Successful endoscopic retrieval of a toothpick stuck in the small intestine using double-balloon enteroscopy

A 59-year-old man was admitted to our hospital with nausea and vomiting. Laboratory test results demonstrated an elevated white blood cell count of 10,540/µL (normal range 3,200–8,000/µL) and his C-reactive protein (CRP) level was 2.82 mg/dL (normal < 0.30 mg/dL). He had a history of appendectomy for appendicitis and ventriculoperitoneal shunting for subarachnoid hemorrhage. Abdominal computed tomography (CT) showed a small-bowel obstruction (SBO) with dilatation, fluid collection, and caliber change in the proximal part of the small intestine (∙ Fig. 1a). Ascites, abscesses, and free air were not observed; however, a high-density needle-shaped structure was noted incidentally inside the proximal part of the small intestine with minimal surrounding inflammation (∙ Fig. 1b).

A transnasal ileal tube was placed to decompress the SBO; after 4 days, the SBO had improved, so the tube was removed. In order to remove the foreign body from the small intestine, we performed double-balloon enteroscopy (DBE) via the oral route (∙ Fig. 2a). DBE revealed a wooden toothpick that was stuck in the proximal part of the small intestine (∙ Fig. 2b), and we successfully removed the toothpick using grasping forceps without any complications (∙ Fig. 3; ∙ Video 1). A follow-up CT scan immediately after the DBE revealed no free air surrounding the small intestine. The patient had no memory of ingesting the toothpick. His clinical course was uneventful, and he was discharged 9 days after the DBE.

According to previous reports, toothpick perforation of the duodenum can be treated with endoscopic removal [1–3]. However, toothpick perforation of the small intestine, which often exists with other complications, such as abscess formation, has previously been treated by laparotomy [4,5]. To the best of our knowledge, this is the first English case report of the successful endoscopic removal of a toothpick stuck in the small intestine using DBE. We suggest that DBE may offer a nonsurgical alternative for the removal of a toothpick stuck in the small intestine.

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Competing interests

None
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