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Case Report

Denture in the rectum: A case report

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Abstract

Swallowed foreign bodies are uncommon during general anesthesia. In the majority of the cases, these foreign bodies are passed spontaneously and uneventfully and the minority requires endoscopic or surgical intervention. It is recommended that every removable prosthesis should be removed, labeled, and stored in a safe place preoperatively. Furthermore, if a foreign body was missing, proper notification should be done in the immediate postoperative period to enable early detection and avoid any complications that might result from its impaction in distal places. This paper reports a case of a swallowed denture during induction of anesthesia. The clinical and imaging findings are presented along with a review of the literature. A 53-year old woman was admitted for laparoscopic cholecystectomy. A week postoperatively, the patient reported a colicky lower abdominal pain increasing in severity. Lower quadrants deep tenderness was elicited by examination. A foreign body was detected within the proximal rectum by abdominal CT scan. The foreign body was the patient's denture that was not removed earlier during the induction of anesthesia. Endoscopic foreign body removal was done by flexible sigmoidoscopy. This case report highlights the importance of removing any removable prosthesis before induction of anesthesia and reporting any missing prosthesis such as dentures in the immediate postoperative period.

Introduction

Swallowed Foreign Body (FB) in adults is an important issue in different specialties like general surgery, anesthesia, gastroenterology, and psychiatry and usually happens in an adult with psychiatric problems, poorly fitted dentures, or during general anesthesia [1]. It is usually infrequently encountered in adults and in most cases, the FB represents a swallowed bone of fish or chicken [2]. The diagnosis depends on a proper history and examination and is supported by imaging modalities by anticipated FB character [3-6]. Although in 80% of cases FB passed with a conservative approach, 20% required endoscopic intervention. Less than 1% required surgical intervention [3,4,6-8]. It is recommended to remove any removable prosthesis like denture preoperatively and stored it after labeling in a safe place. In the present case, the denture was swallowed and migrated through the gastrointestinal tract smoothly and impacted in the rectum Figures 1-3. Failure of proper notification of missing denture post-operatively which might result in early detection of FB in the esophagus or stomach with subsequent early removal rendered the patient at more risk when the FB might cause perforation or intestinal obstruction through its journey in the gastrointestinal tract. Foreign body entrapment in the rectum is not uncommon. Depending on the level of entrapment, a FB may cause damage to the rectum, rectosigmoid, or descending colon. Fortunately, in our case, there was no perforation in the rectum and the patient was recovered uneventfully post removal.

The author reports a case of a FB in the rectum two weeks post-operative laparoscopic cholecystectomy. The foreign body was the patient's denture which was not removed earlier during the induction of anesthesia.

Case presentation

A fifty-three years old lady presented with lower abdominal

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pain for seven days. The pain was colicky, increasing in severity over the last few days. Neither vomiting nor constipation has been reported. However, the patient described burning pain during defecation. There was no bleeding per rectum before or after motion. Fever was noted intermittently but was responding to paracetamol. The patient had laparoscopic cholecystectomy 2 weeks ago performed under uneventful general anesthesia. The patient reported a missing denture post-operatively. During induction, a decision was made not to remove her denture as it seemed fixed well. She was advised that she had vomited post-operatively and apparently, she had lost the denture in the vomitus. However, there was no confirming evidence of its presence in the vomitus. The patient has no other medical history and is not on any regular medications. On examination, she was in pain with normal vital signs. Abdominal examination revealed a soft abdomen with lower quadrants deep tenderness. There was no guarding or rigidity and after the patient's consent, a digital rectal exam in the presence of a chaperone was done with no mass or bleeding appreciated. Her blood results showed raised inflammatory markers with a white cell count of 16.31×10^9 L (normal $4-11\times10^9$ L) and a C reactive protein of 112 mg/L (normal <5 mg/L). Her other blood tests including hemoglobin, renal function, liver function, lactate, and lipase were within normal limits.

Computerized tomography scan showed two metallic density curved linear structures measuring approximately 2 cm each on either side of the rectal wall with mild perirectal stranding and rectal wall thickening. There is no evidence of free gas or drainable collection Figures 1,2.

The patient was admitted under the general surgery department with a plan for manual or endoscopic FB removal. She was commenced on wide spectrum antibiotics and kept nil by mouth. During the operation, manual removal failed. Therefore, rigid sigmoidoscopy was tried with no good visualization. However, using the flexible sigmoidoscopy enhanced proper visualization of the FB high in the rectum Figure 3. The FB was retrieved endoscopically by snare with no reported rectal damage or perforation Figure 4. Postoperatively the patient was observed in the ward with next blood tests showed trending down of CRP and WBC and been discharged after one day. The patient was followed up in the surgical clinic with normal biochemical markers, examination, and imaging in two weeks.

