

Ingested Dental Prosthesis Causing Small Bowel Perforation: A Rare Case Report of Management with Laparoscopy-Assisted Surgery

Dr. Faisal Mumtaz¹, Dr. Kalpit Goriwal², Dr. Adheesh Goriwal³

¹M.S (GENERAL SURGERY) Senior Consultant, General, G.I and Laparoscopic Surgery

²DNB General Surgery

²DNB General Surgery

Corresponding Author: DrKalpitGoriwal

Abstract:

INTRODUCTION: Cases of a foreign body ingestion often require surgical treatment due to perforation or penetration. There is a possibility that dental prostheses, especially the sharp components can cause serious adverse events when they are ingested.

PRESENTATION OF A CASE: We report a rare case of small intestinal perforation caused by a dental prosthesis wire that warranted surgical management. A 32-year-old gentleman was brought to our hospital with the chief complaint of vague abdominal discomfort of 1 month duration. A computed tomography scan demonstrated finding of small intestinal perforation, and a high-density object was seen in the jejunum traversing the bowel wall. During surgery, it was discovered that a metal dental prosthesis wire had caused the perforation.

DISCUSSION: Dental prosthesis wires can cause serious morbidity due to high propensity for perforation. Newer era of minimal invasive surgery has opened up a novel approach of localizing transmural foreign body with diagnostic laparoscopy and performing removal via laparoscopy assisted surgery, thus reducing post-operative morbidity and hastening recovery.

CONCLUSION: Diagnostic laparoscopy assisted surgery is a novel approach to deal with ingested foreign bodies that have caused bowel perforation and are lying transmurally.

The following case report has been reported in line with the SCARE criteria [1].

Keywords: Ingested foreign body, Dental prosthesis, laparoscopy-assisted minilaparotomy, SCARE consensus

Date of Submission: 06-06-2019

Date of acceptance: 21-06-2019

I. Introduction

Foreign body ingestion is most common in children aged between six months and six years. In adults, foreign body impactions are mostly accidental or occur in the context of a preexisting pathology. Common foreign bodies ingested by adults are food items (fish bone / meat bone) or dentures [2]. Cases of foreign body ingestion are often seen, and most foreign bodies pass through the gastrointestinal tract with no complications. However, there are some cases that need surgical treatment due to perforation or penetration [3]. There are several possible surgical operations than can be performed depending on the size, shape, and location of the foreign body. These include endoscopy, laparotomy, and laparoscopic surgery. Among these, laparotomy still remains the main procedure in tackling cases of foreign bodies in the digestive tract. However, with the fast development of minimally invasive surgery, the single-incision laparoscopic technique has been widely adopted. Additionally, the ability to reproduce similar surgical procedures with a less invasive approach has resulted in multiple surgeries being performed laparoscopically. The advantages of removal of foreign bodies by laparoscopic surgery have been reported in some studies [4].

