

Case report

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Management and Retrieval of An Accidental Postoperative Ingestion of Tongue Piercing

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Abstract

Foreign body ingestion mostly occurs in children, but also occasionally in adults with mental or developmental disorders, or alcohol dependence. Although most foreign bodies pass through the gastrointestinal tract and defecate naturally, endoscopic intervention is recommended for sharp and pointed objects due to high risk of perforation. The patient was a 19-year-old woman with no underlying mental nor developmental disorders who accidentally swallowed her tongue piercing attempting to reinsert it while recovering from sedation after surgery under general anesthesia. We carefully monitored her with daily abdominal X-rays from the first postoperative day expecting it to pass with natural defecation. However, it remained lodged in the ileocecal region from the second to third postoperative day and was safely retrieved with colonoscopy. Her subsequent course was uneventful without any complications. In Japan, tongue piercings are still not popular, and risks are still largely unknown. In case of accidental ingestion, careful monitoring with abdominal X-rays is important for timely endoscopic or surgical intervention.

Keywords: Foreign body; ingestion; tongue piercing**Abbreviations:** BMI: Body mass index

Introduction

Most foreign body ingestions occur in children and rarely in adults [1,2]. In adults, it is more common in people with mental illness or developmental disabilities, alcoholics, and edentulous people [3-5]. More than 80% of foreign bodies are likely to pass without the need for intervention [6,7], but the rate of endoscopic intervention can be much higher for intentional ingestion. Ingestion of sharp, pointed objects, such as animal or fish bones, bread bag clips, magnets, or medication blister packs increases the risk of perforation [8-13]. Here, we present a rare case in which a 19-year-old woman with no underlying medical conditions such as mental illness or developmental disability accidentally ingested her tongue piercing postoperatively while recovering from surgery

under general anesthesia. The work reported here is in line with the SCARE standards [14].

Case Presentation

The patient is a 19-year-old female (height 157.1cm, weight 49.1kg, BMI 19.89) with no particular medical history. She took no regular medications and had no allergies. One month earlier she had been diagnosed with acute appendicitis at our hospital which improved with conservative treatment and was discharged. She was re-admitted for a planned interval appendectomy. Laparoscopic appendectomy was carried out under general anesthesia. The surgery was uneventful. Furthermore, no abnormalities were identified on postoperative abdominal X-ray examination (Figure

1a). After awakening from general anesthesia, she returned to her room. An X-ray of her abdomen on the first postoperative day revealed a metallic component in her abdomen (Figure 1b). Since the piercing was not visible in the abdominal X-ray immediately after surgery, it was concluded that she had accidentally ingested it while wearing it at night after she had re-inserted it post-surgery. There were no abdominal symptoms, and there were no abnormal findings in the blood findings as shown below:

- a) White blood cells count 8,160 cells/ μ l (3300–8800).
- b) Hemoglobin 12.1 g/dl (11.0–16.0).
- c) Hematocrit 36.1 % (30.5–50.3).
- d) Platelet count $18.7 \times 10^4/\mu$ l (12–28).
- e) C-reactive protein 0.82 mg/dl (0–0.3).
- f) Aspartate aminotransferase 13 IU/L (10–33).
- g) Alanine aminotransferase 8 IU/L (5–33).
- h) Lactate dehydrogenase 132 IU/L (89–231).
- i) Total bilirubin 1.2 mg/dL (0.2–1.2).
- j) Blood urea nitrogen 6.7 mg/dL (8–20).
- k) Creatinine 0.53 mg/dL (0.5–1.11).

- l) Sodium 139.4 mEq/L (136–147).
- m) Potassium 4.2 mEq/L (3.6–5.0).
- n) Chlorine 103.7 mEq/L (98–109).

Abdominal X-ray examination showed no free air, and the tongue piercing was considered located in the small intestine. We decided to follow up with daily abdominal X-rays expecting the piercing would be excreted by natural defecation. Observation on the second postoperative day suggested it had moved to the ileocecal region or the ascending colon (Figure 1c). Abdominal X-ray on the third postoperative day showed no change in position (Figure 1d), so we decided on retrieval through colonoscopy. Colonoscopy results showed no mucosal bleeding or mucosal damage due to the tongue piercing, and it was confirmed located at the blind end of the ileocecal region. (Figures 2a&2b). The appendiceal orifice had become edematous due to postoperative effects, and the tongue piercing was retrieved using grasping forceps of colonoscopy (Figure 2c). It was made of surgical stainless steel with a total length of 2.5 cm and a thickness of 14G (Figure 2d). The patient resumed eating on the same evening. Abdominal symptoms remained unremarkable, so she was discharged on the fourth postoperative day. Thereafter, the patient progressed uneventfully without any complications after visiting the outpatient clinic.

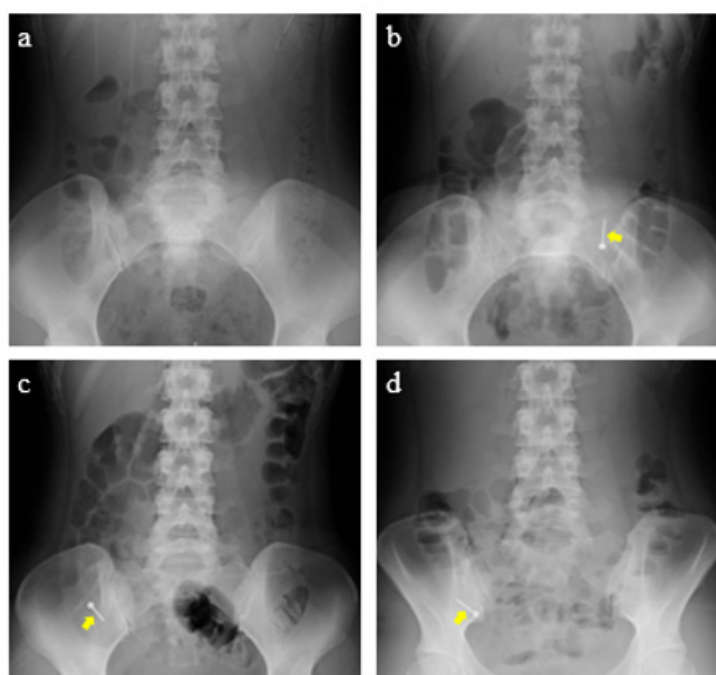


Figure 1: Abdominal X-ray.

