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Case Report

Descending colon perforation due to accidental swallowing of dentures: an interesting case report

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ABSTRACT

Ingesting foreign bodies is a common occurrence, particularly in children and in a few adults (Mentally incapable, alcoholics, and people wearing dentures). Swallowed dentures are a multidisciplinary problem that concerns various fields like surgery, endoscopy, anaesthesiology, dentistry, psychiatry, neurology, thoracic surgery, and emergency medicine. Hence, swallowed dentures are considered a unique type of foreign body apart from coins, batteries, and needles. Most foreign bodies pass through the intestines without a problem. The reported complications due to ingestion of swallowed dental prosthesis include trachea-oesophageal fistula and perforation of the colon. Here, we are reporting a case of a 40-year-old male patient presenting with descending colon perforation and on surgical exploration found to have a denture protruding from the colon.

Keywords: Artificial Dentures, Foreign Body, Perforation peritonitis, Colon perforation

INTRODUCTION

Foreign-body ingestion is a common clinical problem among patients arriving in emergency departments. Fixed or removable dentures can get ingested accidentally. Denture loosening leads to accidental ingestion of dentures. Loss of sensation within the oral cavity due to dentures increases the likelihood of accidental ingestion of foreign bodies.[1] The problem of swallowed dentures is multidisciplinary. Management of denture ingestion is a collaborative decision that is detrimental to the prevention, diagnosis, and treatment. Among all the ingested foreign bodies, 80% pass out through the entire gastrointestinal tract spontaneously, and only 20% can get impacted at different levels of the gastrointestinal tract.[2] The most common surgical complication is perforation. Perforation occurs in less than 1% of ingested foreign bodies. Bleeding, obstruction, and penetration of solid organs are rare. Edentulous people have reduced neural sensations in the oral mucosa, poor motor control of pharyngeal musculature, and are at high risk for foreign body ingestion like dentures.[3] Lack of patient awareness about the need for regular check-ups and denture change or compliance is a crucial issue increasing the risk of denture ingestion.[4]

CASE REPORT

Here we are reporting a case of a 40-year-old male patient, who's a chronic tobacco chewer who presented to casualty with complaints of pain in the abdomen for two days which was associated with three episodes of vomiting. No history of fever or trauma was given by the patient. On examination patient had tachycardia. The abdomen was guarded and rigid. An X-ray abdomen standing showed free gas under the diaphragm. Given the X-ray showing free gas under the diaphragm and clinically guarded and rigid abdomen, the decision to go ahead with emergency exploratory laparotomy was taken. The patient was stabilized and was taken for Emergency Exploratory Laparotomy under general anaesthesia. On entering the peritoneal cavity, there was no contamination with fluid or gushing out of gas noted. On doing a bowel run, gas leakage was noted from the left lateral abdominal wall. After thoroughly reassessing, a foreign body, a bone chip

protruded from the bowel wall which was adhered to the lateral abdominal wall muscles. (Figure 1). Authors freed the bowel loops from the abdominal wall and the foreign body was delivered which turned out to be dentures with a wire protruding from both ends (Figure 2). There was a perforation in the anterior wall of the descending colon adjacent to the anterior taenia of size 1.5×1.5 cm with ragged edges. Perforation was closed primarily and thorough peritoneal lavage was given. In the postoperative period, there was prolonged ileus, rest was uneventful. The patient was started on orals after 6 days and discharged on Post operative day 9. The patient was on follow-up for three months during which he was asymptomatic.

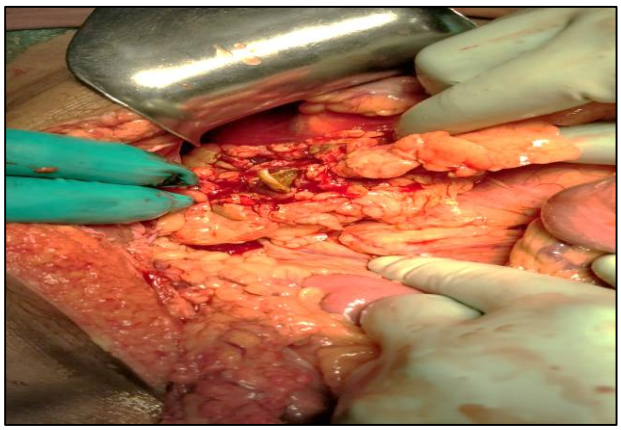

Figure 1: Bone chip protruding from the colon.

Figure 2: Denture swallowed by the patient-retrieved from the colon.

