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Successfully Treated Intra-Abdominal Abscess Caused by Fish Bone With Perforation of Ascending Colon: A Case Report

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Ingestion of a foreign body is not uncommon, but rarely results in perforation of the gastrointestinal tract. The most common sites of perforation are reportedly the narrowest parts of the bowel, and perforation of the right side of the colon is rare. We report herein the case of a 69-year-old man who presented with an 8-week history of right upper abdominal pain. Laboratory data revealed inflammation at the first hospital visit. Computed tomography revealed a hypodense lesion containing a hyperdense foreign body in the abdomen. Intra-abdominal abscess caused by foreign body perforation was diagnosed. After administering antibiotics for 2 weeks, surgery was performed. Symptoms had resulted from perforation of the ascending colon by a fish bone.

Key words: Fish bone – Colon perforation

Accidental ingestion of a foreign body such as a fish or chicken bone is relatively common. In most cases, the ingested foreign body passes through the gastrointestinal tract uneventfully, and perforation of the bowel by the foreign body reportedly occurs in less than 1% of cases.[1] The most common sites of perforation are reportedly the narrowest parts of the bowel, at either the ileocecal valve or recto-sigmoid junction, and perforation of the right side of the colon is rare.[2] We report an unusual case involving perforation of the ascending colon by a fish bone.

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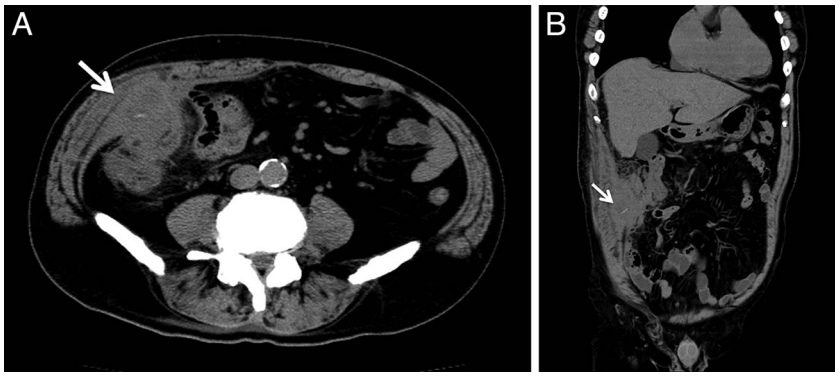

Fig. 1 Transverse (A) and coronal (B) sections on computed tomography.The white arrow indicates the intra-abdominal abscess with fish-bone.

Case Report

A 69-year-old man presented to our hospital with an 8-week history of constant right upper abdominal pain. On presentation to our hospital, low-grade fever was also noted. Inflammatory findings were evident from the following laboratory data: white blood cell count (WBC), 15,900/μL (normal, 5000–8000/μL); red blood cell count (RBC), 361×10^4/μL (normal, 400–530 $\times 10^4$/μL); hemoglobin, 10.3 g/dL (normal, 14–18 g/dL); platelets, 50.3×10^4/μL (normal, 12–40 $\times 10^4$/μL); albumin, 2.0 g/dL (normal, 3.7–5.5 g/dL); and C-reactive protein (CRP), 19.0 mg/dL (normal, <0.3 mg/dL). Other laboratory data were within normal ranges.

Computed tomography revealed a hypodense region 50 mm in diameter with a 20-mm hyperdense linear object in the abdominal cavity (Fig. 1).

We diagnosed foreign body perforation of the ascending colon and intra-abdominal abscess. Although the patient described right upper abdominal pain, he had remained able to eat for 2 months. He was therefore first treated with a 2-week course of antibiotics (tazobactam/piperacillin, 13.5 g/d, and clindamycin, 1200 mg/d). Laboratory data after 2 weeks were as follows: WBC, 5200/μL (normal, 5000–8000/μL); RBC, 371×10^4/μL (normal, 400–530 $\times 10^4$/μL); hemoglobin, 10.3 g/dL (normal, 14–18 g/dL); platelets, 37.4×10^4/μL (normal, 12–40 $\times 10^4$/μL); albumin, 2.6 g/dL (normal, 3.7–5.5 g/dL); and CRP, 0.5 mg/dL (normal, <0.3 mg/dL).

