have been successfully managed endoscopically [5, 9, 10]. In those reports, various retrieval devices have been used, including rat-tooth and alligator forceps, polypectomy snares, and retrieval nets. To the best of our knowledge, colonic twig tea impaction has never been reported previously. Although the mechanism of impaction in this case remains unclear, colonoscopic removal of the foreign body and antibiotics treatment led to an uneventful recovery. While surgical consultation is always needed, even when the

foreign body perforation is not complicated, colonoscopy should be considered as the first step in management because it is a potent and safe diagnostic and therapeutic tool in experienced hands [5].

In conclusion, colonic wall injury, including perforation due to foreign body ingestion, must be considered in patients presenting with unexplained symptoms and findings, even when they do not recall any foreign body ingestion.

Disclosures

Conflict of Interest: The authors declare that they have no conflict of interest.

Human/Animal Rights: All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008(5).

Informed Consent: Informed consent was obtained from all patients to be included in the study.

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