ACG CASE REPORTS JOURNAL

IMAGE | ENDOSCOPY

Over-the-Scope Clip Closure of a Colon Perforation Caused by an Ingested Wooden Toothpick

Sebastian Luense, MD[1], Peter Simon, MD[2], Claus-Dieter Heidecke, MD[1], and Anne Glitsch, MD[1]

[1]*Department of General Surgery, Visceral, Thoracic and Vascular Surgery, Division of Interdisciplinary Endoscopy, Universitätsmedizin Greifswald, Germany*
[2]*Department of Medicine, Division of Interdisciplinary Endoscopy, Universitätsmedizin Greifswald, Germany*

CASE REPORT

A 62-year-old male presented with abdominal pain in the right lower quadrant for 1 day. The patient's history included an ambulant colonoscopy with no pathological findings 3 weeks prior. Clinical examination revealed tenderness in the right hypochondrium. Moderate inflammation with C-reactive protein 56.6 mg/L but normal white blood cell count was assessed. An enhanced computed tomography scan of the abdomen showed signs of non-specific segmental colitis in the ascending colon (Figure 1). Colonoscopy revealed a perforation of the ascending colon by a double-pointed wooden toothpick (Figure 2).

The foreign body was successfully removed endoscopically using a disposable polypectomy snare. After complete removal of the toothpick, the endoscope was withdrawn, re-inserted with a mounted and loaded over-the-scope clip (OTSC) device, and positioned toward the perforation site (Figure 3). After the tissue was grasped with an OTSC anchor, a 9-mm OTSC was released and the perforation site was closed (Figure 4). The postinterventional period was uneventful. Follow-up colonoscopy 2 weeks later revealed no displacement of the OTSC or other complications.

Ingestion of a toothpick is a rare incident, and gastrointestinal (GI) perforation has been reported to occur in 0.2 per 100,000

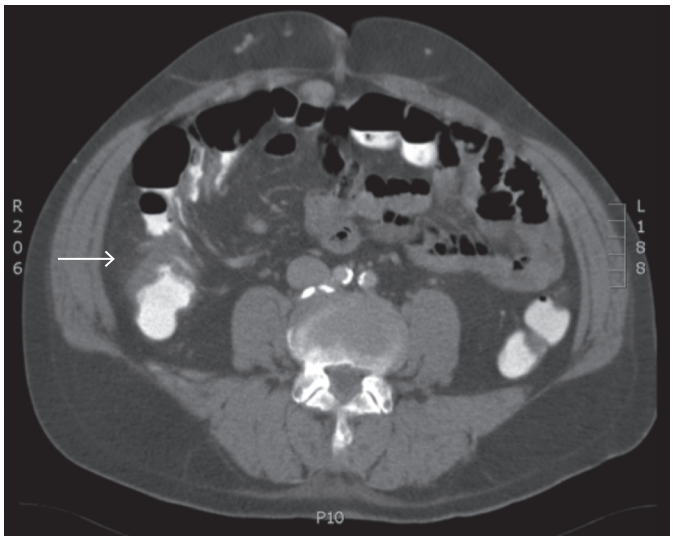

Figure 1. Enhanced computed tomography revealed segmental wall thickening in ascending colon (arrow).

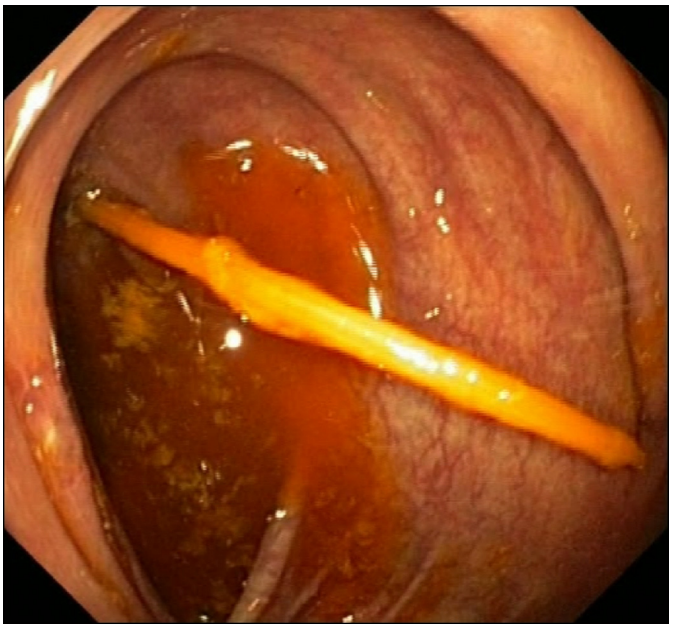

Figure 2. Colonoscopy showed a wooden toothpick impacted in the ascending colon.

ACG Case Rep J 2016;3(4):e165. doi:10.14309/crj.2016.138. Published online: November 23, 2016.

Correspondence: Sebastian Luense, Department of General Surgery, Visceral, Thoracic and Vascular Surgery, Division of Interdisciplinary Endoscopy, Universitätsmedizin Greifswald, 17475 Greifswald, Mecklenburg-Vorpommern, Germany (sebastian.luense@uni-greifswald.de).

