

Spontaneous Trans-Abdominal Expulsion of a Foreign Body: A Rare Occurrence

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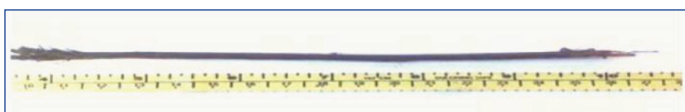
ABSTRACT

Large and sharp foreign bodies invariably need surgical removal. A 55-year-old male, had epigastric pain, two weeks after accidental ingestion of wooden tooth brush. Later he developed pain, fever and indurations in left iliac fossa followed by spontaneous expulsion of foreign body through indurated area on the anterior abdominal wall. Contrast enhanced computed tomography revealed an inflammatory tract along the posterior wall of stomach communicating with the anterior abdominal wall. Patient was managed conservatively and made an uneventful recovery.

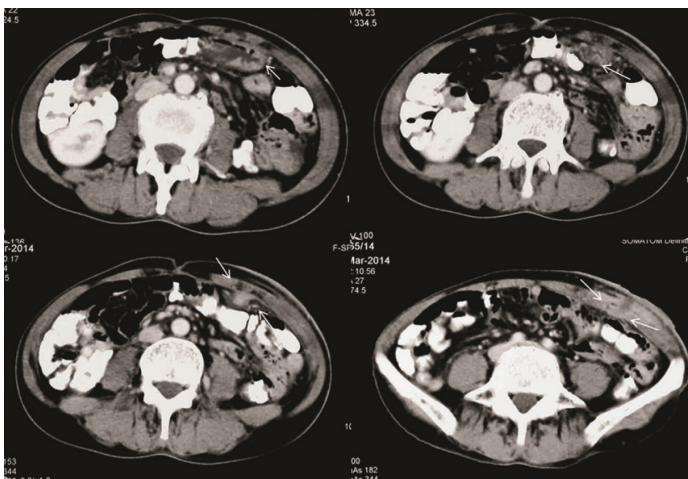
Keywords: Abscess, Ingestion, Perforation, Sharp

CASE REPORT

A 55-year-old Indian male presented with intermittent epigastric pain 15 days after accidental ingestion of a wooden tooth brush (commonly used in India). A week later he developed severe pain, high grade fever, lump and induration in left iliac fossa. Thereafter he noticed spontaneous rupture of the lump with drainage of copious amount of pus and expulsion of 17 cm long wooden tooth brush [Table/Fig-1] from left lower quadrant, and then he reported to the department of General Surgery, Post graduated Institute of Medical Education and Research, Chandigarh, India. Patient was febrile, there was a 2.5 cm wound present in left iliac fossa with localized tenderness. Haematological, biochemical and renal tests were normal. Contrast enhanced computed tomography of abdomen revealed a focal dilatation of posterior stomach wall with hypodense tract continuing from stomach along left anterior abdominal wall communicating with left iliac fossa abscess cavity [Table/Fig-2a-d]. Patient was started on intravenous antibiotics and dressing of wound. Patient made an uneventful recovery and is well at 2 months follow up.



[Table/Fig-1]: Wooden tooth brush spontaneously extruded from the anterior abdominal wall



[Table/Fig-2a-d]: CECT showing linear tract (white arrows) from the stomach traversing the omentum and extending through the abdominal wall

DISCUSSION

Ingestion of various types of foreign bodies is not unknown. Most of the small and round shaped, foreign bodies pass uninterrupted through the gastrointestinal tract (GIT). However, some of these ingested foreign bodies, particularly sharp and long ones, may perforate through the GIT necessitating urgent surgical intervention [1-3]. Uneventful spontaneous expulsion has never been reported earlier.

The aetiology of ingestion of such a large foreign body has been poorly understood, however altered mentation, visual abnormalities, poorly fitting dentures and gulping of food are thought to be associated with such an event [2,3]. The presence of gag reflex is protective mechanism against ingestion of foreign bodies. Conditions which impair gag reflex such as excessive alcohol intake, prior ingestion of extremely cold fluids can make the person prone to such a catastrophe [4]. As in present case antecedent history of any of the causative factors is usually not forthcoming.

Majority of the small rounded foreign bodies pass uneventfully through the gastrointestinal tract and sometimes go unnoticed. On the contrary the foreign bodies which are large, have sharp edges develop complication. The sharp edges of foreign bodies can get impacted and can perforate the hollow viscus. It can lead to the development of the peritonitis, abscess, fistula formation or the formation of an inflammatory mass [2,4]. In a given patient the rapidity of impaction to perforation sequence determines the extent of peritonitis. Other complications like obstruction and haemorrhage have also been described [2,5,6]. Due to the ongoing inflammation if the condition is neglected in early in the course the patient is likely to develop systemic sepsis so every effort should be made to remove potentially sharp foreign bodies at the earliest.

In the present case, the wooden toothbrush was entrapped in the stomach and resulted in slow penetration of the posterior stomach wall and leading to a tract formation which later communicated with transverse abdominis muscle in left iliac fossa. Probable course of the foreign body is perforation through posterior gastric wall then coursing through the avascular area of transverse mesocolon and negotiating its course between the bowel loops towards the parietal wall and finally expelled out. Very slow penetration of stomach prevented the development of free peritonitis.

Foreign bodies longer than 6 cm have difficulty in passing the duodenal sweep [7]. As seen in the present case, length of wooden tooth brush precluded the passage through the GIT. In a review of 31 cases of toothbrush ingestion, spontaneous passage was not

reported, however, other complications like pressure necrosis, gastritis, mucosal tears, and perforations, were reported [8]. Kim et al., reported successful surgical treatment of hepatocolic fistula as a result of tooth brush perforating the colon and forming a liver abscess [9]. Although a conservative approach toward foreign body ingestion is justified, early endoscopic removal of the ingested foreign body from the stomach is recommended [2,8]. Unsuccessful removal of gastric foreign bodies those are longer than 6.0 cm mandate surgical removal.

The present case is unique due to the fact that a long foreign body after perforating the GIT expelled through anterior abdominal wall spontaneously and moreover this has never been reported earlier. However others have reported spontaneous expulsion of foreign bodies through bronchus [10] and neck [11] and none has reported transabdominal expulsion. Contrary to the conventional tooth brush with smooth, rounded edges and made of inert material, sharp edges of wooden tooth brush incites lot of inflammation which leads to slow penetration of the GIT and precludes free perforation. Intestinal injury resulting from an ingested foreign body tends to occur in areas of acute angulations but it may occur in all segments of the gastrointestinal tract [4].

CONCLUSION

Spontaneous expulsion of even large foreign body penetrating through GIT after ingestion can happen occasionally, however one

should not wait for spontaneous expulsion of long and sharp foreign bodies.

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