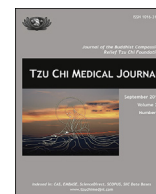




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Images in Clinical Medicine

Appendicular foreign body presenting with appendicular mass

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A 54-year-old man with hypertension and diabetes mellitus presented to our emergency department with progressive intermittent lower abdominal pain for 1 month. He had no other symptoms, such as fever, nausea, vomiting, constipation, or diarrhea, but he reported increased frequency of bowel movements for 1 week. His vital signs were stable, and physical examination revealed diffuse tenderness over the lower abdomen. His white blood cell count was $12.32 \times 10^9/L$ with 75.0% segmented neutrophils. Abdominal computed tomography (CT) showed a spiculated mass, $\sim 4.8 \text{ cm} \times 4.5 \text{ cm} \times 4.3 \text{ cm}$, with central calcification in the lower abdominal cavity, which connected to the cecal base (Figs. 1 and 2). Under the impression of foreign body-induced acute appendicitis with perforation, the patient underwent a laparotomy through a lower midline incision. An 8-cm diameter appendicular mass with severe adhesions was noted intraoperatively. The cecum and a 16-cm segment of ileum were resected together with the appendicular mass, and the continuity was reconstructed with an end-to-side ileocolostomy. The surgical pathology revealed that the appendix had a thickened wall and dilated lumen with local peritonitis. A bone fragment was found in the appendicular lumen (Figs. 3 and 4). The patient reported that he ate duck frequently. Most likely, he unintentionally ingested a bone fragment. The

postoperative course was uneventful, and he was discharged on the 6th postoperative day. His suffering disappeared and he had no complications during 2-year follow-up.

Most ingested foreign bodies pass through the gastrointestinal tract without any complications. On rare occasions, foreign bodies enter the appendix and cause acute appendicitis. The symptoms vary from none-to-severe abdominal pain, and the time of clinical presentation can vary from hours to years after ingestion [1,2]. Blockage of the appendicular lumen may lead to vascular congestion with subsequent ischemic necrosis and infection of the appendix. Exogenous foreign bodies have been reported as the cause of appendicitis in $\sim 0.005\text{--}5.54\%$ of cases [3,4]. Various materials causing acute appendicitis have been reported, such as lead shot, metal needles, dental drill bits, toothbrush bristles, animal bones, and fruit seeds [3–6]. An appendectomy, cecotomy, or ileotomy may be necessary to remove the foreign body. Since most ingested objects are radiopaque, laparoscopy under fluoroscopic guidance is the best way to identify foreign bodies in the appendix, and some can be removed by endoscopy [3,7]. The suggested therapeutic strategy in symptomatic cases is surgical, especially for sharp, stiff, pointed, or long foreign bodies that could cause complications, such as perforation, fecal peritonitis, fistula, and intraabdominal abscess [3].

Conservative management is an option when a patient with acute perforated appendicitis develops a “walled-off” inflammatory mass instead of free perforation. However, there is no strong evidence to suggest conservative treatment for foreign bodies in the appendix. Conservative treatment followed by interval appendectomy means delayed removal of a symptomatic foreign body, and there is no guarantee of a better outcome. We found only one published case report of conservative treatment for a foreign body presenting with an appendicular mass. The author concluded that an appendicular foreign body could present as a cause of recurrent symptoms and require a formal appendectomy, even after successful conservative management [8].

In summary, we reported a case of surgical treatment of an appendicular foreign body presenting with an appendicular mass. The patient had repeated episodes of abdominal pain for 1 month and the disease progressed. We decided against an endoscopy and

Conflicts of interest: none.

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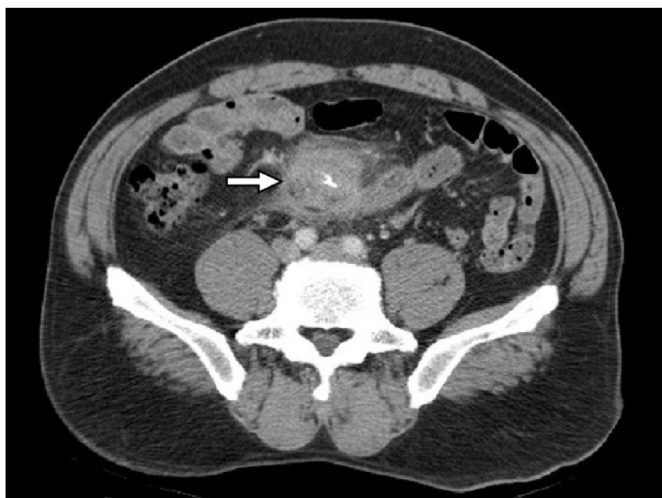


Fig. 1. Axial view on contrast-enhanced computed tomography shows a spiculated mass with central calcification in the lower abdominal cavity (arrow), favoring a diagnosis of foreign-body retention.

