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Swallowed dentures causing sigmoid perforation: a case report

Moch. Junaidy Heriyanto[1*], Triyoga[2]

*Email: m.junaidy@med.uad.ac.id, +62-856-4340-6999
1 Departement of Surgery, Faculty of Medicine; Ahmad Dahlan University.
2 Departement of Surgery, Regional Public Hospital of Wates. Kulonprogo, Yogyakarta

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ABSTRACT

We report the case of a 72-year-old man who accidentally swallowed his dental bridge. He did not realize his artificial teeth were swallowed. The patient was taken to the emergency room with complaints of abdominal pain. At the time of initial exploration, the patient was diagnosed with kidney colic. After a radiological examination, a foreign object was found. The patient undergoes laparotomy to evacuate a foreign body and find dentures. At the time of surgery, the operator observed the sigmoid perforation.

Introduction

Cases of foreign bodies such as dentures ingested have been widely reported, especially by ENT doctors. Cases of ingested dentures are usually stuck in the esophagus.(Fitri *et al.*, 2011; Cahyono *et al.*, 2012; Noer Shoffi and Kristyono, 2013). This paper reported cases of dentures that are swallowed so that it requires a laparotomy surgery, which is quite rare.

Case Report

A 72-year-old man came to an emergency department with complaints of lower abdominal pain in the last one week ago. The pain felt lost-arise/constantly, felt twisted like wanting to defecate. Complaints accompanied by nausea but denied the existence of vomiting. The patient claimed to have a history of urinary retention one year ago. History of chronic disease, diabetes mellitus, neurological disorders, denied. The patient has not yet undergone therapy or taken medicine to relieve the complaint.

From the physical examination, it was found that the general condition was sufficient, it was seen in pain with a Visual Analogue Scale (VAS) score of seven, compos mentis awareness with the

Glasgow Coma Scale (GCS) E4V5M6. The patient's vital signs include blood pressure 115/62 mmHg, pulse 65 times per minute, breathing rate 20 times per minute with 100% oxygen saturation, 37.5 ° C, all within normal limits. Patients have bodyweight 65 kg, body height 167 cm, body mass index value 23.3 kg / m2 (norm weight).

On abdominal examination, there was no distention of the abdomen, auscultation of bowel sounds was positive, tympanic in all four quadrants, and tenderness in palpation of the abdomen in the umbilicus and the suprapubic region was found.

Laboratory tests at hospital admission: Hemoglobin 13.2 g / dL, leukocytes $4.79x10^3$ / uL, and platelets $252x10^3$/uL. Differential count: Neutrophils 83.3%, Lymphocytes 9.2%, Monocytes 6.2%. Eosinophils 1%, and Basophils 0.3%. The test found blood glucose 117 mg/dL, ureum 35 mg/dL and creatinine 0.69 mg/dL. Laboratory results of urinalysis showed color was yellow with slight turbid, proteinuria (+), leucocyte (+). On the thorax X-ray result was found Bronchitis.

The initial assessment was colic renal caused by urinary tract infection with the differential diagnosis of urinary tract stone. Patient has to be hospitalized, managed with IVFD ringer lactate 20 drops per minute, intravenous ketorolac injection 30 mg / 8 hours, ranitidine injection 50 mg/12 hours and ondansetron injection 4 mg / 8 hours.

After 2 days of treatment the patient complained of persistent abdominal pain. On physical examination the abdomen was increasingly distended. A three-position abdominal examination should be done (Figure 1).

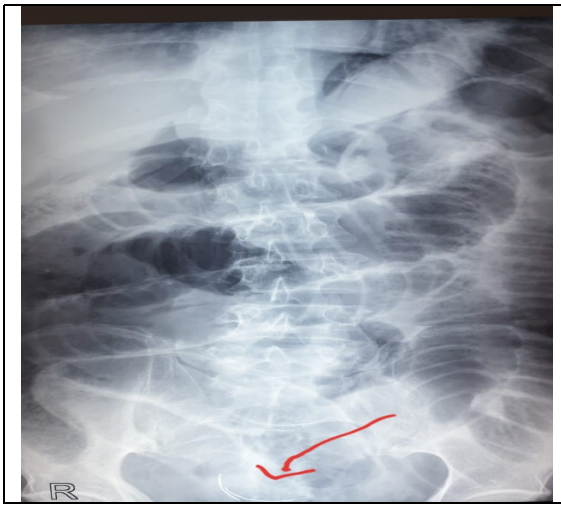

Figure 1. Plain photo inspection:
Abdomen three positions:

- Dilated small bowel system, herringbone appearance (+), coil spring (+), step ladder (+)
- Intestinal air distribution in the colon (+) is minimal
- Bilateral infra-diaphragm lusions appear in the LLD position (left lateral decubitus) in the highest position
- The pre-peritoneal fat pad is thinning

Interpretation: high obstructive ileus with signs of pneumoperitoneum

The suspecting of a foreign body in the plain photo of the Antero-posterior abdomen of the sigmoid was found (red arrow). Therefore, an exploratory laparotomy should be done in this patient.

