Acute abdomen in a Nigerian secondary to gastric broomstick injury - a case report

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Abstract
Foreign body ingestion is seen most commonly in children aged 6 months to 6 years in about 80% of cases. In adults, intentional foreign object ingestion occurs mostly among patients with altered sensorium, psychiatric disorders and patients seeking secondary gain. The most commonly ingested foreign bodies in adults are bones, fish bones, dentures and food bolus. Majority of the foreign objects will pass spontaneously. However, large and sharp/pointed foreign bodies may get impacted, leading to various complications. Therefore, large and sharp/pointed objects are recommended for removal either by endoscopy or surgery. We present a case of a Nigerian who presented with acute abdomen secondary to ingested broomstick which was removed at endoscopy.

Keywords: *Acute abdomen; gastric injury; broomstick*

Résumé
L'ingestion de corps étranger est observée le plus souvent chez les enfants âgés de 6 mois à 6 ans dans environ 80% des cas. Chez l'adulte, l'ingestion intentionnelle d'objets étrangers se produit principalement chez les patients présentant un sensoriel altéré, des troubles psychiatriques et les patients recherchant un gain secondaire. Les corps étrangers les plus couramment ingérés chez les adultes sont les os, les os de poisson, les prothèses dentaires et le bol alimentaire. La majorité des objets étrangers passera spontanément. Cependant, des corps étrangers larges et pointus peuvent être impactés, entraînant de diverses complications. De ce fait, les objets larges et pointus sont recommandés pour le retrait, soit par endoscopie ou par chirurgie. Nous présentons le cas d'un Nigérian présentant un abdomen aigu secondaire à l'ingestion d'une manche de balai qui a été retiré par endoscopie.

Mots clés: *Abdomen aigu; Lésion gastrique; Manche de balai*

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Introduction

Foreign body ingestion is seen most commonly in children aged 6 months to 6 years in about 80% of cases [1,2]. In adults, intentional foreign object ingestion occurs mostly among patients with altered sensorium, psychiatric disorders and patients seeking secondary gain [3].

Accidental foreign body ingestion occurs in the elderly, in patients with mental retardation and the intoxicated [4]. Also, because of compromised tactile sensation during swallowing, presence of dentures and dental bridgework can predispose to accidental foreign body ingestion [3].

The most commonly ingested foreign bodies in adults are bones (8-40%), fish bones (9-45%) and dentures (4-18%) [5-7]. However, food bolus impaction is the most common foreign body, especially in adults older than 40 or 50 years of age [3].

Most times, the clinical presentation of gastrointestinal (GI) foreign bodies is not dramatic, especially in the absence of GI obstruction or complications. Patients may present with sensation of an object, dysphagia, abdominal or chest pain or vomiting [7]. Also, complications may arise and these include GI obstruction, perforation and bleeding [6].

Foreign bodies in the GI tract are expected to pass naturally. However, surgical or endoscopic intervention may be required in about 1% or 20% respectively [2,4,7,8]. Although, most cases of foreign body ingestion run a benign course, about 1500 deaths are reported annually in the USA [9].

In Nigeria, common foreign bodies that have been reported to be ingested include toothbrush, metallic objects, fish bone and coin [10-14].
We hereby report a case of a Nigerian who accidentally ingested a broken broomstick in soup, and subsequently presented with acute abdomen.

Case report

A 55 year-old woman who presented with a 5-day history of sudden progressively worsening upper abdominal pain, non-radiating, colicky in nature. There were no known precipitating or aggravating factors. She took oral rabeprazole, suspension gascol

