

A Case of Duodenal Perforation due to Ingested Neem Twigs Mimicking Acalculous Cholecystitis

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ABSTRACT

Introduction: Most foreign bodies in the G.I tract are asymptomatic and probably pass spontaneously in stool. Few may cause complications and require interventions. Diagnosis can be a challenge in certain cases. We present a case in which the ingestion of a Neem Twig caused duodenal perforation mimicking Acalculous Cholecystitis.

Case report: A 63-year-old lady visited emergency with acute abdominal pain of 2 day history. Computed tomography (CT) showed mildly thickened Gall bladder with loculated pericholecystic fluid collection which is extending into subcapsular region of segment III of liver. A Laparoscopic Cholecystectomy was planned in view of Acalculous cholecystitis. Intraoperative, an Omental phlegmon guarding a Neem (*Azadirachta indica*) twig which perforated out of duodenum was found. Laparoscopy was converted to an open midline Laparotomy and Graham's Omental patch repair of duodenal perforation was done.

Conclusion: The patient has been doing well since the operation. She gave history of swallowing the Neem Twig 6 Months prior to this surgery. Many a times open surgical approach would give a satisfactory search rather than Laparoscopy.

Keywords: Foreign Body, Duodenal Perforation, Acalculous Cholecystitis

INTRODUCTION

Foreign body ingestion is a common clinical scenario often presented to surgeons.

Nearly 80% of cases of foreign body ingestion occur in the paediatric population.

In adults the elderly, demented, and intoxicated have an increased risk for accidental foreign body ingestion. *Psychiatric patients* and prisoners have been found to intentionally swallow foreign bodies for secondary gain.

Most of the foreign objects that passed down to the stomach or to more distal sites are spontaneously excreted in faeces without treatment. However, foreign bodies sometimes cause obstruction or perforation of the gastrointestinal tract, necessitating surgical intervention.

Diagnosis can be a challenge. We herein report an interesting case of duodenal perforation by ingested Neem Twigs (*Azadirachta indica*) Mimicking Acalculous Cholecystitis.

CASE REPORT

A 63 year old lady who is a known patient of Diabetes

Mellitus and Hypertension presented to us in Emergency with symptoms of intermittent pain in upper abdomen which was colicky in nature and radiating to back for 2 days with no improvement by conservative management.

She had vomiting and fever the day before presenting to us. Bowel and bladder habits were normal. No history of unintentional weight loss, anorexia or G.I. Bleed. She had no prior surgery.

Physical examination was unremarkable except for tender Right Upper Quadrant. No rebound Tenderness. Laboratory findings revealed increased white blood cell count 16200/microL and deranged electrolytes, Sodium 132 and Potassium 2.9. Haemoglobin, platelet count, Total bilirubin, aminotransferases, amylase, lipase, creatinine, and urinalysis were within reference ranges.

USG whole abdomen revealed Grade 1 Fatty Liver with no other abnormality.

We proceeded for a CECT scan of whole abdomen (figure-1). Computed tomography (CT) showed mildly thickened Gall bladder with loculated pericholecystic fluid collection which is extending into subcapsular region of segment III of liver (figure-2,3).

A diagnostic Laparoscopy with intent of Cholecystectomy was planned for the Acalculous Cholecystitis. Intraoperatively Omental Phlegmon covering a Neem Twig (10 cm) was identified after gradual dissection (figure-4).

The Twig was removed from Epigastric 10 mm port and Laparoscopy was converted to a Midline Laparotomy for further thorough evaluation and definitive management.

Palpation of stomach and duodenum revealed another small segment of Neem Twig (4 cm) which was also taken out of the perforated site. Thorough abdominal lavage and

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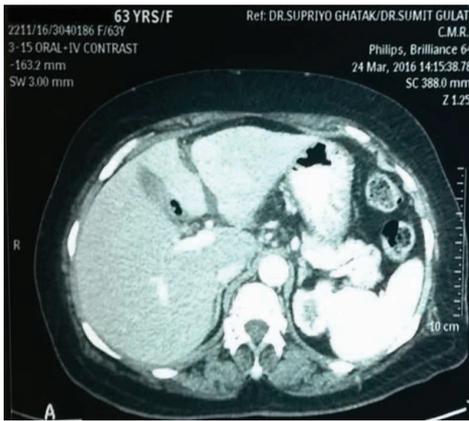


Figure-1: CECT Whole Abdomen: mildly thickened Gall bladder with loculated pericholecystic fluid collection.



Figure-2: Fluid Collection extending into subcapsular region of segment III of liver.



