

# Unusual Foreign Body Swallowed While Asleep: Lessons To Learn - A Case Report

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## Abstract

The incidence of swallowed foreign body is highest in the paediatric age group. Though it is most common in the younger children, several cases have been reported in older children, adults, psychiatric patients and prison inmates. Its presentation in the emergency department may be completely asymptomatic or life-threatening. The common objects ingested include coins, toys, buttons, pins, etc., but these are usually ingested by these patients while awake. Watchful waiting may suffice in the majority of cases but endoscopic removal and laparotomy may become necessary. We present a case of a 12-year-old boarding student who swallowed the detachable metallic part of a padlock key while asleep (having been playing with the object in his mouth just before he slept). A plain abdominal x-ray confirmed the diagnosis. Watchful waiting was used as a modality of treatment and he expelled the object within 24 hours of presentation. This case presentation is aimed at highlighting the importance of not retaining any objects in the mouth before sleeping or while feeling sleepy.

## INTRODUCTION

The incidence of swallowed foreign body is highest in the paediatric age group, usually below 10 years of age. Older children, adults and the elderly especially edentulous patients may also be involved as well as psychiatric patients and prison in-mates<sup>1-3</sup>. These patients often present in the emergency department and the condition could be innocuous or life-threatening in some patients. "Watchful waiting" in the majority of patients may suffice but in others endoscopic or open surgical intervention may become necessary<sup>1-5</sup>. Prevention of this condition is the best approach; hence the need for appropriate enlightenment programs to be put in place.

## CASE REPORT

A 12-year-old male boarding student of a private secondary school in Calabar, Nigeria, presented at the emergency unit of the Nigerian Navy Hospital, Calabar, with a 30-minute history of swallowing the metallic detachable part of a padlock key while asleep. He was playing with this object in his mouth and fell asleep. On realizing this when he woke up, he raised an alarm and was immediately brought to the hospital by the school authorities. At presentation he had no complaints and physical examination was essentially normal. A plain abdominal x-ray showed a well defined u-shaped opacity of metallic density lodged in the pyloric antral

region at T12 – L1 vertebral level (figure 1).

## Figure 1

Figure 1: shows the swallowed object



A diagnosis of swallowed foreign body while asleep was made and he was admitted for observation. He was placed on liberal oral fluid intake, two tablets of bisacodyl stat with a plan to repeat the plain abdominal x-ray the following day while visual examination of his stool was requested for. The patient passed the ingested object in stool within 24 hours and a repeat abdominal x-ray confirmed passage of the object in stool. The patient was still asymptomatic and was

discharged home thereafter after appropriate counseling.

### DISCUSSION

The incidence of swallowed foreign body is highest in children and young adults, with the common age at presentation being below 10 years<sup>1</sup>. It is estimated that the paediatric age group accounts for approximately 80% of all cases, followed by edentulous adults, prisoners and psychiatric patients<sup>2,3</sup>.

A correlation is said to exist between age groups and specific types of materials ingested. While children often ingest coins, toys, safety pins, buttons, crayons and ball point caps; adults, on the other hand, tend to ingest meat and bones. Psychiatric patients and prisoners may ingest strange objects such as spoons, razor blades, etc.<sup>1-4</sup>

All these objects are usually ingested while the patient is awake and playing with the objects or as a suicide attempt. Our index patient was an older child, he swallowed this object while asleep and the object he swallowed was unusual and rare. All these items put together made this a reportable case because of its peculiarities as the authors are presently not aware of a similar case in the literature.

Ingested objects often pass all the way through the digestive tract within 24 hours to 4 days and cause no harm, but in some, it may be life-threatening and may require various forms of intervention<sup>3,4</sup>.

The majority of these swallowed foreign bodies may get impacted at certain sites in the esophagus known conventionally as constrictions<sup>1</sup>. These constrictions are: the cervical constriction at the level of the cricopharyngeal sphincter which is the narrowest part of the gastrointestinal tract (14mm in diameter), the broncho-aortic constriction (15-17mm in diameter) at the level of the fourth thoracic vertebra and the diaphragmatic constriction (16-19mm) which is at the point where the esophagus traverses the diaphragm<sup>5</sup>.