DISCUSSION

Foreign-body ingestion is a common clinical problem presenting to emergency departments, and bowel perforation takes place in less than 1% of ingested foreign bodies. The peak incidence of foreign body ingestion and aspiration is in between 6 months to 6 years.[5] Ingestion of foreign bodies is less frequent among adults and varies in different populations. The most common foreign body is non-bony food bolus in Western countries, while chicken and fish bones are more frequent in Asian countries.[6]

The typical zones of foreign body impaction are the areas of narrowing like the upper and lower esophageal sphincters, pylorus, duodenum, ileocaecal valve, appendix, sigmoid colon, and anus. Bowel perforation usually occurs with sharply pointed objects in less than 1 percent of cases.[4] The most common location of perforation is at the ileocecal valve and rectosigmoid region due to a change in the direction of the foreign body when moving between a mobile portion of the mesocolon (ileum, sigmoid) and a more or less fixed portion of retro peritoneum (cecum, rectum).[7]

The defective tactile sensation of the palate and sensory defects due to cerebrovascular accidents are the predisposing factors leading to the swallowing of dentures.8 Reactive fibrinous exudates develop when objects fail to pass the tract in 3 to 4 weeks and may cause adherence to the bowel mucosa and migrate outside the intestinal lumen to unusual locations.[9]

The time between ingestion and presentation may vary from patient to patient. In a few cases only, a definitive preoperative history of foreign body ingestion is given by the patient.[10] Denture impaction in the small bowel is rare, and in almost all reported cases, the site of impaction appeared to be the terminal ileum.[11] Denture impaction in the large bowel and its possible consequences are uncommon because of its larger diameter and solid consistency of its contents. Theoretically, a denture passed through the ileocecal valve should pass through the large bowel uneventfully. The only cause of denture impaction should be colonic stenosis, like colon cancer.[9] Clinical presentation of denture ingestion correlates with the site of impaction and presenting complications. Common complications after denture ingestion are perforation, penetration to adjacent organs, bleeding, necrosis, and obstruction.

Perforation can cause secondary fatal complications like deep neck infections, mediastinitis, and peritonitis. Penetration to adjacent organs can lead to fistulae formation, such as entero-colic fistula and broncho-esophageal fistula.[12] Gastrointestinal bleeding is due to ulceration and vessel erosion. Obstruction is very rare. Plain radiographs or Biplane radiographs identify most true foreign objects, steak bones, and free mediastinal or peritoneal air. Radiographs can confirm the location, size, shape, and number of ingested foreign bodies and help exclude aspirated objects. With suspected foreign body ingestion, persistent esophageal symptoms should be evaluated by endoscopy, even in the setting of a negative radiographic evaluation.[13]

Computerised tomography (CT) scanning and ultrasonography can recognize radiolucent foreign bodies. An ultrasound scan can directly visualize foreign bodies and abscesses due to perforation. The ability to detect a foreign body depends on its constituent materials, dimensions, shape, and position. Contrast studies with Gastrografin are required to locate the site of impaction of

the foreign body and determine the level of perforation. Contrast helps identify and locate foreign bodies if intrinsically non-radiopaque substances, such as wooden checkers or fish and chicken bone are ingested.[14] The high performance of computed tomography (CT) or multidetector- row computed tomography (MDCT) scan of the abdomen in identifying intestinal perforation caused by foreign bodies has been well described by Coulier et al.[15] Although, in some cases, imaging findings can be nonspecific, however, the identification of a foreign body with an associated mass or extraluminal collection of gas in patients with clinical signs of peritonitis, mechanical bowel obstruction, or pneumoperitoneum strongly suggests the diagnosis.

For blunt objects conservative outpatient management is indicated in almost all instances in which the foreign body has entered the stomach.5 Most objects are passed within 4 to 6 days, although some may take as long as 4 weeks. While awaiting spontaneous passage of a foreign body, patients are usually instructed to continue a regular diet and observe their stools for the ingested object. In the absence of symptoms, weekly radiographs are sufficient to follow the progression of small blunt objects not observed to pass spontaneously.[6] In adults rounded objects greater than 2.5 cm in diameter are less likely to pass the pylorus. Objects that fail to leave the stomach within 3 to 4 weeks should be removed endoscopically. Once the object is past the stomach, surgical removal should be considered for objects that remain in the same location for more than 1 week.[13] Symptoms of fever, vomiting, or abdominal pain are indications for immediate surgical evaluation.

