

## Case Report

## An Incidentally Swallowed Toothbrush

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### Abstract

Although foreign body (FB) ingestion is relatively common, ingestion of a toothbrush is rare. We are reporting on a 26-year old female who had accidentally swallowed a toothbrush which was successfully removed via endoscopy using a polypectomy snare.

**Keywords:** Endoscopy, foreign body, toothbrush

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### Introduction

Ingestion of a toothbrush is rare and requires prompt medical attention. A swallowed toothbrush never passes through the gastrointestinal (GI) tract spontaneously. Therefore, early endoscopy and removal of the toothbrush is recommended.<sup>1,2</sup> Here we present a 26-years old lady who accidentally swallowed a toothbrush which was extracted endoscopically using a polypectomy snare without complication.

### Case Report

A 26-years old lady was admitted to the emergency room of Shariati Hospital due to accidental ingestion of a toothbrush. She had pasta for dinner and felt rather heavy thereafter, therefore tried to induce vomiting with her finger to obtain relief from the dyspepsia. As this was unsuccessful, she tried a toothbrush to induce vomiting but accidentally swallowed the toothbrush. The patient was asymptomatic upon admission. On physical examination her vital signs were stable and the abdomen was soft with normal bowel sounds. Her chest X-ray was also within normal limits and did not show any radio-opaque foreign body (Figure 1). She was taken to the endoscopy unit and an esophago-gastroduodenoscopy was performed under conscious sedation with midazolam. A toothbrush was found in her stomach, which was surrounded by food particles (Figure 2). The toothbrush was grabbed from its sharp end by a polypectomy snare and removed successfully without any complications (Figure 3). The most difficult part of the removal was from the pharynx where it induced a strong gag reflex. The endoscopist used his fingers to securely hold the toothbrush and remove it from the mouth at this stage. The patient was observed in the emergency room overnight and discharged home the next day.

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Figure 1. Chest X-ray: Within normal limits.

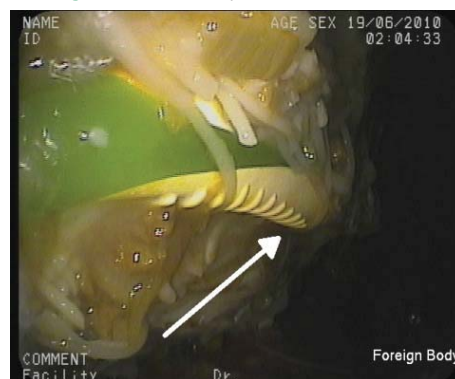


Figure 2. Endoscopy: A toothbrush in the stomach (arrow).



Figure 3. Toothbrush after retrieval by snare

## Discussion

Ingestion of a foreign body is commonly encountered in the emergency room. It is most common among children, adults with intellectual impairment, psychiatric illness or alcoholism, and the elderly who wear dentures.<sup>1-3</sup> An accurate history is the key to correct diagnosis. Type, radio-opacity, location, and duration of the ingested foreign body determine the outcome. Delay in diagnosis is the most important factor increasing the risk of complications.<sup>4</sup> Foreign bodies in the esophagus are considered to be a serious clinical condition, both in adults and children, due to possible complications (esophageal perforation, mediastinitis, fistulization, and airway obstruction) with high mortality and morbidity.<sup>5</sup> Therefore, all objects impacted in the esophagus require urgent or emergent treatment, although the vast majority of ingested foreign bodies pass through the GI tract without causing complications.<sup>1-3,5</sup> Ingestion of a toothbrush is rare, with only approximately 40 reported cases in the literature.<sup>1,2</sup> The first case of toothbrush ingestion was reported in 1882, and the first reported death from toothbrush swallowing occurred in 1889 due to gastric perforation.<sup>3</sup> There are no reports of swallowed toothbrushes passing spontaneously.<sup>1,2</sup> Thus, prompt intervention is required in order to avoid complications such as pressure necrosis which causes ulceration and perforation. An initial extraction strategy to consider is endoscopy by a skilled endoscopist.<sup>1,2</sup> If the endosco-

pist is inexperienced, not familiar with handling potential complications, or appropriate equipment is not available, then serious morbidity or even life-threatening situations may ensue.<sup>4</sup> The first case of successful endoscopic toothbrush removal was reported in 1983.<sup>1,3</sup> If endoscopic removal is not possible and particular complications are not present, a laparoscopic approach may be an alternative to laparotomy.<sup>1-3</sup>

Hereby we report a case of successful removal of a toothbrush from the stomach of a healthy young lady who had accidentally ingested it. Removal of the toothbrush from pharynx may be the most challenging part and may need manual assistance.

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