- (a) Abdominal X-ray immediately post-surgery. No foreign body visible.
- (b) Abdominal X-ray on the first day post-surgery. A metal foreign object was noted in the left lower abdomen. Identified as a tongue piercing based on the shape.
- (c) Abdominal X-ray on the second postoperative day. The tongue piercing has moved to the ileocecal region.
- (d) Abdominal X-ray on the third day after surgery. Location unchanged.

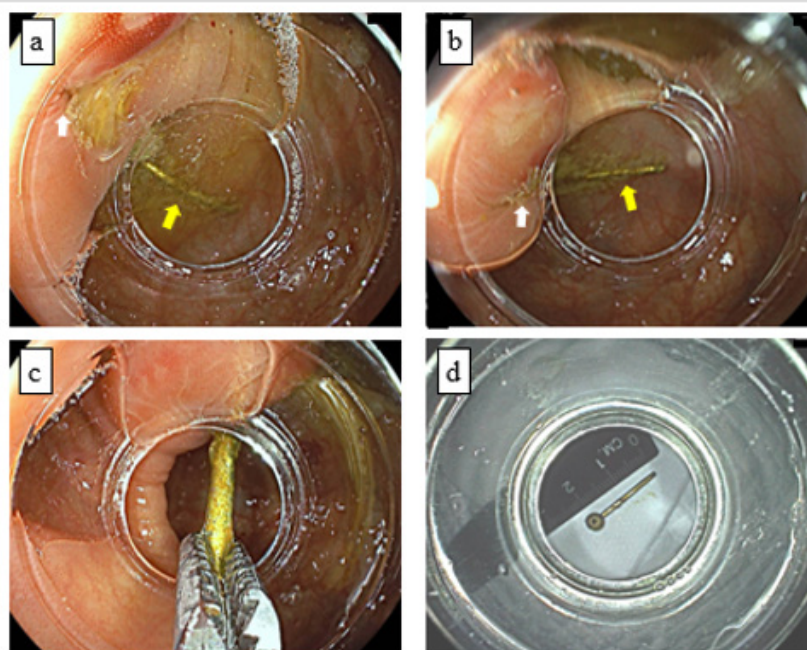


Figure 2: Findings on colonoscopy.

(a),(b) The tongue piercing located at the blind end of the ileocecal region (yellow arrows) and the appendiceal orifice is edematous (white arrows). There was no mucosal bleeding or mucosal damage due to the tongue piercing.

(c) The tongue piercing removed with grasping forceps.

(d) Tongue piercing after removal under colonoscopy.

Discussion

Many cases of foreign body ingestion are reported each year, and 80% of these cases occur in children, typically between 6 months and 3 years of age [15]. Foreign body ingestion in adults is rare compared to children [16] and may occur for iatrogenic or individual satisfaction reasons [17]. It is observed in people with alcoholism, mental disorders, or developmental disabilities, as well as for secondary purposes such as incarcerated individuals attempting release from prison [3]. Most objects are foods such as meat and fish bones, but dentures, nails, and screws [18] may also be ingested. Ingested foreign objects pass the gastrointestinal tract in 80% of cases, endoscopy is required in 20%, and <1% requires surgical procedure [16]. Intentional ingestion of sharp metal objects is more prone to complications. Although the majority pass without incident, up to 30–35% may penetrate the wall of the gastrointestinal tract and endoscopically retrieval is recommended [19–22]. Otherwise, they may be followed with daily radiographs to document their passage, and surgical intervention should be considered for objects that fail to progress after 3 days [23,24].

In this case, the patient had no history of mental illness, disability, nor incarceration, and accidentally swallowed an approximately 3cm-long tongue piercing likely from incorrect insertion while recovering from sedation. The catch on one side had come off, and the tip of the 14G straight barbell was exposed and sharp. There was a perceived risk of intestinal perforation

due to the sharp metal, but since it was in the small intestine, fasting was prescribed with daily abdominal X-rays to confirm its position. After two days, the tongue piercing was confirmed to have reached the large intestine and was retrieved with colonoscopy. As a result, the patient progressed without complications. A past case has been reported of an accidentally swallowed tongue piercing entering the appendix lumen and causing appendicitis [25]. It has been theorized that the metallic foreign objects heavier than intestinal contents causes it to be stayed in the cecum, and its lower anatomical position causes the object to move toward the appendix [26].

Since the case here was post-appendectomy, the tongue piercing did not enter the appendiceal cavity. However, endoscopic findings confirmed its location at the blind end of the ileocecal region near the appendiceal orifice. Therefore, if not retrieved endoscopically, it would not have been excreted through natural defecation and could have potentially caused complications. This case is the first case report in which an accidentally swallowed tongue piercing was removed by colonoscopy, careful monitoring with abdominal X-rays and timely endoscopic or surgical intervention are essential. In addition, young people are increasingly interested in body art [27]. However, in Japan there is still insufficient awareness among users and medical professionals of how to manage tongue piercings and their associated complications. Awareness of their risks during peri- and post-operative management is necessary.

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Conflict of interest

No conflict of interest.

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