

Successful Endoscopic Treatment of an Unusual Cause of Lower Gastrointestinal Bleeding Using the OVESCO System

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Abstract

The great majority of foreign bodies swallowed and entering the stomach are usually passed through the entire gastrointestinal tract uneventfully. The ones that remain can cause perforation, obstruction or bleeding. The risk of perforation is increased with long sharp metal objects, animal bones, in subjects with intestinal diseases (Crohn's disease, intestinal stenosis), and in patients with adhesions due to prior abdominal surgery. For a long time, toothpick impaction in the lower gastrointestinal tract has been managed by surgery. Nowadays with the development of endoscopy, a variety of ingested foreign bodies have been successfully managed by endoscopy. We report the case of a male patient, with a toothpick impacted in the rectosigmoid junction, which was diagnosed and successfully managed by colonoscopy.

Key words

Toothpick – OTSC – endoscopic management – colon

Introduction

If an ingested foreign body successfully navigates the esophagus, it will frequently pass through the entire gastrointestinal tract. Impaction generally occurs at the site of narrowing: pylorus, ligament of Treitz, ileo-cecal valve, rectosigmoid junction. Adults who intentionally ingest foreign bodies, usually have psychiatric disorders, mental retardation, alcoholism, or are in prison. Adults who accidentally ingest foreign bodies are predisposed due to carelessness, rapid eating, poor eyesight, alcohol intoxication or use of dentures with the resultant lack of sensation on the

hard palate. Children frequently ingest foreign bodies while playing. Between 80%-93% of ingested objects, entering the stomach, will pass through the entire gastrointestinal tract uneventfully [1-3].

Complications of foreign bodies' ingestion are obstruction, perforation, hemorrhage or fistula. Toothpicks are common household items. Despite the fact that they are long, sharp, hard and indigestible, most people underestimate the seriousness of the injuries that can occur if they are inadvertently ingested. Historically, toothpick impaction in the gastrointestinal tract has been managed by surgery. Alongside with the development of devices and skills of the endoscopist, the management of ingested toothpicks should be reconsidered. There have been reports of successfully endoscopic removal of toothpicks from the duodenum and appendix [4-7].

Case report

A 21 year old patient presented in our clinic with a 5 day history of lower gastrointestinal bleeding and abdominal pain. He was admitted as a day case for endoscopic examination of the large bowel. Physical examination revealed an obese male (BMI = 31.6 kg/m²), with vital signs in normal limits. General examination revealed mild discomfort to deep palpation in the left lower quadrant, without palpable masses or signs of peritonitis. Laboratory data were within normal limits. We performed a total colonoscopy which revealed, at the rectosigmoid junction, a toothpick lodged in the lumen, with surrounding edema, erythema and minor bleeding (Fig. 1a, b). One end was impacted in the submucosal layer and the other one was free. With a polypectomy snare, the free end of toothpick was gently grasped and cautiously removed from the colon. The removed wooden toothpick was 6 cm/0.1 cm (Fig. 2). After the removal of the toothpick, we placed an OVESCO over the scope clip (OTSC) on the site of impaction (Figs. 3, 4). After endoscopic investigation, the patient underwent an abdominal radiography and there was no evidence of a pneumoperitoneum. The patient was discharged and on day 7 of the follow up, a CT scan of the abdomen was performed, which did not reveal any

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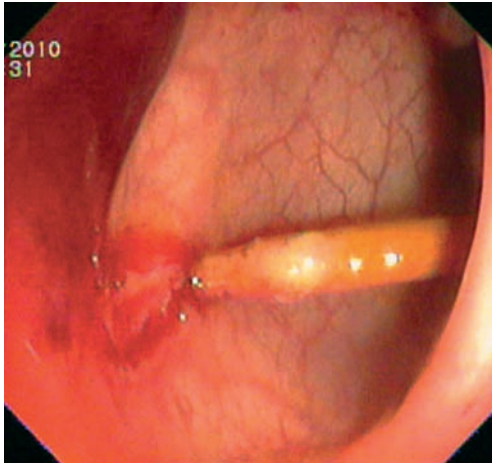


Fig 1a. Toothpick lodged in the rectosigmoid junction.

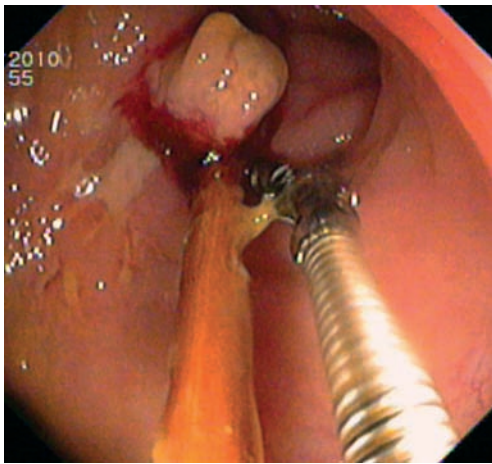


Fig 1b. Toothpick lodged in the rectosigmoid junction and the biopsy forceps.



Fig 2. Toothpick removed from the colon

pathological findings. The patient had an uncomplicated clinical course.

Discussion

Diagnosis of toothpick-related injury is difficult, because patients are usually unaware of having ingested toothpicks. It was the same with this patient, who did not recall

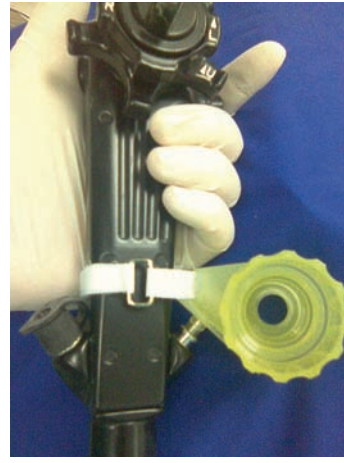


Fig 3.a. OTSC hand wheel on the endoscope. **b.** OTSC applicator cap with the clip on the tip of the endoscope.

ingesting the toothpick. Patients who have done this may be asymptomatic or may present lower gastrointestinal bleeding or symptoms due to bowel wall penetration, peritonitis or obstruction. Some may present with features mimicking appendicitis or ileitis [8]. Most common complications of ingested toothpicks are hemorrhage, obstruction, perforation, sepsis and death. Delayed diagnosis can result in mortality and overall mortality associated with ingested toothpicks is up to 18% [9]. In rare circumstances, toothpicks can migrate to adjacent structures [10] or to distant locations including pleura [11], leg [12], inferior vena cava [13] and the heart [14]. While impacted or perforating toothpicks are encountered, endoscopic extraction using a polypectomy snare, grasping forceps or biopsy forceps should be tried first, before subjecting the patient to an operation [15-17].

The risks of endoscopic removal of foreign bodies are the inherent risks associated with colonoscopy, in addition to the dangers of extracting the objects [18]. Surgical intervention is indicated in cases with complications such as intractable bleeding, peritonitis, abscess or fistulas [19, 20]. Surgery is also indicated when swallowed toothpicks cannot be retrieved endoscopically. With the advent of laparoscopic surgery, laparoscopic exploration has been reported as a new modality in the management of ingested toothpicks with gastrointestinal perforation [21, 22].

Disclosures

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Fig 4. Colonic wall closed with OTSC

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