When these objects get impacted in the esophagus, they could cause drooling of saliva, inability to swallow, dysphagia, odynophagia, vomiting, chest pain and neck pain<sup>3,5</sup>. Some of these patients may also present with respiratory symptoms like cough and stridor, owing to the proximity of the upper air way and the esophagus<sup>1</sup>. Weight loss, consolidated lungs and failure to thrive have been documented in long standing cases of impacted foreign body in the esophagus<sup>1</sup>.

Sharp objects when swallowed may perforate the esophagus or other parts of the gastrointestinal tract and patients may present with vomiting, abdominal pain, abnormal bowel sounds and melena. Thus, swallowed foreign bodies pose a lot of dangers to the patient and therefore appropriate steps should be taken to avoid this<sup>4</sup>.

Radiological investigations such as plain chest or abdominal x-rays are of great value in making a diagnosis, especially if the ingested foreign body is radio-opaque. It may also demonstrate the presence of free air under the diaphragm in cases of perforation. A CT scan should be performed in cases of radiolucent objects. Upper gastrointestinal endoscopy, which can be both diagnostic and therapeutic, is also of immense value where available<sup>2-5</sup>.

While reviewing 98 cases of swallowed foreign bodies of which only 71 cases had a fate definitely known, Bernard et al. in California<sup>6</sup> noted that twenty were impacted in the esophagus, while 51 were found in the small intestine. They found out that 49 (96.1%) out of the 51 cases of foreign bodies in the gastro-intestinal tract, were spontaneously passed out, while 2 (3.9%) patients had laparotomy to extract them. Of those impacted in the esophagus, 17 (85%) had esophagoscopy removal<sup>6</sup>. They advocated "watchful waiting" as a viable option of treatment in patients with swallowed foreign body since the majority (85%) of patients in their series spontaneously passed out these foreign bodies. They, however, noted that some other authorities question this watchful waiting approach, especially as the duration for waiting is undefined<sup>6</sup>.

In our index patient watchful waiting was successful and this may have been aided by the smooth nature of the swallowed object, thus enabling it to glide freely through the gastrointestinal tract. The use of cathartics also contributed to the early passage of this foreign body in our index patient. The use of oral laxatives to enhance passage of ingested foreign bodies is also recommended by Jean Frossard et al.<sup>4</sup> Our index patient did not have any of the symptoms associated with impacted foreign bodies in the gastrointestinal tract because it never got impacted.

Okoye et al.<sup>1</sup> reported the case of a 20-year-old male patient who inadvertently swallowed a coin which got impacted at the thoracic inlet – one of the conventional areas of constriction. This patient presented late with cough, stridor, odynophagia and weight loss. The coin was retrieved non-surgically by fluoroscopic guidance<sup>1</sup>. This case highlighted the oddity of an adult swallowing a coin.

Treatment options for this condition vary from “watchful waiting” in the majority of cases to esophagoscopy (rigid and flexible) with extraction of the foreign body, balloon catheter extraction, fluoroscopic removal and laparotomy<sup>1-6</sup>. Apart from watchful waiting, other modalities of treatment may be attended by complications associated with the procedure itself such as esophageal bleeding, tears and perforation. Damage to intra-abdominal organs may occur when laparotomy is done. Post-adhesive intestinal obstruction may later follow the laparotomy<sup>5,7</sup>. Also anesthetic complications occur when laparotomy is indicated for removal of the foreign body.

Generally, the prognosis of this condition is good in the majority of cases and only watchful waiting may suffice<sup>1-6</sup>. Emphasis should be on preventive measures such as public enlightenment programs in schools, churches, etc., using the mass media and keeping such objects away from children.

### CONCLUSION

Though the incidence of swallowed foreign body is considered highest in younger children, older children and adults are equally at risk. There is a need to avoid playing with or retaining all forms of objects in the oral cavity, especially when sleepy, as these may be accidentally

ingested. Where it occurs, we recommend watchful waiting as a first line of treatment with regular stool monitoring until it is confirmed to be expelled. Also we advocate appropriate radiological and endoscopic surveillance of the patient where facilities are available.

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