

CASE REPORT

ACCIDENTAL INGESTION OF TOOTHBRUSH: AN UNUSUAL FOREIGN BODY

Muhammad Asif Rasheed, Ali Kashif*, Aneeqa Naz, Sikandar Ali**

Department of Surgery, *Department of Anesthesia, **Department of Psychiatry, Combined Military Hospital Gujranwala-Pakistan

Toothbrush is a rare foreign body to be ingested accidentally. The unusual shape of the toothbrush with no theoretical possibility of spontaneous passage mandates an interventional approach. If left untreated, it can lead to pressure necrosis, bleeding, perforation and ulceration. An endoscopic attempt in an expert clinic if available is the ideal approach. If failed, surgical management by laparoscope or mini laparotomy should be done. The evaluation for underlying psychiatric disorders like bulimia, schizophrenia or generalized eating disorder should be considered to prevent such recurrence. Here, we present a case of 55 years of age, male living a normal life with no known comorbid, who ingested accidentally a toothbrush two weeks prior to presentation and was managed at our surgical department after a failed endoscopic attempt.

Keywords: Bulimia; Endoscopy; Foreign Bodies; Stomach

Citation: Rasheed MA, Kashif A, Naz A, Ali S. Accidental ingestion of toothbrush: An unusual foreign body. J Ayub Med Coll Abbottabad 2018;30(1):130-2.

INTRODUCTION

A variety of indigestible foreign bodies are encountered in clinics, most of which can be left as such to pass without any surgical intervention.¹ However long and sharp foreign bodies pose a serious challenge as some sort of intervention is usually involved in management of such cases. The incidence of toothbrush as foreign body ingestion is quite low with no documented case of spontaneous passage so far. An early removal is recommended to avoid gastrointestinal complications like perforation, ulceration, bleeding or pressure necrosis.² A thorough evaluation in such cases is mandatory to rule out underlying psychiatric disorders such as bulimia nervosa, schizophrenia or generalized eating disorder. We present a case of 55 years of age, male living a normal life with no known comorbid who ingested accidentally a toothbrush two weeks prior to presentation and was managed surgically at our department after a failed endoscopic attempt.

CASE REPORT

A 55 years of age male, with no known comorbid presents to outdoor patient department (OPD) of Combined military hospital Gujranwala on 2nd July 2016. He accidentally swallowed a tooth brush two weeks ago while brushing his teeth. According to patient, he had a habit of brushing deep in his throat since childhood which resulted in accidental swallowing. There was no history of syncope, tongue bite, urinary/fecal incontinence or witnessed seizure episode by relatives at home. There was no history of alcohol/drug addiction. He owes a famous tea stall in his village and that is his profession for earning. He sought medical attention immediately in a local clinic from where he was referred to an endoscopic facility. Five days after the incident, an endoscopy was planned at a private clinic which failed to retrieve the

toothbrush. The patient was thus referred to the surgical facility by gastroenterologist. He walked in with complaints of mild upper abdominal discomfort especially after taking meals. On examination he was vitally stable, abdomen was soft and nontender. There was no loss of liver dullness and no signs of gross peritonitis in the abdomen. X ray abdomen revealed the bristled part of tooth brush lying in the right upper quadrant of abdomen. (Figure-1)

A decision to proceed to mini laparotomy through a limited midline incision on next available list was made. Patient was prepared for surgery and was shifted to operation theatre on 3rd July 2016 as an elective case. Prophylactic antibiotic injection cefoperazone plus salbactam 1 gram was given. Nasogastric tube was positioned via Left nostril. A 3-4 cm upper midline incision was made. Stomach was identified and presence of toothbrush was confirmed by digital palpation. Stomach was delivered in wound using Babcock's forceps. A vertical gastrotomy (1.5 cm) was made in the anterior wall, close to lesser curvature well away from pylorus. (Figure-2) Toothbrush was gently retrieved the bristled end of which was found impacted in the pyloric region. Gastrotomy was closed in two layers using absorbable 2/0 suture. Wound was closed in layers. Post-operative recovery remained uneventful. Patient was allowed orals after 24 hrs. NG tube was removed and he was discharged home on 2nd post-operative day.

On first follow up visit he was counseled to be referred to consultant psychiatrist who evaluated him according to diagnostic and statistical manual of mental disorders, fifth edition (DSM-5). Patient was found to be a healthy social male with no underlying bulimia, schizophrenia or generalized eating disorder. He was sent home with advice to change the brushing habits for future.



