

Small bowel obstruction in an autistic patient due to ingestion of nitrile surgical gloves “A continuing problem of delayed diagnosis”

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Abstract

Small Bowel Obstruction (SBO) in mentally retarded and autistic patients remains a challenge for early diagnosis particularly in the absence of a history of previous abdominal surgery. Again, the absence of recent or previous history of swallowing a Foreign Body (FB) witnessed by carers or relatives leads invariably to delays in considering such a possible cause for the current abdominal symptoms. In this article, we present a case of an autistic 18 years old patient with SBO caused by ingestion of two nitrile surgical gloves. The diagnosis of obstruction was only considered on the third admission after multi-modal imaging, finally leading to laparotomy and small bowel resection.

Keywords

bezoar; autistic patient; small bowel obstruction.

Abbreviations

SBO: Small bowel obstruction; BI: Bezoar induced; FB; foreign body

Case Presentation

An 18 years male patient having background of childhood autism and learning difficulties was hospitalised on three separate occasions within six weeks period, with worsening episodes of abdominal pain, recurrent vomiting and diarrhoea alternating with constipation. Clinical assessment and management was rendered difficult because of patient's mental condition and the initial diagnosis has been gastro-enteritis in this case and the patient was twice discharged from the hospital.

On his third admission, his abdomen was noted to be distended and tender. There was no evidence of any external hernia or previous abdominal scars. He had raised inflammatory markers with WBC count of 13×10^9 and CRP at 108 mg/L. Plain abdominal X-Ray was suggestive of small bowel obstruction (Figure 1), while CT and MR scans confirmed features of distal SBO suggesting possibilities of SB faecal impaction, band obstruction, Crohn's disease or intra-luminal SB tumour. The small bowel faeces sign (blue arrows Figure 2,3) is defined by the presence of feculent material mixed with air in the lumen of the small intestine. It has a high specificity for sub-acute or low-grade small bowel obstruction and is thought to be the result of slow transit through the small bowel.

Urgent laparotomy revealed proximal and mid ileal obstruction caused by two separate hard intra-luminal spherical masses, about 90 cm apart. The greater omentum was stuck to the site of the proximal mass, walling off a small abscess cavity associated with a local bowel perforation caused by the FB. Resection of the two separate segments of very unhealthy small bowel containing the two FBs had to be carried out and primary hand-sewn anastomosis performed. Postoperatively, each mass was found to be curled up and stiffened, but fully intact, nitrile surgical glove with some inspissated food/faecal residue inside (Figure 4).

The postoperative course was uneventful apart from superficial wound infection and the patient was discharged 8 days later.

In retrospect, his father as the main carer could not recall any incident of ingestion of a FB or swallowing difficulties with his son.

Discussion

A bezoar is defined as a hard concretion which may form in the stomach of certain animals, especially ruminants, and which was once used as an antidote for various ailments.

Common types of bezoars include:

- 1) Trichobezoar – containing hair is the most common type [1,2,3].
- 2) Lactobezoar - inspissated milk in premature neonates.
- 3) Pharmacobezoars – overdose of medications.
- 4) Phytobezoar - plant material like cellulose and unripe persimmons [4,5].

The diagnosis of a bezoar as the cause of SBO is often difficult, more so in the context of a poor history in addition to other factors such as learning disabilities/ psychiatric illnesses involving multiple carers. Often, the symptoms are non-specific and can be misattributed to more common problems such as gastroenteritis especially in the context of diarrhoea and fever, as in this particular case.

SBO is a common in a surgical condition and its causes can be either congenital or acquired. Congenital causes include volvulus, bands and ileal atresia. Among acquired causes of SBO, postoperative adhesions are the commonest (60-80%) while hernias, malignancy, Crohn's disease and intussusception are other causes. A rather uncommon acquired cause is a bezoar.

Bezoar-induced SBO (BI-SBO) accounts for approximately 4% of all causes of SBO [6]. The ingestion of FBs is commonest in children, most of which pass through the GIT without any problems [7,8]. Some FBs can become hardened while passing down the SB loops, collecting some inspissated food and faecal residues and cause complications.

There is a 25% incidence of “pica”, the compulsive consumption of both food and non-food items, among the developmentally delayed population [9]. The diagnosis and management of the acute abdomen in these circumstances can be difficult, hence the high incidence of SB perforations [10].

G. Stringel et al reported four cases of vinyl glove ingestion in paediatric age group who required surgical intervention [11]. When ingested, vinyl gloves will harden and develop sharp edges leading to gastric and SB bezoars with complications of obstruction and perforation.

Kamal et al reported 5 cases of mentally retarded adult patients with pica who were admitted for the management of complications resulting from the ingestion of vinyl gloves, one of whom ended fatally due to bleeding from a large gastric ulcer caused by the glove bezoar [12].

N. Greer et al reported a case of SB and gastric outlet obstruction in a psychiatric adult patient caused by the deliberate ingestion of 22 pairs of vinyl gloves, two of which were stuck in the terminal ileum and the rest in the stomach [13].

Conclusion

early consideration should be given to a bezoar as a possible cause of abdominal pain and SBO in mentally retarded patients. It is very likely that the delay in diagnosis of SBO in our patient led to the localised SB perforation and might have attributed to the postoperative wound infection. The patient was reviewed in the outpatient clinic six months after his discharge, with his father, and was entirely asymptomatic, having been completely recovered from his operation.

Figures



Figure 1: Plain abdominal film showing small bowel obstruction



Figure 2: SMALL BOWEL FAECES SIGN Axial CT image through the lower abdomen



Figure 3: Coronal MRI confirming impression of a foreign body within small bowel



Figure 4: A laparotomy revealed two gloves, which had aggregated into a ball