



## GASTROCUTANEOUS FISTULA SECONDARY TO LONG-STANDING RETAINED INTRAGASTRIC FOREIGN BODY (TOOTHBRUSH) – A RARE CASE REPORT

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### ABSTRACT

Ingested foreign body present a common clinical problem. More than 80% of ingested foreign bodies which reach stomach pass uneventfully through gastrointestinal tract. The remainder may cause complications such as obstruction, perforation and haemorrhage. It is a common problem in children but also seen in adults. We present a rare case of gastric perforation due to toothbrush in 86 years old male, presenting as a foreign-body-induced gastrocuteaneous fistula in the form of a chronic discharging sinus and intraabdominal abscess. For which exploratory laparotomy was done and toothbrush was retrieved. Follow up at 2 years was uneventful. The patient had similar history of toothbrush ingestion 30 years back and underwent emergency exploration of which details are unavailable.

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### INTRODUCTION

Ingestion of various types of foreign bodies such as toothpicks, fish bones, coins, dental prosthesis has been reported.<sup>1</sup> Ingested foreign body perforation in adult population is most commonly secondary to unconscious accidental ingestion and is frequently caused by dietary foreign bodies, especially fish bones.<sup>1</sup> A history of foreign body ingestion is obtained. Tooth brush swallowing is a rare event with most swallowed toothbrushes being found in the oesophagus and stomach of affected patients.<sup>2,3</sup> We present a case of ingested toothbrush which was retained in stomach for almost 15 years and formed a sinus. It presented as a foreign-body-induced gastrocuteaneous fistula in the form of a chronic discharging sinus and intraabdominal abscess on left side of abdominal wall. Exploratory laparotomy was done for it and was removed. Follow up of 2 years was uneventful.

#### Case report

An 86 years old male presented with complaints of swelling over the anterior abdominal wall in left paraumbilical region since 1 month. Patient was not a known case of diabetes mellitus. Patient was a known case of neuro-psychiatric disorder on irregular medication with similar history of

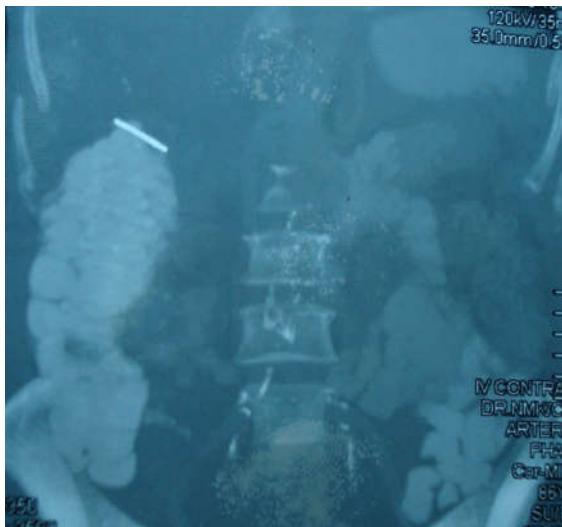
toothbrush ingestion 30 years back for which emergency exploration was done, its details were not available. On examination, patient was febrile and vitals were normal. Abdominal examination revealed inflammatory lesion in left paraumbilical region with redness and two sinus openings with purulent discharge.(Figure 1)



Figure no 1 Arrows indicating 2 sinus on the left side of the abdomen with inflammation with previous scar

Ultrasound of the abdomen showed a 1.8X 2.3 cm collection in the anterior abdominal wall. Incision and drainage was done

followed by daily dressings. However, on 8<sup>th</sup> postoperative day, discharge of mucoid material and air bubbles through it the raised suspicion of gastrocutaneous fistula. In view of the above clinical findings, computed tomography scan of the abdomen was done which showed a linear well defined hyperdense lesion measuring 15cm extending from the 2<sup>nd</sup> part of duodenum across the stomach and to the subcutaneous level(?toothbrush) with internal end showing fimbriated appearance (Figure 2). On probing, patient gave history of toothbrush ingestion 15 years back.



**Figure 2** Computed tomography scan of the abdomen showing a linear well defined hyperdense lesion measuring 15cm extending from the 2<sup>nd</sup> part of duodenum across the stomach

Patient was taken for exploratory laparotomy under general anaesthesia which revealed that the handle end of toothbrush had caused a fistula between gastric antrum and anterior abdominal wall (Figure 3&4).



**Figure 3** Fistulous opening in the stomach with black toothbrush in situ



**Figure 4** Toothbrush being taken out of the stomach

The toothbrush was removed (Figure 5) along with complete excision of fistula tract and gastric perforation was closed in two layers with non-absorbable silk sutures. Postoperative course was uneventful. Follow up of 2 years is uneventful.



**Figure 5** Toothbrush measuring 15X2 cm removed from stomach

## DISCUSSION

Several factors are associated with ingestion of foreign bodies. Foreign body ingestion, apart from children is common in people with history of psychosis, bulimia, anorexia nervosa; drug addicts; jail inmates and denture wearing elderly subjects.<sup>1</sup> Majority of foreign bodies pass uneventfully through the gastrointestinal tract.<sup>4,5</sup> The incidence of foreign bodies requiring operative removal varies from 1% to 14%. Incidence of surgery is high in patients with long gastric foreign bodies with no tendency for distal passage, thin sharp objects causing perforation and foreign bodies impacted in ileocecal region.

Perforation occurs with ingestion of long, sharp, metallic pointed objects, animal bones and is more frequent among those who had previous abdominal surgery or intestinal diseases, with most common site of perforation being sigmoid colon, rectum and distal ileum.<sup>6</sup> Gastrointestinal tract perforation apart from involving surrounding structures like kidney, IVC, may cause peritonitis, abscess formation, obstruction and haemorrhage.<sup>7</sup> Foreign body perforation of stomach, duodenum and large intestine tend to present with longer, more innocuous clinical picture than perforation elsewhere.

Conservative approach to foreign body ingestion is justified, although endoscopic removal as soon as possible is suggested for high risk groups to prevent complications.<sup>8,9</sup>

Tooth brush ingestion is a rather unusual foreign body to be found in the gastrointestinal tract with only one documented case of spontaneous passage beyond duodenum has been reported.<sup>10</sup> It is associated with significant complications related to pressure necrosis, including gastritis, mucosal tears and perforation. Surgical removal is often required due to geometric qualities. The retroperitoneal, relatively immobile and rigid nature of duodenum as well as its deep, transverse rugae and sharp angulations make it a common site for entrapment of long and sharp ended objects.

## CONCLUSION

Our case demonstrates an unusual complication of toothbrush ingestion, presenting as gastrocutaneous fistula unlike any that have been reported previously which persisted for 15 years which was removed after exploration. Atypical findings of unusual foreign body should make attending physician consider possibility of a swallowed foreign body as no case of spontaneous passage of toothbrush has been reported, prompt removal is recommended to minimise morbidity and to avoid prolonged hospitalisation.

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