Case Reports in Gastroenterology

Case Rep Gastroenterol 2012;6:238–242
DOI: 10.1159/000338839

Published online:
May 5, 2012

ISSN 1662–0631
www.karger.com/crg

Successful Endoscopic Removal of a Lighter Swallowed 17 Months Before

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Key Words
Lighter · Flexible endoscopy · Polypectomy snare

Abstract
The majority of ingested foreign bodies will pass safely through the gastrointestinal tract, but long and rigid foreign bodies are associated with an increased risk of gastrointestinal impaction, perforation and bleeding. However, large foreign bodies which have been swallowed can remain trapped in the stomach over a longer period of time without any significant symptoms. This case report describes the case of a 36-year-old man addicted to heroin who purposefully swallowed a lighter (double wrapped in cellophane) and presented with hematemesis and melena 17 months after the ingestion of the foreign body. The lighter was successfully removed via flexible endoscopy using a polypectomy snare. Swallowed long and rigid foreign bodies trapped in the stomach over a long period of time always represent a special clinical and endoscopic challenge. In cases where endoscopic removal fails, a laparoscopic surgical approach may be an alternative.

Introduction

More than 90% of ingested foreign objects will pass uneventfully through the gastrointestinal tract [1–5]. Only 10% of such cases require the endoscopic removal of the foreign body, while only 1% require a surgical procedure [1–5]. However, foreign objects longer than 6 cm cannot negotiate the physiological narrowing of the pylorus and always remain in the stomach [1]. These objects should be endoscopically removed as soon as possible to avoid pressure necrosis, gastrointestinal perforation or bleeding [1]. However, in rare cases, large foreign bodies which have been swallowed can also remain in the stomach over a long period of time without any significant symptoms. The first alarm symptoms may occur several months after ingestion. In such cases

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endoscopic extraction is always the first therapeutic option [1]. If endoscopic removal fails or if there is evidence of obstruction or perforation, laparoscopic gastrotomy should be performed [1].

Case Report

A 36-year-old Caucasian male with a previous history of heroin abuse and chronic hepatitis C was admitted to the Department of Internal Medicine, Division of Gastroenterology, University Hospital Split because of hematemesis and melena. On admission, the patient reported purposefully swallowing a lighter which he had double wrapped in cellophane 17 months before in a police station (where he was being questioned under the suspicion of smuggling narcotics). At that moment he refused the suggested endoscopic or surgical extraction of the foreign body. He had been without significant gastrointestinal problems for 17 months. The patient's vital signs in the emergency room were stable. Chest and heart examination were unremarkable. The abdomen was soft, without tenderness or rigidity. Digital rectal examination determined melena. A plain abdominal X-ray study confirmed the presence of a large foreign body in the left upper abdominal quadrant (**fig. 1**).

Informed written consent for an upper gastrointestinal endoscopy was obtained from the patient. Esophagogastroduodenoscopy revealed the presence of an ulcer in the angular part of the stomach (Forrest III) as well as a large foreign body wrapped in dark-colored cellophane in the middle of the stomach. The first endoscopic attempt at foreign body extraction using an endoscopic basket was unsuccessful. Nevertheless, a gastroscopy was performed the following day and the foreign body was successfully removed endoscopically using a polypectomy snare. The procedure lasted 10 min and was uneventful. The extracted foreign body was a lighter (8 cm long) which was double wrapped in cellophane (**fig. 2**). In addition, the patient was treated with an adequate diet, pantoprazole and 2 U of packed red blood cells. He was dismissed from the hospital after a week in good clinical condition, with the discharge medication being pantoprazole 40 mg administered orally to be taken daily for 1 month. A control upper endoscopy after 1 month indicated full scarred healing of the gastric ulceration.