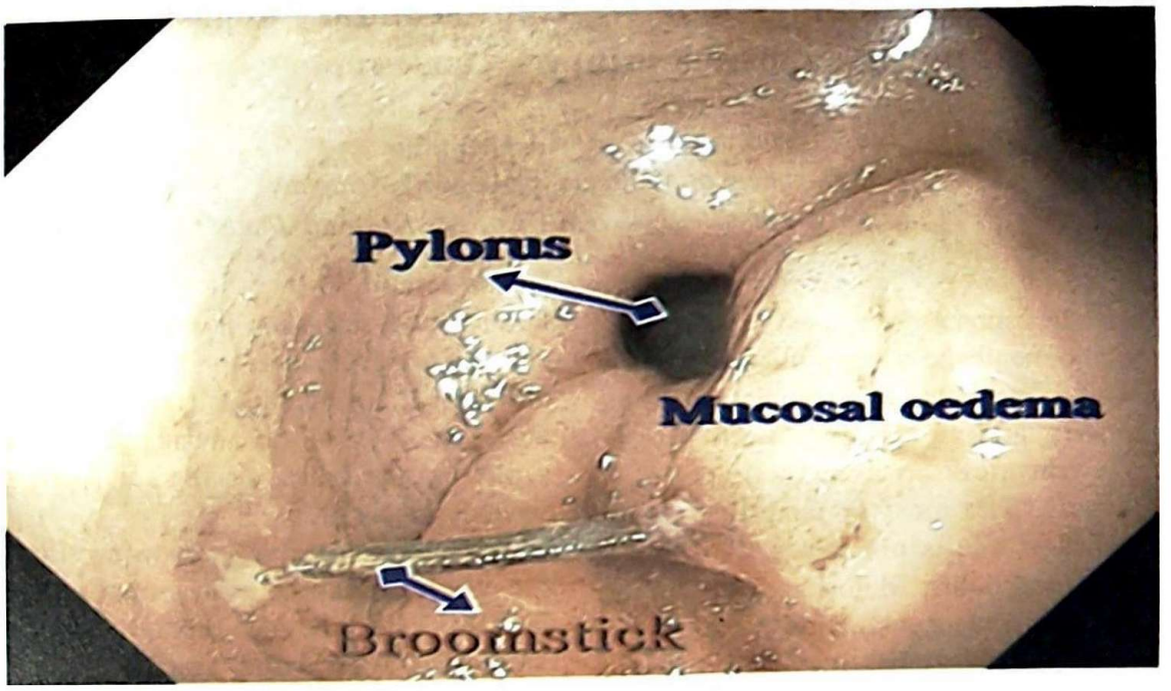

Fig.1: Broomstick embedded in the gastric mucosa

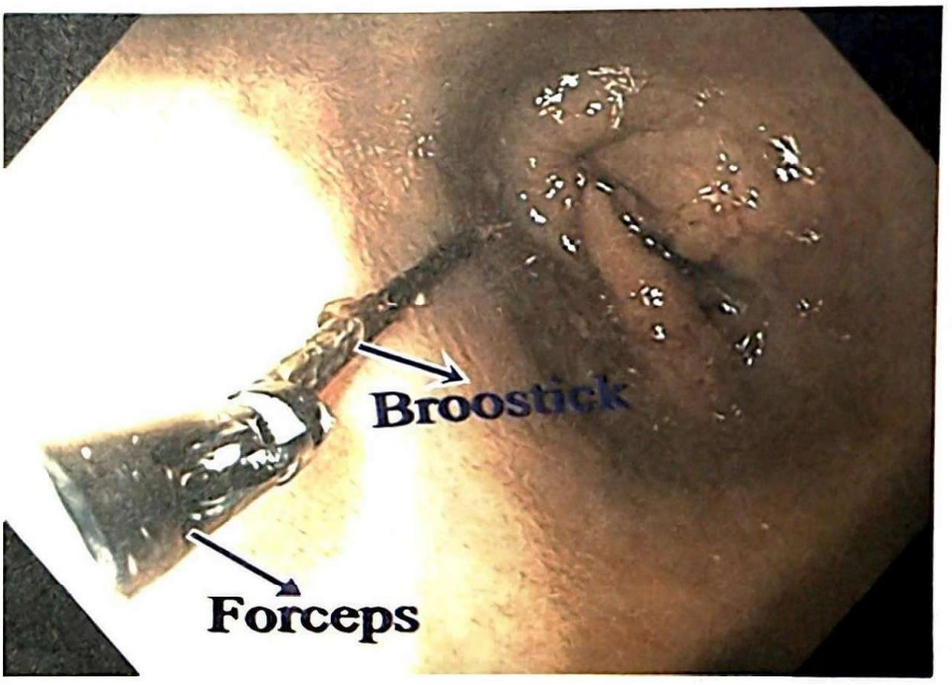

Fig.2: Broomstick with forceps being removed enbloc

and hyocine without relief. There was associated postprandial vomiting but no haematemesis, melaena, haematochezia nor weight loss.

She was a known patient with dyspepsia who had had upper and lower gastrointestinal (GI) endoscopy in the past which showed antral gastritis and colonic polyp respectively. She had *Helicobacter pylori* eradication therapy for 2 weeks and rabeprazole for 4 weeks then, and had remained asymptomatic until this present episode.

General physical examination was normal, except that she was groaning in pain. Abdominal examination showed marked epigastric tenderness and guarding. No palpable organomegaly. Bowel sounds were absent. Vital signs were within normal range. The clinical diagnosis was acute exacerbation of acid peptic disease.

She was admitted and administered intravenous rabeprazole and hyocine, and intramuscular pentazocine. There was very little relief of the abdominal pain, but vomiting persisted. She had a repeat upper GI endoscopy which showed a broomstick in the antrum with one end embedded in the posterior wall with surrounding mucosal

oedema and hyperaemia, while the other end was free in the lumen pointing towards the anterior wall. (Figure 1) It was detached with a biopsy forceps and then removed enbloc with the endoscope (figures 2 and 3)

Apart from medical history, radiography of the GI tract has been recommended as an initial screening method to diagnose foreign body ingestion [15]. But, this would not have been sufficient to reach a diagnosis in this case because, broomstick is not