Figure-3: CECT W/A: Thickened Gall Bladder and Pericholecystic Fluid Collections.

Graham's Omental Patch repair of Duodenal Perforation was done with Vicryl 2-0 sutures (figure-5).

Patient had Surgical Site Infection for which we had Suspicion of leak but patient tolerated diet and USG post operatively revealed no intra-abdominal fluid collections. She received regular dressing of SSI and had a uneventful recovery. She was discharged on POD -10. Post operatively on questioning she gave history of ingestion of a Neem stick (figure-6) while brushing her teeth around 6 months back. She did not seek medical advice for the same prior to this and had no complaints.

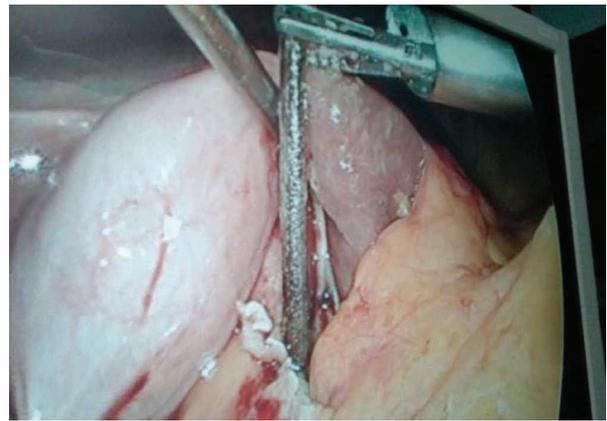


Figure-4: Intraoperative Laparoscopic Image of Neem Twig and surrounding Omental Phlegmon.



Figure-5: Intraoperative Image of Graham's Omental Patch repair over Duodenal Perforation.



Figure-6: Specimen Image of the two Neem Twigs swallowed by patient.

Patient has remained asymptomatic on follow-up.

DISCUSSION

Foreign object ingestion is a common clinical problem in young children. In adults, poor vision, mental disease, drug addiction, wearing of dentures and rapid eating have been implicated as the etiologic factors of foreign body ingestion¹. Majority of objects will pass through the GI tract.¹⁻² However, in some patients, the ingested foreign body causes impaction, perforation, or obstruction. Perforation occurs in less than 1% of ingestion of a foreign body. 10% to

20% require endoscopic removal, and 1% requires surgery.³ The most common sites of intestinal perforation by a foreign body are the ileocecal and recto sigmoid regions.⁴ Duodenal perforation because of ingested foreign objects is relatively uncommon.⁵ Most deaths in patients with foreign body perforation of the gastrointestinal tract are due to sepsis. Therefore, efforts should be made to remove the ingested foreign bodies if they cannot pass through the gastrointestinal tract spontaneously.⁶

The risk of perforation is related to the length and the sharpness of the object with longer and sharper foreign bodies having more tendencies to get impacted and perforate the bowel. The retroperitoneal, relatively immobile, and rigid nature of the duodenum as well as its deep transverse rugae and sharp angulations make it a common site for the entrapment of long and sharp-ended objects.

In the present case diagnosis of duodenal perforation eluded us till Laparoscopic evaluation. A pericholecystic fluid collection in CECT raised only suspicion of Acalculous Cholecystitis. Compared with traditional surgical treatments, laparoscopic removal of a foreign object is less invasive and is associated with minimal postoperative pain, a faster return to normal activities, and better cosmetic outcome,⁷ but in our case patient did not mention of ingestion of Neem twig which she used as a Chewing Stick. Conversion of Laparoscopy to an Open procedure was decided for a thorough evaluation of GI tract. Similar cases has also been reported where in the Perforated Neem Twig had also caused penetrating Hepatic Injury and was managed on similar methods.⁸

Accurate history from patient can clinch the diagnosis, as Neem Stick often eludes from CECT and USG screening⁹ and would guide towards the requirement of Upper GI endoscopy, as in our case it Mimicked a radiological features suggestive of Acalculous Cholecystitis. Cases of duodenal foreign body has also been reported with symptoms of only Halitosis¹⁰

CONCLUSION

Duodenal perforation from foreign body ingestion is an uncommon pathology. Diagnosis can be a challenge when there is no history from patient. A high index of suspicion is to be kept in mind when dealing with elderly patient with dentures and habit of using Neem Twig as a chewing stick. Open surgical approach would give a satisfactory search for any other concomitant foreign body rather than Laparoscopy in scenario where there is no history of foreign body ingestion prior to the surgery.

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