Although inflammatory response in the blood test was diminished, the abscess cavity and foreign body still remained. Therefore, removal of the abscess cavity with foreign body was planned. Under general anesthesia, right flank incision above the abscess was made. Adhesion around the abscess cavity was so strong that only the drainage of the abscess and removal of the foreign body were performed. There was no fistula into the ascending colon. The foreign body was a 20-mm fish bone (Fig. 2). Culture of the abdominal abscess yielded negative results for bacteria, only numerous leukocytes.

The postoperative course was uneventful and the patient was discharged 2 weeks postoperatively with no complaints.

Discussion

Ingestion of a foreign body is not uncommon, but rarely results in perforation of the gastrointestinal tract.[1] Common sites of perforation are the narrow parts of the bowel.[2,3] Some reports have also described perforation through areas of weakened wall, such as with Meckel's diverticulum.[4] Perforation of the colon, other than at the recto-sigmoid junction, is so rare that less than 10 cases have been reported in the English literature.[3,5–8] The abdominal abscess in the present case was located in front of the ascending colon, so the perforation most

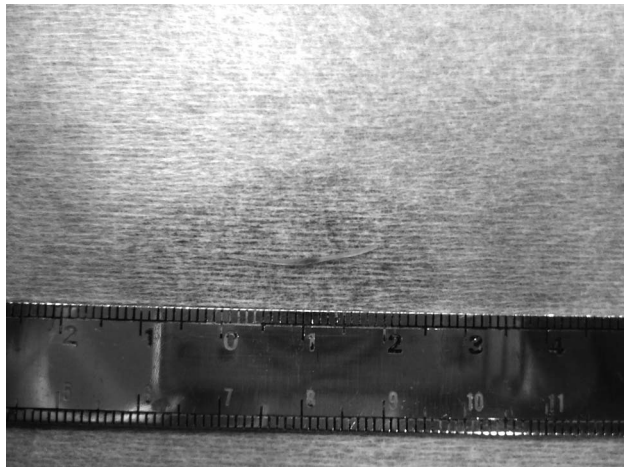

Fig. 2 A fish bone 20 mm in length was embedded within the abscess.

likely occurred in the ascending colon. Clearly, perforation of the small intestine is a possibility, but foreign body perforations of the large intestine reportedly tend to present with a longer, more innocuous clinical picture than perforations of the jejunum or ileum.[3] In this case, we thus consider perforation of the ascending colon as the most likely scenario. There was no evidence of narrow parts or weakened walls in the ascending colon. In this case, the fish bone accidentally perforated the ascending colon, and the bone was narrow enough that the perforated site closed spontaneously, allowing the patient to keep eating for 8 weeks despite the abdominal abscess.

Most reports of foreign-body perforations of the gastrointestinal tract involve fish or chicken bones.[3] Bones from sebastes, cod, sea bream, and eels are reported most often,[8–11] and these species are eaten in both Asian and European countries. In our case, the patient remembered eating fried sebastes 8 weeks earlier. The fish bone thus likely came from a sebastes.

Typical treatments for foreign-body perforation are drainage of the abscess with or without bowel resection, or conservative therapy with antibiotics. If the onset is acute, drainage should be the first choice. If the abscess is caused by an apparent foreign body, surgical drainage with removal of the foreign body is a natural first suggestion. However, some cases have been successfully treated using antibiotics alone.[12–15] For chronic cases, we suggest starting with antibiotic treatment to reduce any inflammation, followed by drainage of the abscess and removal of the foreign body. This is because minimization of the inflammation will facilitate any surgical treatment. Actually, our patient underwent drainage without bowel resection, and showed a rapid recovery. Elective drainage using antibiotics can thus be an effective option for chronic cases.

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