Discussion

The most common causes of gastrointestinal foreign bodies are food boluses or accidental swallowing of other objects [1–4]. Psychiatric patients and prisoners may purposefully swallow a wide variety of bizarre objects while drug smugglers may swallow condoms filed with narcotics [1]. The incidence of lighter ingestion is unknown and the data are largely anecdotal. This case report describes a very rare case of a lighter retained in the stomach over a period of 17 months which was safely extracted from the stomach endoscopically by snare extraction. It is also important to note that some elements of the ingested lighter may have very different toxic profiles depending on their chemical form. For example, lighter fluid is toxic because it contains hydrocarbons including benzene, butane, hexamine and propane. Given that our patient double wrapped the swallowed lighter in cellophane, this prevented the significant corrosion of the lighter in an acidic environment, and thus merely a gastric ulcer occurred which in this case was probably primarily due to chronic mechanical pressure. To the best of our knowledge, this is the first case report which discusses a lighter as a chronic stomach foreign body.

Although the majority of swallowed indigestible foreign bodies pass through the gastrointestinal tract without complications, foreign objects longer than 6 cm, such as a lighter, after reaching the stomach cannot negotiate the pylorus and may become entrapped [1–5]. In such cases, the object should be removed endoscopically as soon as

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possible to avoid pressure necrosis, gastric perforation or bleeding [1]. However, clinical presentation may also include vague symptoms such as fever and abdominal pain, or the symptoms may be extremely subtle over a longer period of time [1]. The signs and symptoms caused by foreign body ingestion also vary according to the interval between ingestion and presentation.

Plain radiographs are always required for patients with a known or suspected swallowed foreign body and have an influence on further management [1]. Flexible endoscopy is considered the first choice for the management of gastric foreign bodies due to its efficacy, low morbidity and reduced costs compared to surgical treatment [1–5]. The removal of large foreign bodies from the stomach is influenced by the patient's clinical condition as well as the technical abilities of the endoscopist [1–6]. However, caution as well as extensive experience of the endoscopist is required [1–6]. If endoscopic removal fails or if there is evidence of obstruction or perforation, surgical gastrotomy should be performed.

Conclusion

A swallowed lighter trapped in the stomach over a long period of time is undoubtedly a special clinical challenge. Trapped long and rigid foreign objects in the stomach are associated with an increased risk of impaction, perforation and bleeding. According to this, objects longer than 6 cm should be removed endoscopically whenever possible. In cases where endoscopic removal fails, a laparoscopic surgical approach may be an alternative.

Disclosure Statement

The authors have no conflicts of interest to declare.

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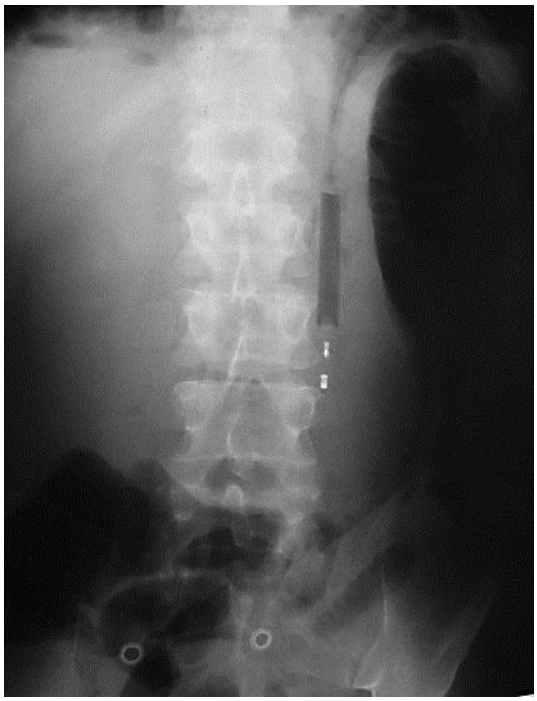

Fig. 1. Plain X-ray showing a rectangular partly radiopaque, partly radiolucent object measuring 8.5 × 1 cm, situated in the paravertebral middle abdomen slightly to the left. The findings indicated a foreign body in the stomach.

Fig. 2. Lighter after endoscopic removal from the stomach.

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