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Sigmoid perforation caused by dentures—A rare case report

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ABSTRACT

Rare case of an elderly male presenting to the emergency department with an acute abdomen few days post accidental ingestion of his dentures. A detailed history along with a CT abdomen showed perforation in the sigmoid colon adjacent to the site of the swallowed denture.

1. Introduction

This work has been reported in line with the SCARE criteria7.

Colonic perforation secondary to ingested partial dentures is an extremely rare occurrence. <1% of ingested foreign bodies are known to cause perforation [1]. Foreign object can potentially lodge in any part of the gastro-intestinal tract. They generally tend to be at sites of physiological or pathological luminal narrowing. In the lower GI tract foreign bodies are most commonly noted to cause perforation near the ileocecal junction and recto sigmoid regions [2].

2. Case presentation

A 73 year old male, presented with peritonitis to the emergency department of a peripheral hospital. He gave a two-day history of generalized worsening abdominal pain. The history revealed that the patient accidentally swallowed his dentures 5 days prior to presentation. He has had a history of previous acquired brain injury secondary to MVA 30 years back with nil residual issues, NSTEMI, HTN and COPD. Patient is also a heavy smoker with 40 packs per year history but otherwise independent and lives alone at home.

On examination patient was visibly distressed and in pain. He had dry mucous membranes, BP measuring 150/80 mmhg, HR 150, RR 40/min, saturating at 99% on 4L NP and febrile to 38.7 °C. His abdomen was guarded with generalized peritonitis.

Biochemical investigations showed a WBC – 5.5, Hb – 168, PLT 214 and a CRP of 246. CXR showed free air in the Left subdiaphragmatic space. A CT abdomen revealed, pockets of free intraperitoneal gas with a denture visible in the sigmoid colon but unable to localize the site of perforation (Figs. 1–3).

He was immediately resuscitated, Placed on IV antibiotics and booked for an emergency laparotomy. Intra-operative findings showed a distal sigmoid perforation with an adjacent abscess and an intact partial denture noted within the sigmoid colon.

Decision was made intraoperatively to proceed to a Hartmann's Procedure.

Post operatively patient unfortunately had a failed extubation and was subsequently admitted to HDU. Further hospital stay was complicated by an episode of acute pulmonary edema secondary to fluid overload and a mechanical fall on the ward. Although he had progressed well surgically with a working stoma and reduced abdominal symptoms, due to severe deconditioning he was transferred to a rehabilitation unit for further care and subsequently discharged 4 weeks post operatively.

3. Discussion

Dental prostheses are generally made of radiolucent composite resin which may sometimes have metal frameworks, they may be clasps or wire retainers and the incidence of impaction and perforation in these types of dentures have been reported to be higher [3]. Most cases of swallowed dentures that make through the ileocecal valve should theoretically pass easily through the large bowel without difficulty. More over the solid consistency of the fecal content may even sometimes form a protective barrier from trauma to the large bowel.

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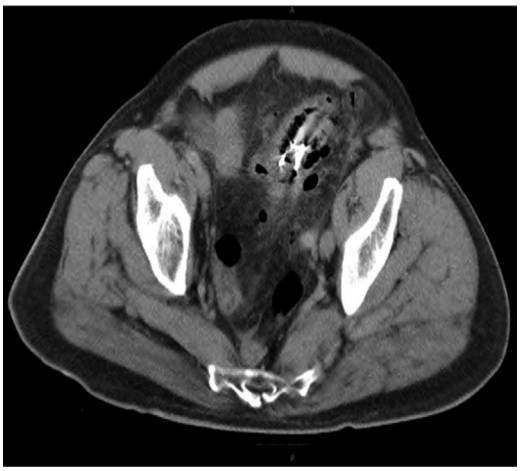

Fig. 1. Axial sections showing denture and surrounding gas locules.

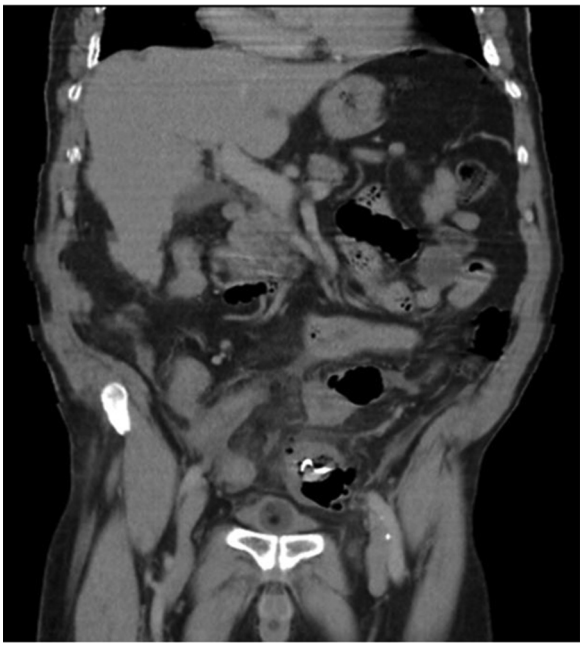

Fig 2. CT abdomen showing position od dentures.

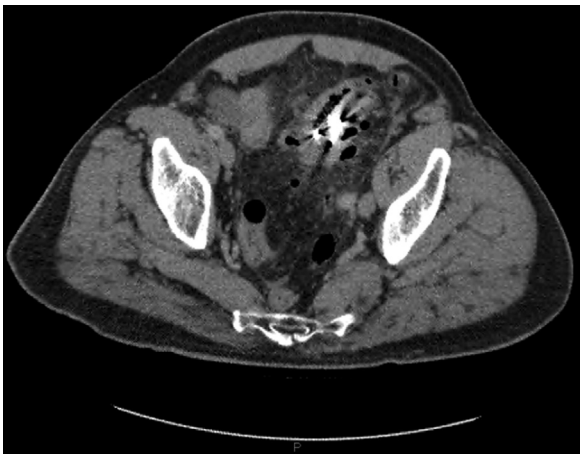

Fig. 3. Lodgement of dentures in the sigmoid colon.

In a series of 192 patients who had swallowed foreign bodies, Webb [4] reported that only 1.56% were noted to have been dental hard wares. While most foreign bodies are known to pass spontaneously, around 10–20% have shown to require non-operative interventions. The need for operative management is 1% or less.

The necessity for a meticulous history from the patient and appropriate imaging modalities are of utmost importance in the management of comparable cases. Current suggestions for management of ingested sharp foreign bodies is initially conservative. Close observation and monitoring with serial imaging for a period of 3 days has been suggested. In cases of failed conservative management, if the site is upper gastrointestinal, endoscopic retrieval should be attempted in the early stages [5,6]. In the case of lower gastrointestinal tract foreign bodies which fails to progress, should ideally be considered for early surgical intervention with the view to avoid potential perforation and subsequent complications.

Conflict of interest

There was no financial or personal relationships which could influence bias in this case report.

Source of funding

There was no funding requirement for this case report, bar the amount required if the case report is published.

Ethical approval

No ethical approval was required or requested for this case report.

Consent

Verbal consent was obtained from patient. All details of the patient in the images attached with the case report has been deleted and the patient remains anonymous.

Author contribution

Mariya Abdullah– primary author of the case report, literature review, analysis and interpretation of data.

Rasika Hendaheva – Secondary author, editor and correspondence author for case report.

Guarantor

Rasika Hendaheva – General surgeon, Caboolture hospital, Mckean Street, Caboolture, 4510 Queensland, Australia.

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