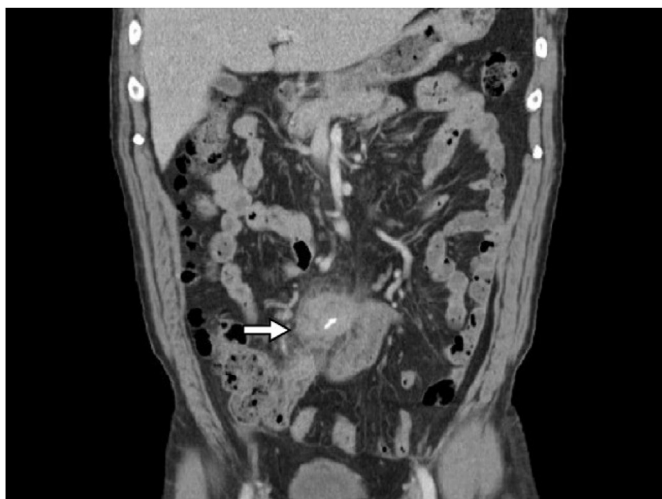


Fig. 2. Coronal view on contrast-enhanced computed tomography shows a spiculated mass with central calcification (arrow), connected to the cecum, and compatible with perforated appendicitis.

laparoscopy, because a perforation was suspected. Surgical treatment was effective and the outcome was satisfactory.

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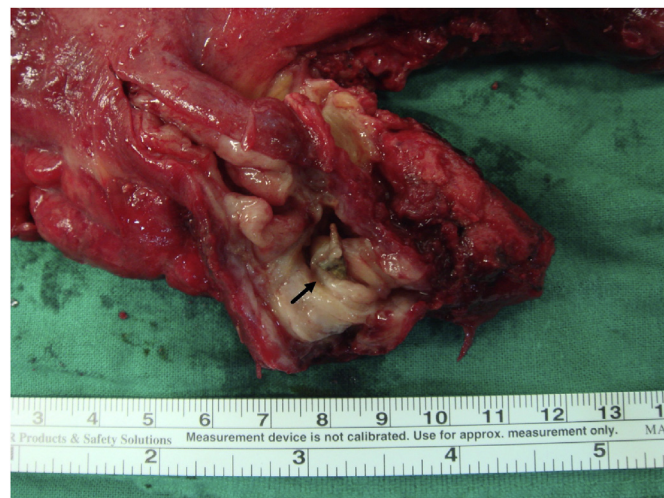


Fig. 3. Macroscopic findings from the specimen show a pointed, 1.0 cm × 0.5 cm × 0.2 cm foreign body (arrow) in the appendicular lumen.

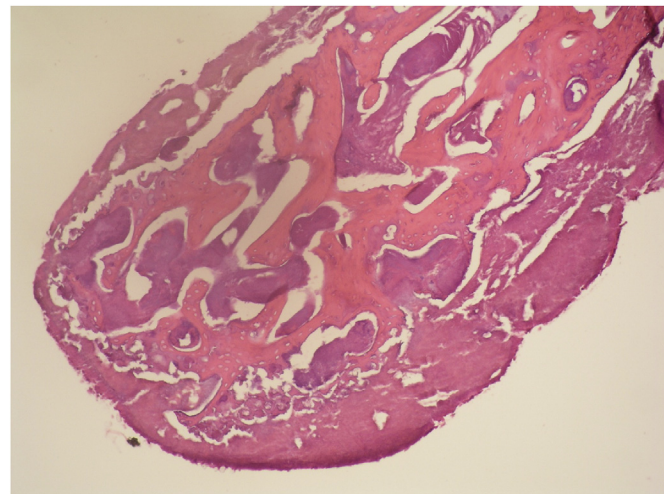


Fig. 4. Histopathology of the foreign body shows bone tissue (hematoxylin and eosin, 400×).

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