

An Unusual Cause of Acute Abdomen: Cocktail stick injury of bowel

S Gopalswamy, M Clarke, J Mathew, P Arumugam

Citation

S Gopalswamy, M Clarke, J Mathew, P Arumugam. *An Unusual Cause of Acute Abdomen: Cocktail stick injury of bowel*. The Internet Journal of Surgery. 2007 Volume 15 Number 2.

Abstract

Laparoscopic appendectomy is now increasingly performed in cases of uncomplicated appendicitis, offering potential advantages in terms of reduced postoperative pain, hospital stay and negative appendectomy rates.¹ As with the open operation, the peritoneal cavity should be examined for alternative pathologies where the appendix appears normal. We describe an unusual case of cocktail stick perforation of the terminal ileum that mimicked appendicitis.

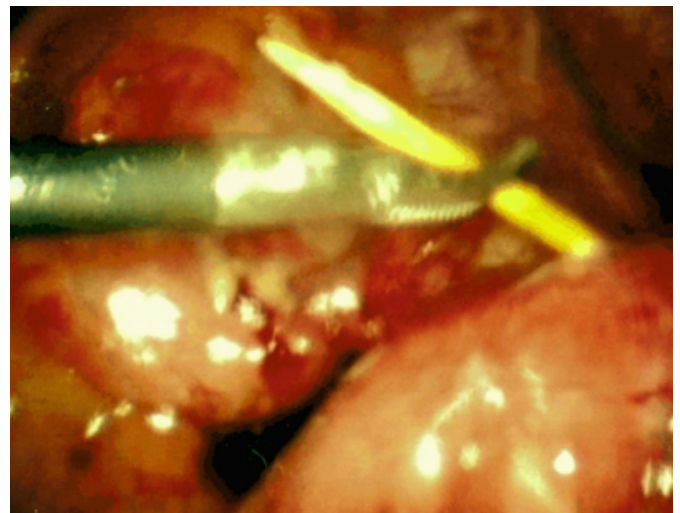
CASE REPORT

A 22-year-old man presented to the emergency department complaining of a 6-day history of abdominal pain, localised predominantly in the suprapubic than right iliac fossa. His appetite and bowel habit were unchanged. Past medical history was unremarkable. On examination, he was afebrile, with guarding and tenderness mainly in the suprapubic and right iliac fossa. Blood tests revealed a white cell count of $11.5 \times 10^9/L$, C-Reactive Protein of 21.2mg/L and normal urine analysis. A provisional diagnosis of atypical appendicitis was made and laparoscopic appendectomy was planned.

At operation, greater omentum was noted to be adherent to the terminal ileum and the appendix appeared inflamed. The omentum was mobilised to enable ease of access for the laparoscopic instruments to the appendix. Following this, the tip of a wooden cocktail stick was visualised protruding from the antimesenteric border of the terminal ileum (Fig.1) about 10 cms from the ileocaecal junction.

Figure 1

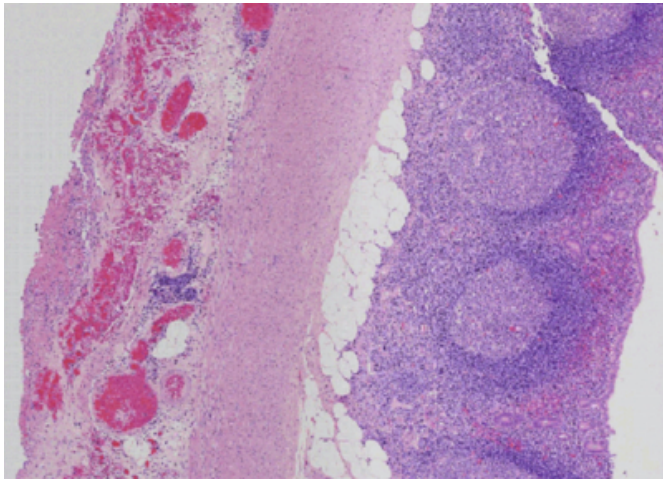
Figure 1: Cocktail stick protruding from antimesenteric border of ileum



The entire stick was removed intact and the 3mm perforation closed laparoscopically with interrupted absorbable sutures. Appendectomy was subsequently performed and histology showed no evidence of active inflammation of the appendix (Fig.2).