For sharp objects lodged in the esophagus represent a medical emergency. Rigid or flexible endoscopy may be used to retrieve the object. Although the majority of sharp-pointed objects that enter the stomach will pass through the remaining GI tract without incident, the risk of a complication caused by a sharp-pointed object is as high as 35%.[16] Therefore, a sharp-pointed object that has passed into the stomach or proximal duodenum should be retrieved endoscopically if it can be accomplished safely.[6] Otherwise sharp-pointed objects may be followed with daily radiographs to document their passage and surgical intervention should be considered for objects that fail to progress for 3 consecutive days. Patients should be instructed to immediately report abdominal pain, vomiting, persistent temperature elevations, hematemesis, or melena.

Whenever a diagnosis of peritonitis after foreign body ingestion is made, an exploratory laparotomy is performed. However, laparoscopically assisted, or complete, laparoscopic approaches have been reported. The treatment usually involves resection of the bowel, although occasionally repair has been described.[4] The most common treatment was a simple suture of the defect. Once the foreign body passes the esophagogastric junction into the stomach, it will usually pass through the pylorus; however, surgical removal is indicated if the foreign body has sharp points or if it remains in one location for more than 4 to 5 days, especially in the presence of symptoms. A decision should be based on the nature of the foreign body in those cases, as to whether a corrosive or toxic metal is ingested. Occasionally, objects that reach the colon may be expelled after enema administration. However, stool softeners, cathartics, and special diets have no proven benefit in such cases.[3]

CONCLUSION

A denture is a special type of foreign body requiring the awareness of different specialists. Fixed dentures are also at high risk of aspiration and ingestion as well as removable dentures, especially unstable ones. Early diagnosis and treatment are vital in the management of swallowed dentures. Patients with loose removable or fixed dentures should be recommended to revisit their dentists immediately.

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REFERENCES

1. Goh BK, Chow PK, Quah HM, Ong HS, Eu KW, Ooi LL, et al. Perforation of the gastrointestinal tract secondary to ingestion of foreign bodies. World J Surg. 2006;30(3):372-7.
2. Samarasam I, Chandran S, Shukla V, Mathew G. A missing denture's misadventure. Dis Esophagus. 2006;19(1):53-5.
3. Bhatia R, Deane AJ, Landham P, Schulte KM. An unusual case of bowel perforation due to fish fin ingestion. Int J Clin Pract. 2006;60(2):229-31.
4. Velitchkov NG, Grigorov GI, Losanoff JE, Kjossev KT. Ingested foreign bodies of the gastrointestinal tract: retrospective analysis of 542 cases. World J Surg. 1996;20(8):1001-5.
5. Cheng W, Tam PK. Foreign-body ingestion in children: experience with 1,265 cases. J Pediatr Surg. 1999;34(10):1472-6.
6. Webb WA. Management of foreign bodies of the upper gastrointestinal tract: update. Gastrointest Endosc. 1995;41(1):39-51.
7. Hewett PJ, Young JF. Toothpick injuries to the gastrointestinal tract. Aust N Z J Surg. 1991;61(1):35-7.
8. Cleator IG, Christie J. An unusual case of swallowed dental plate and perforation of the sigmoid colon. Br J Surg. 1973;60(2):163-5.
9. Rosa RF, Candia-García R, Pérez-Martínez MC. Intestinal obstruction due to foreign body in a patient with adenocarcinoma of the colon: case report. Cir Cir. 2010;78(1):87-91.
10. Peison B, Benisch B, Lim E. Perforation of the sigmoid colon following ingestion of a dental plate. N J Med. 1995;92(7):452-3.

11. Bunni J, Youssef F. Swallowed dental bridge perforating the terminal ileum. South Med J. 2010;103(6):593-4.
12. Odigie VI, Yusufu LM, Abur P, Edaigbini SA, Dawotola DA, Mai A, et al. Broncho-Oesophageal Fistula (BOF) Secondary to Missing Partial Denture in an Alcoholic in a Low Resource Country. Oman Med J. 2011;26(1):50-2.
13. Ginsberg GG. Management of ingested foreign objects and food bolus impactions. Gastrointest Endosc. 1995;41(1):33-8.
14. Takada M, Kashiwagi R, Sakane M, Tabata F, Kuroda Y. 3D-CT diagnosis for ingested foreign bodies. Am J Emerg Med. 2000;18(2):192-3.
15. Coulier B, Tancredi MH, Ramboux A. Spiral CT and multidetector-row CT diagnosis of perforation of the small intestine caused by ingested foreign bodies. Eur Radiol. 2004;14(10):1918-25.
16. Vizcarrondo FJ, Brady PG, Nord HJ. Foreign bodies of the upper gastrointestinal tract. Gastrointest Endosc. 1983;29(3):208-10.

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