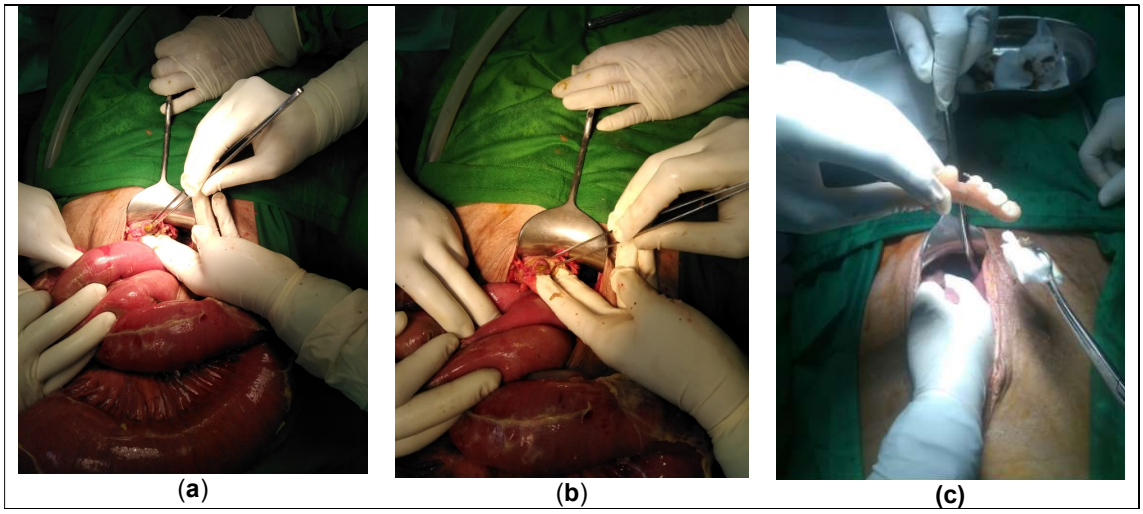

Figure 2. Process of exploratory laparotomy.
Perforation in sigmoid colon (a,b). Five dentures complete with bridges successfully evacuated (c)

During laparotomy, we found a perforation in the sigmoid. At the touch we feel a foreign object such as a wire stuck in the sigmoid. We carefully evacuated the item, and it turned out to be as many as five dentures complete with braces (Figure 2). We did sigmoid colectomy and rinse the peritoneum. The surgery went well, and there were no complications after surgery.

Discussion

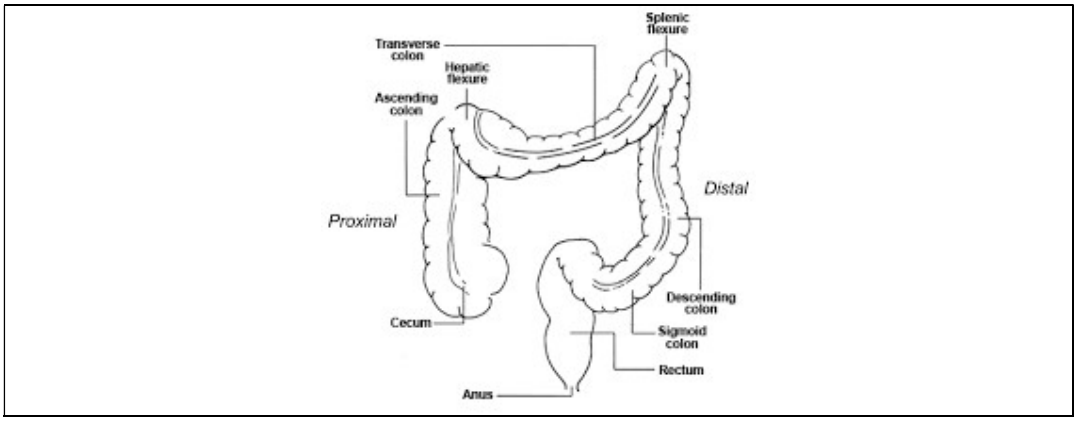

Figure 3. The picture of large intestine
Proximal Colon (Cecum, Ascending, Hepatic Flexure, and Transverse Colon), Distal Colon (Splenic Flexure, Descending, Sigmoid Colon, and Rectum)

Case of dentures that are swallowed up through the esophagus are rare. From a retrospective study in Japan, the results of the location of foreign bodies detected on plain radiography were Pharynx-esophageal entrance 2 (7.1%), Esophagus 6 (21.4%), Stomach 12 (42.9%), Duodenum 4 (14.3%), Jejunum 1 (3.6%), Colon (cecum) 2 (7.1%). Similar to this reported case, in the study of 29 patients with dentures that were ingested, most were male and

elderly (mean age 68.4 years) (Mizuno *et al.*, 2016). Symptoms due to ingested dentures can vary greatly, from asymptomatic to severe complications. Perforation, penetration of adjacent organs, bleeding, and obstruction are reported complications that need urgent surgical management. Fortunately, less than 1% of all cases require surgery (Abu Ghanimeh *et al.*, 2018).

