

Foreign Body Erosion Of Duodenum

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Citation

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Abstract

A foreign body in the gastrointestinal tract is a common occurrence in both children and adults. At times, this is accidental and at others, it may be due to intentional ingestion. We report a case of accidental ingestion of a foreign body in the form of a denture, which had eroded the wall of the duodenum. Computed tomography of the abdomen was done to localize the exact site of the foreign body in the gastrointestinal tract.

INTRODUCTION

A gastrointestinal foreign body is a common occurrence in both children and adults. Carelessness, rapid eating, poor eyesight, alcoholic intoxication and fitment with dentures, with the resultant lack of sensation of hard palate are the common etiological factors for ingestion of foreign bodies.¹

CASE REPORT

A 59-year-old non-alcoholic male presented with dull aching pain in the right upper abdomen since 2 weeks. He gave a history of accidental swallowing of a denture while drinking milk 2 weeks back. There was no history of vomiting, fever or jaundice. His bladder and bowel habits were normal. Vital parameters at the time of presentation were within normal limits. Examination of the abdomen revealed a tender, firm and fixed lump of 6x8cm in the right hypochondrium with smooth surface.

Routine investigation revealed: haemoglobin 12.7gm/dl, total leukocyte count 7780/cu.mm and differential leukocyte count: neutrophils 77%, lymphocytes 22% and eosinophils 1%. Renal function and liver function tests were within normal limits.

Upper gastrointestinal endoscopy showed ulceration in the first part of the duodenum. Colonoscopy revealed no abnormality.

Pre-contrast computed tomography showed an intraluminal hyperdense focus in the dependent area of the third part of the duodenum with a thickening of its anterior wall. The CT attenuation value of the focus was approximately 1228 HU, suggestive of a foreign body. (FIG-1)

Figure 1

Figure 1: pre-contrast computed tomography of the abdomen showing an intraluminal hyperdense focus of an attenuation value of 1228 hu in the dependent area of the third part of the duodenum with a thickened anterior wall.



A heterogeneously enhancing mass was noted in the mesentery and linear streaky attenuation of the mesenteric fat suggestive of inflammatory nature was visualized in close proximity of the thickened third part of duodenum on contrast-enhanced computed tomography. (FIG-2)

Figure 2

Figure 2: contrast-enhanced computed tomography of the abdomen showing a heterogeneous enhancing mass in the mesentery with linear streaky attenuation of the mesenteric fat in close proximity of the thickened third part of the duodenum.



Fine-needle aspiration from the mass revealed necrotic material.

The patient was advised surgical exploration but he refused and left against medical advice.

DISCUSSION

Persons ingesting a foreign body are commonly children, elderly with dental prosthesis, alcoholics, prison inmates and psychiatric patients. Coins, small toys, pins, dentures and nails are the common ingested materials.²

Most ingested foreign bodies pass through the gastrointestinal tract uneventfully within one week. Cricopharyngeal sphincter, constrictions of the esophagus (due to arch of aorta and bronchus), distal ileum (2 feet proximal to the ileocaecal junction) and ileocaecal junction are the normal anatomical sites of foreign body impaction. Pathological areas such as esophageal rings or webs, pyloric stenosis, intestinal stricture and congenital malformations are the other areas of impaction. Impacted foreign bodies may cause obstruction, perforation and fistula formation.^{2, 3, 4}

The incidence of foreign body penetration of gut is reported to be less than 1%. The objects causing perforation are usually sharp or pointed. Ileocaecal junction and rectosigmoid region are the common sites of perforation. Penetration of duodenum with migration of the foreign body into the pancreas and liver is also reported.^{5, 6, 7}

Penetration of foreign body may result in the formation of localized abscess, inflammatory mass compressing the surrounding viscera or may lead to generalized peritonitis. Pancreatic and hepatic abscesses are also reported with this entity.^{4, 6, 7, 8, 9}

Plain radiography is the initial imaging study employed to study foreign bodies in the abdomen. However, it may fail to detect radiolucent materials. Contrast study may identify the site of perforation. Sonography will be helpful to detect free fluid and an inflammatory mass and may sometimes identify the foreign body as an echogenic intraluminal mass with an acoustic shadow if surrounded by fluid. Computed tomography is the most sensitive investigation to identify foreign bodies missed by conventional radiographic studies.^{9, 10}

Most ingested foreign bodies that have passed the pylorus pass through the rest of the gastrointestinal tract within a mean of 4 days. Weekly abdominal radiographs monitor the ingested blunt foreign bodies distal to the stomach and daily radiographs in case of sharp objects. Intervention is required if a blunt foreign object remains in same place for more than a week or a sharp object for more than 3 days.¹¹

Foreign bodies impacted in the esophagus or stomach can be extracted endoscopically. Surgical extraction is indicated in failed endoscopic retrieval. A foreign body impacted in the intestine can be removed by open and laparoscopic methods. Complications such as obstruction, perforation and fistula formation are managed surgically.^{2, 11}

CONCLUSION

Gastrointestinal foreign bodies represent a significant problem, causing a great degree of morbidity and mortality to the patients. Computed tomography is a highly sensitive investigation to localize the site of a foreign body in the gastrointestinal tract and to detect any complication associated. Expectant treatment, endoscopy and open or laparoscopic surgery are the options available for treating this common disorder.

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