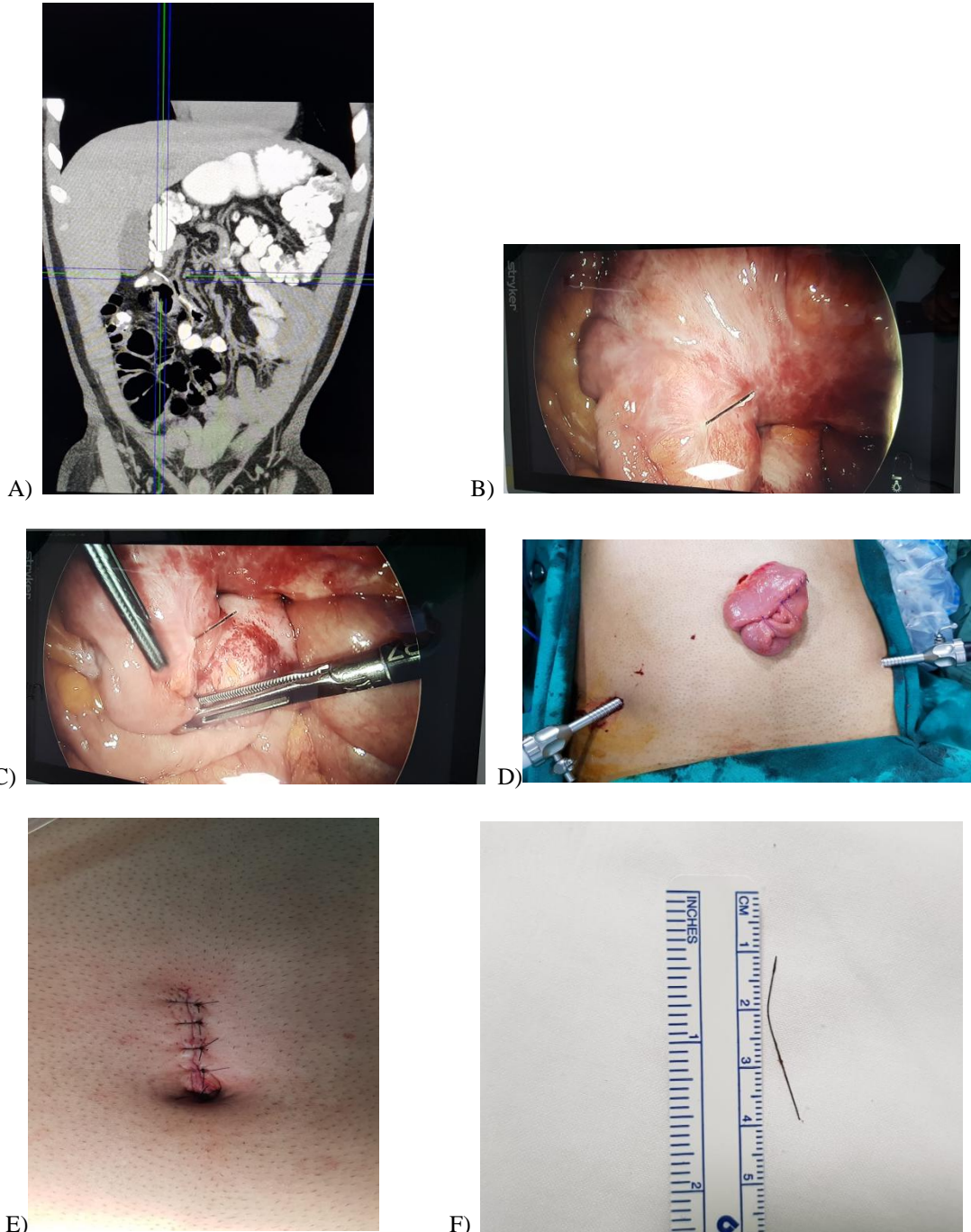
II. Case Report

A 32 year old male with no known comorbidities presented to our outpatient department with the chief complaint of vague abdominal discomfort for the last one month. Patient cannot remember any discrete event leading to such symptomatology but recalls that his dental retention plate wire has been missing from a time just around the period the symptoms begin. We evaluated the patient with detailed history and extensive physical examination. Physical examination was grossly unremarkable apart from mild, diffused abdominal tenderness. Computed tomography demonstrated a sharp foreign body traversing through the bowel wall. The surrounding mesentery demonstrated signs of inflammation. Due to the transmural course of the foreign body, patient was considered for surgical management. After relevant investigations and detailed counselling, patient was taken up for the procedure. Procedure performed was laparoscopy assisted surgery. Due to the chronic inflammation in the adjacent mesentery and the affected part of bowel wall, a Resection - Anastomosis was performed. Patient tolerated

the procedure well and was gradually advanced on diet. Post operative recovery was uneventful and patient was discharged on POD-05.

PROCEDURE NOTES:

After painting with povidone iodine and sterile draping, a diagnostic laparoscopy was performed. The transmural foreign body was visualised. Atraumatic bowel clamps were applied to the bowel wall adjacent to the foreign body to serve as markers. A small, midline, supraumbilical incision was placed. Laparoscopic bowel clamps were visualised and the affected part of bowel wall delivered. A resection anastomosis was performed and the wound closed in layers.



A)CT SCAN SHOWING THE TRANSMURAL FOREIGN BODY
B)LAPAROSCOPIC VIEW OF FOREIGN BODY
C)USING ATRAUMATIC CLAMPS AS MARKERS
D)PORT POSITIONING AND POST ANASTOMOSIS
E)SIZE OF MINILAPAROTOMY
F)EXTRACTED FOREIGN BODY

III. Discussion

Ingested foreign bodies most commonly plague the younger age group who are vulnerable to small objects. Adult population can have accidental ingestions and dental prostheses have a high incidence in this very population. Patients can present in a varied number of ways ranging from mild abdominal discomfort to signs of obstruction or perforation. Diagnosis is based on detailed history, a high index of suspicion and imaging studies. Contrast enhanced computed tomography is of special importance in ingested foreign body. Management is essentially surgical. In the newer era of minimal invasive surgery, laparoscopy or laparoscopy assisted surgery are of special importance. They chuck out a significant amount of surgery related morbidity and aid in early recovery with lesser operative complication rates.

IV. Conclusion

Dental prosthesis, especially retention wire and other sharp components are trivial ingested foreign bodies considering their small size but have significant morbidity due to the stout nature of the materials. We recommend diagnostic laparoscopy for transmural foreign bodies for accurately localizing and reducing the size of incision required for definitive surgical management; hence, reducing post operative morbidity.

References

- [1]. Agha, R.A., Fowler, A.J., Saetta, A., Barai, I., Rajmohan, S., Orgill, D.P., and for the SCARE Group. **The SCARE statement: consensus-based surgical case report guidelines.** *Int. J. Surg.* 2016; 34: 180–186
- [2]. Kapil, N., Kalayarsan, R., Biju, P., Sandip, C., &Senthil, G. (2018, May). Laparoscopic Removal of an Ingested Foreign Body with Transesophageal Migration into the Mediastinum.
- [3]. Mitsui, E., Inaba, M., & Mimura, T. (2018, August 13). Peritonitis with small intestinal perforation caused by a plastic bread bag clip: A case report.
- [4]. Zhu, R., Jian, Z., & Yu, H. (2018, June). Transumbilical single-incision laparoscopic-assisted technique for removal of ileocecal foreign body.
- [5]. Sposato, L. A., & Reddy, C. (2018, March 25). A rare case of rectal perforation from an accidentally swallowed foreign body.
- [6]. Dente, M., Cilurso, F., Fornari, L., Morano, C., Moretti, M., Neri, T., . . .Bagarani, M. (2010, January). [Intestinal perforation due to accidental ingestion of foreign bodies].
- [7]. Rodríguez-Hermosa, J. I., Codina-Cazador, A., Sirvent, J. M., Martín, A., Gironès, J., &Garsot, E. (2008, September). Surgically treated perforations of the gastrointestinal tract caused by ingested foreign bodies.

DrKalpitGoriwal. "Ingested Dental Prosthesis Causing Small Bowel Perforation: A Rare Case Report of Management with Laparoscopy-Assisted Surgery." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, vol. 18, no. 6, 2019, pp 32-34.