Figure 2

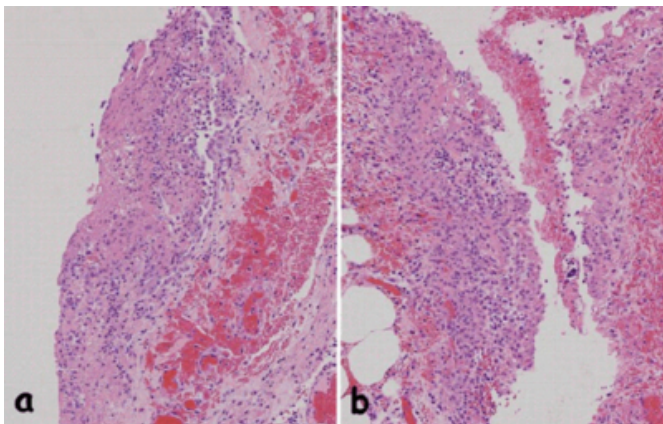
Figure 2: shows the wall of the appendix. There is reactive hyperplasia of its submucosal lymphoid follicles but no evidence of active inflammation



There was evidence of an active serosal inflammatory process (Fig.3) suggesting extra- appendiceal inflammation.

Figure 3

Figure 3: a) fibrin deposition with accompanying inflammation on the appendiceal serosa. b) mesothelial hyperplasia and granulation tissue reaction.



On questioning the patient, he had no recollection of swallowing the cocktail stick. He was discharged home after two days without any complications.

DISCUSSION

The majority of ingested cocktail sticks pass through the gastrointestinal tract without consequence; however, intestinal perforation, fistulation and death have all been reported.²³ Gastrointestinal perforation secondary to cocktail stick ingestion is rare and most commonly occurs at the duodenum, followed by the sigmoid colon. Most of the injuries are due to broken cocktail sticks. In a systematic review by Li et al., definitive diagnosis was reportedly made

at laparotomy (53%), endoscopy (19%), post-mortem (12%) or on radiological imaging (14%).⁴ Plain radiography is normally unable to demonstrate the stick, which is normally made of wood or plastic, making diagnosis difficult. In addition, only 12% of patients ever remember swallowing the cocktail stick. The symptoms and signs may mimic other acute abdominal pathology and onset may range from <1 day to 15 years.

The laparoscopic management of small and large bowel perforation related to cocktail stick ingestion is rarely reported. Indeed, there is only one other reported case of ileal perforation related to cocktail stick ingestion repaired laparoscopically.⁵ More commonly, these injuries have been detected at laparotomy and this case highlights the potential use of a minimally invasive approach in this situation without complications. Indeed, in atypical presentations of appendicitis, laparoscopy probably provides a more accurate and thorough assessment of the peritoneal cavity to exclude other causes than the conventional open approach. In this case it remains uncertain whether intestinal injury would have been detected at open operation, since it was unlikely to have interfered with appendectomy and also macroscopically the appendix appeared inflamed.

In the atypical presentation of abdominal pain, this case illustrates that whilst it is undoubtedly helpful to ask leading questions regarding foreign body ingestion, only a small number of patients recollect the event. Also, in view of the potentially serious complications relating to cocktail stick ingestion, they should carry a warning sign.

CORRESPONDENCE TO

Dr Sivakumar Gopalswamy MBBS, MS, DNB, MRCS. 101-D, KYNANCE HOUSE, ROYAL CORNWALL HOSPITAL & PENINSULA MEDICAL SCHOOL, TRURO UNITED KINGDOM TR1 3LZ E-mail: vgshiva@yahoo.com Mobile: 0044-7738677480 Work: 0044-1872 250000-bleep 2105

References

1. Saurerland S, Lefering R, Neugebauer EAM. Laparoscopic versus open surgery for suspected appendicitis (Cochrane Review). The Cochrane Library, Issue 2, 2005, Chichester, UK, John Wiley & Sons, Ltd. Available at <http://www.cochrane.org>
2. Justiniani FR, Wigoda L, Ortega RS. Duodenocaval fistula due to toothpick perforation. JAMA 1974; 227(7): 788-789
3. Maleki M, Evans WE. Foreign-body perforation of the intestinal tract. Arch Surg 1970; 101(4): 475-7
4. Li SF, Ender K. Toothpick injury mimicking renal colic: a case report and systematic review. J Emerg Med 2002;

23(1): 35-8

5. Wichmann MW, Huttel TP, Billing A, Jauch KW.

Laparoscopic management of a small bowel perforation caused by a toothpick. Surg Endosc 2004; 18(4):717-8

Author Information

S. Gopalswamy

Department of Surgery, Royal Cornwall Hospital

MG Clarke

Department of Surgery, Royal Cornwall Hospital

J. Mathew

Department of Surgery, Royal Cornwall Hospital

PJ Arumugam

Department of Surgery, Royal Cornwall Hospital