Discussion

Foreign bodies usually migrated in the gastrointestinal tract safely after ingestion. In 99% of cases, foreign bodies were reported to be seen in the stool with no complications. However, complications have been described in 1% [9,10]. Foreign bodies can be trapped anywhere in the gastrointestinal tract, but they are most commonly documented in the narrowing parts such as the pylorus, ileocecal valve, and sigmoid colon in addition to the area of angulation like the rectosigmoid valve [11,12].

The usual presentations of gastrointestinal foreign bodies are abdominal pain, bleeding, obstruction, collection, or perforation [13]. In our case, the presentation was abdominal pain associated with mild fever but no perforation or collection.

Treatment depends mainly on the type of foreign body, its consistency, location, and whether complication has happened or not. For example, foreign bodies who has spikes or are long and thin tend to cause complications such as fish bones or hooks of dentures [2]. While in the majority of cases, watchful

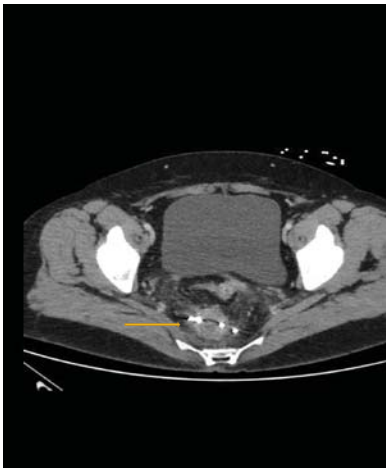

Figure 1: CT scan showing F.B. in the rectum (yellow arrow).

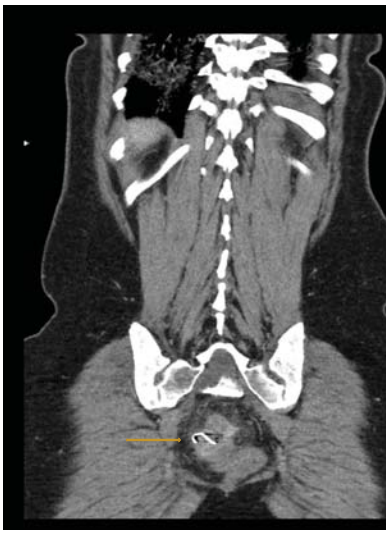

Figure 2: CT scan showing F.B. in the rectum (yellow arrow).

Figure 3: Sigmoidoscopy showing the F.B. in the upper rectum.

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Figure 4: The denture post removal and cleaning.

waiting with serial x-rays are the treatment of choice as most of them will be expelled in the stool. Endoscopic intervention is required in 20% and further formal surgical intervention is required in less than 1% [3,4,6,14-19].

In our case, the foreign body has impacted the sigmoid colon with two sharp ends and the patient was symptomatic. Two treatment options were available either endoscopic or formal surgical removal after the failure of manual removal because the FB was high in the sigmoid colon. Minimal invasive techniques together with simplicity and reduction of post-operative recovery time have made endoscopic options more efficient and feasible [6]. However, retrieval of foreign bodies in the rectum using endoscopy is challenging [9,10].

There are few cases of successful endoscopic removal of rectal foreign bodies without surgeries ref [20-27].

Another case report was able to remove rectal foreign body using a custom-made giant snare [23].

The author reported successful removal of the rectal foreign body using the snare with no complications. The denture was around 2 cm in diameter with two sharp ends and that's probably explained why it was impacted in the rectum and did not pass with a normal motion movement. In our case, the post-operative recovery time was one day, and the patient was followed with further images and blood tests in 14 days which were normal.

Preoperative removal of any prosthesis is crucial, and it was necessary in our case to avoid any risk of complications as well as the cost of rehospitalization. Early notification and seeking of medical attention are cardinal in any missing foreign bodies because dealing with foreign bodies in the upper gastrointestinal tract reduce the risk of foreign bodies' impaction in a more difficult and narrow part of the gastrointestinal tract or the risk of causing perforation during its journey.

Conclusion

It's fundamental to remove any prosthesis preoperatively like a denture and to report any missing prosthesis postoperatively promptly to avoid any future risk of impacted FB or delayed presentation which might put the patient at risk. Endoscopic removal was feasible and prevented the patient from a more invasive procedure like a laparoscopic or open approach.

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