Comprehensive management of foreign bodies, especially in the colon and rectum, can be seen as follows.

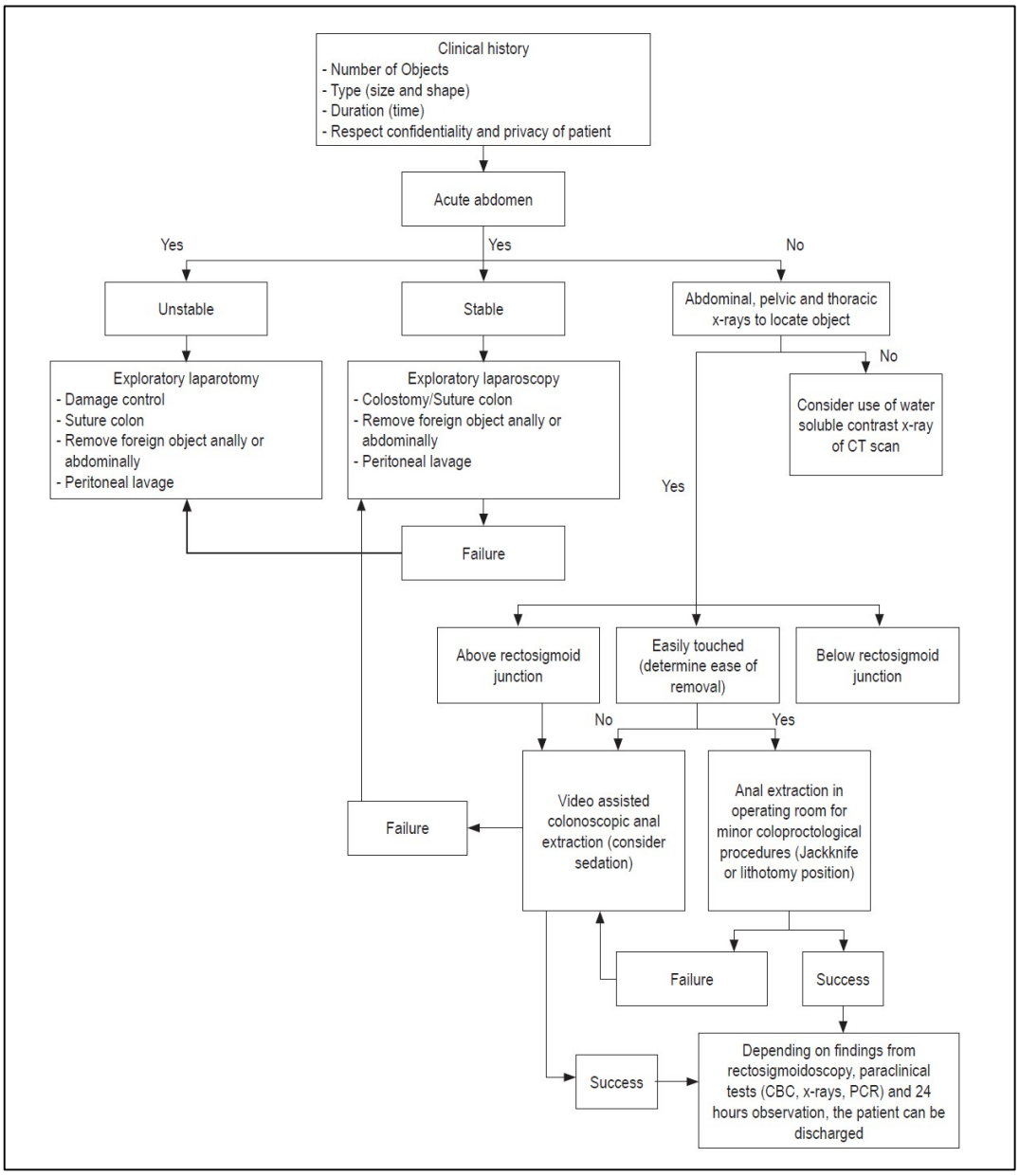

Figure 1.Management algorithm of Colorectal Foreign Bodies (Yamamoto et al., 2017)

The existence of foreign object in this study was suspected through radiological examination. The radiological finding in this study was a metal-like formation in the area of the

sigmoid. Radiographic examination is recommended to determine the size, shape, and location of foreign objects. Metal, glass, and materials from stone can be visualized well using conventional plain film radiography, while organic materials such as wood, may require further imaging such as ultrasonography (Ndiaye *et al.*, 2018).

Conclusion

Although most swallowed foreign pass through the gastrointestinal tract without a problem but serious complications including intestinal perforation can occur. In this case there was a delay in handling because there was no possibility of dentures being swallowed from alloanamnesis. Physical and radiographic examination is needed for the diagnosis and handling of patients quickly and precisely.

Conflicts of Interest: "The authors declare no conflict of interest."

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