Figure-1: Plain abdominal radiograph – Arrow pointing towards the radiopaque bristled end lying in the right upper quadrant likely pylorus



Figure-2: Per operative photograph showing retrieval of toothbrush via a minilaparotomy 3–4 cm, Babcock's holding the gastrostomy edges

DISCUSSION

The ingestion of a toothbrush is uncommon and requires immediate medical attention. To date, there is no reported case of spontaneous passage, which mandates an interventional approach to the

presenting issue. An endoscopic attempt in an expert clinic if available is the ideal approach to the presenting issue. However, long firm nature of the foreign body and the possibility of being embedded in gastric mucosa or pylorus, may result in failure of endoscopic attempt. The case should not lose a follow up and a responsible referral to surgical facility is mandatory. The cases have been reported to be managed successfully via laparoscopic and open surgical procedures. We proceeded to a mini laparotomy due to previous failed endoscopic attempt at a local clinic. Gupta M reported a case by utilizing an innovative technique in which pneumatic gastric insufflation and extraction by a tiny gastrotomy under local anesthesia was reported with smooth and uneventful recovery.³

A forgotten tooth brush may later present as a life threatening acute abdominal catastrophe with a challenging diagnostic dilemma for clinicians.⁴ Once past the lower esophageal sphincter, there are three physiological narrowing in the gastrointestinal tract including pylorus, duodenal C-loop and ileocecal junction. In a case report by Karim Jamal and colleagues, the toothbrush was found partially embedded in the gastric mucosa.⁵ Chao HH reported a case of perforation in first part of duodenum 8 days after ingestion of a toothbrush.⁶ Theoretically it is difficult for long slender foreign bodies to negotiate the c-shaped duodenum. However, Lee MR reported a case where an ingested toothbrush even negotiated ileocecal valve and caused a Colo hepatic penetration.⁷

Accidental ingestion is rare but not unreported.⁸ The direction of bristled end distally in our case also favors "accidental" ingestion as bulimics usually use the handle of tooth brush to induce vomiting, making the bristled end appear proximally in radiographs. Despite all parameters favoring accidental ingestion in our case, we ensured a rigorous evaluation by psychiatrist to rule out any underlying disorder which might lead to recurrence of such episode.

CONCLUSION

An ingested toothbrush does not pass spontaneously and should always be managed by interventional approach. An endoscopic attempt at a clinic with appropriate expertise is the ideal management. If fails, surgical management via laparoscope or mini laparotomy should always be done. A thorough evaluation by psychiatrist must be ensured by treating surgeon to prevent recurrence of any such episode.

REFERENCES

1. Smith MT, Wong RK. Foreign bodies. *Gastrointest Endosc Clin N Am* 2007;17(2):361–82.

2. Lu XL, Cao HL, Qian KD. Endoscopic removal of an accidentally swallowed toothbrush. *Intern Med* 2008;47(20):1797–8.
3. Gupta M, Gupta P, Gupta M. Extraction of swallowed toothbrush in stomach by pneumatic insufflation and gastrotomy under local anesthesia: A rare occurrence. *J Res Med Sci* 2014;19(5):472–3.
4. Sewpaul A, Shaban F, Venkatasubramaniam AK, Tennant D, Kelly SB. The case of the forgotten toothbrush. *Int J Surg Case Rep* 2012;3(5):184–5.
5. Jamal K, Shaunak S, Kalsi S, Nehra D. Successful Laparoscopic Removal of an Ingested Toothbrush. *J Surg Tech Case Rep* 2013;5(2):99–102.
6. Chao HH, Chao TC. Perforation of the duodenum by an ingested toothbrush. *World J Gastroenterol* 2008;14(27):4410–2.
7. Lee MR, Hwang Y, Kim JH. A case of colohepatic penetration by a swallowed toothbrush. *World J Gastroenterol* 2006;12(15):2464–5.
8. Mughal M. Accidental ingestion of a toothbrush! *Arch Emerg Med* 1986;3(2):119–23.

Received: 5 February, 2017

Revised: --

Accepted: 3 June, 2017

Address for Correspondence:

Muhammad Asif Rasheed, General and Laparoscopic Surgeon, Department of Surgery, Combined Military Hospital Gujranwala-Pakistan

Email: drasifrasheed@hotmail.com