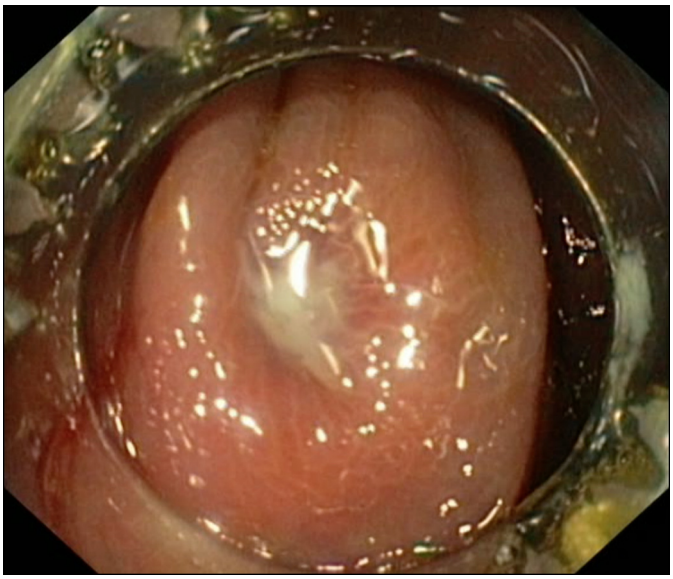

Figure 3. Perforation site after complete removal of the toothpick.

people every year in the United States.[1] Extremes of age, personality disorders, mental retardation, artificial dentures, palatal insensitivity, and alcoholism have been described as predisposing factors.[2] Diagnosis is difficult due to unspecific clinical findings, and toothpicks were apparent with imaging techniques in only 14% of cases.[3] Most patients present with abdominal pain (70%), as our patient did.[3] Definitive diagnosis of a toothpick injury is commonly made at laparotomy (53%) followed by endoscopy (19%).[3] The most common sites of perforation are the duodenum and sigmoid colon.[3] Complications include bleeding, obstruction, fistula formation, sepsis, and death, with an overall mortality of 18%.[3,4]

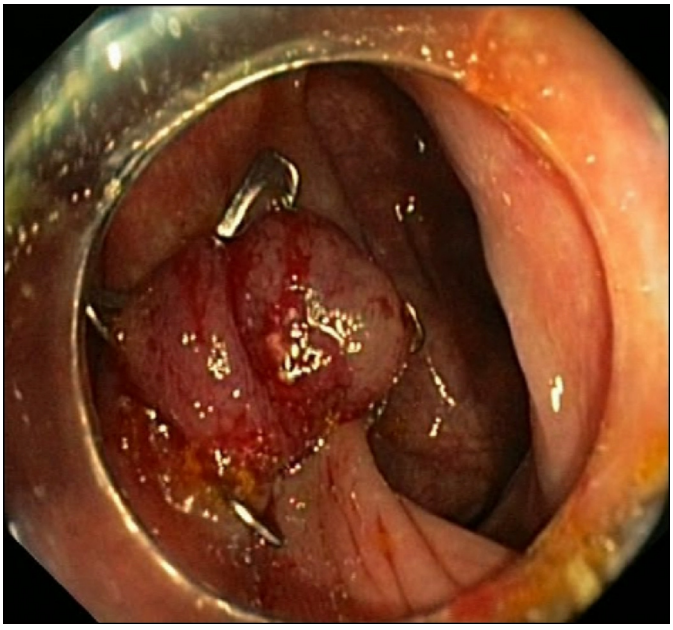

Figure 4. Endoscopic image of successful closure of the perforation site by an over-the-scope clip.

In the past, standard treatment for GI toothpick perforation had been surgery. Recently, invasive endoscopic treatment has provided an alternative approach. One of the recently established devices is the OTSC system, which has been developed for hemostasis of GI bleeding as well as closure of iatrogenic perforations of the colon. GI defects <30 mm in diameter can be closed with OTSC.[5] Our case report demonstrates the successful endoscopic treatment of a colon perforation caused by a toothpick using the OTSC system, without the need for surgery.

DISCLOSURES

Author contributions: S. Luense wrote the manuscript, reviewed the literature, and is the article guarantor. P. Simon, CD Heidecke, and A. Glitsch edited and reviewed the manuscript.

Financial disclosure: None to report.

Informed consent was obtained for this case report.

Received June 8, 2016; Accepted June 29, 2016

REFERENCES

1. Budnick LD. Toothpick-related injuries in the United States, 1979 through 1982. *JAMA*. 1984;252(6):796–7.
2. Wani I, Wani SA, Mir S, Parra K. An unusual presentation of toothpick penetration of colon. *J Emerg Trauma Shock*. 2010;3(4):401–2.
3. Li SF, Ender K. Toothpick injury mimicking renal colic: Case report and systematic review. *J Emerg Med*. 2002;23(1):35–8.
4. Ioannidis O, Kakoutis E, Sakkas L, et al. Ingested toothpick fistula of the ileum mimicking Crohn's disease. *Acta Gastroenterol Belg*. 2010;73 (4):527–9.
5. von Renteln D, Schmidt A, Vassiliou MC, et al. Endoscopic full-thickness resection and defect closure in the colon. *Gastrointest Endosc*. 2010;71 (7):1267–73.