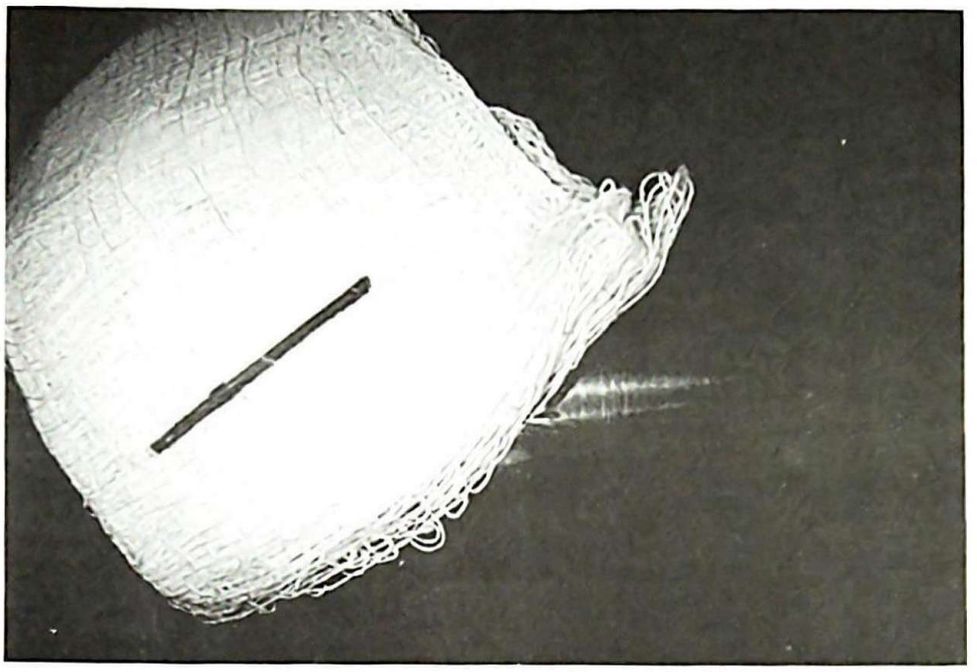

Fig.3: The broomstick after removal

With further history, the patient recalled that she took a local vegetable soup called 'ewedu'(mallow leaves, scientific name is '*corchorus*') a few days before the onset of her symptoms. In the preparation of this soup a small bunch of broomsticks (known as *'ijabe'*) is usually used to mash it, in order to soften and blend it.

Post removal of the broomstick, all the symptoms subsided. She started tolerating orally and was discharged the following day. She has remained symptom-free since then.

Discussion

This case described the accidental ingestion of a broken broomstick contained in a local soup called 'ewedu'. A small bunch of broomsticks is usually used to mash it, so as to soften and blend the vegetable during preparation. So, in this case, one of the broomsticks must have broken into the soup and was accidentally swallowed together with the soup by our patient. In this case, history of ingestion of foreign body and the type of foreign body were not known until the foreign body was retrieved at endoscopy. In most cases, patients usually provide information about the ingested foreign body. But, this was not the case with our patient.

radiopaque. Even in cases where the ingested object is radiopaque, it might be concealed by soft tissue and fluid in the stomach, thereby making diagnosis difficult [16,17].

Upper GI endoscopy in our patient not only made the diagnosis of the foreign body possible, but also enhanced its removal. Endoscopy in this case was timely because, the object was already stuck in the mucosa and there was a risk of perforation. Emergency endoscopy is said to be indicated in cases of ingested sharp or pointed objects and batteries. This is because, these objects could cause perforation, pressure necrosis, fistulas or mercury poisoning [15,18].

It is believed that about 90% of all ingested objects will pass spontaneously through the digestive tract within 7-10 days, especially if they had reached the stomach [3]. This was unlikely to have happened in the case presented because, the object was already impacted in the mucosa of the stomach. The nature of the object (long and sharp) could have contributed to its impaction in the mucosa. It is also possible that, the integrity of the gastric mucosa had been compromised secondary to long standing acid peptic disease in the patient. However, this could not be easily substantiated.

It has been reported that objects longer than 5cm cannot pass through the pylorus and duodenum

[4,19]. Although, the broomstick in our patient was about 4 cm long, the fact that it had pointed ends could have prevented its easy passage and at the same time aided its mucosal impaction.

The most common significant complications associated with GI foreign bodies are bowel obstruction, perforation, bleeding, fistula and abscess formation [3]. Sharp/pointed and long objects as is the case in our patient have been described as the most dangerous of all foreign bodies in the GI tract. It has been reported that about 30% of all GI perforations as a result of foreign bodies are due to sharp/pointed objects, and about 15-35% of ingested sharp/pointed objects will cause GI perforation if not removed [20]. It was therefore possible that, the broomstick could have caused gastric perforation in our patient if not timely removed.

Conclusion

This case has revealed the danger that may be associated with using broomsticks in the preparation of this local soup (ewedu). Therefore, alternative means of preparation, like using the electronic blender should be employed. Also, it was important that an early endoscopy was performed in order to unravel the actiology of patient's protracted symptoms.

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