Hidden treasure in an endoscopically retrieved oesophageal trichobezoar

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SUMMARY

A 12-year-old girl with Smith-Lemli-Opitz syndrome and gastrostomy dependency presented with multiple episodes of coffee ground vomits. An upper gastrointestinal endoscopy revealed a trichobezoar in the lower oesophagus, with a 'hidden treasure'—a retained end of a G tube at the core. Endoscopic retrieval led to resolution of symptoms. Literature is scant with only one previous report of an oesophageal trichobezoar. Techniques of removal of percutaneous endoscopic gastrostomy in children are reviewed. The pathogenesis, preventative measures and management for oesophageal trichobezoars are discussed.

BACKGROUND

This unusual presentation of an oesophageal obstruction due to the retained end of a G tube forming the nidus for a trichobezoar has not been reported before.¹ Retrospective discussion with the mother revealed that the percutaneous endoscopic gastrostomy (PEG) tube was changed to a button device at 20 months of age by the 'cut and push technique'.^{2,3}

This case highlights the need to exercise caution in using the 'cut and push' technique in children. An important reminder is that follow-up for potential complications are crucial after interventions.

CASE PRESENTATION

A 6-month infant with Smith-Lemli-Opitz syndrome and significant feeding difficulties had a PEG, (Gauderer Silicone Paediatric PEG –15 Fr) inserted after review in a multidisciplinary feeding clinic. A dietetic team supervised PEG feeds. Growth was acceptable; learning disability and gastrostomy dependency resulted in little oral intake.

At the age of 12 years there were multiple episodes of coffee ground aspirates that were not associated with abdominal distension or bilious vomiting. Omeprazole therapy was optimised.

An upper gastrointestinal (GI) endoscopy was performed. The upper oesophagus was normal on examination with no evidence of inflammation; however, a trichobezoar containing the bolster end of a PEG tube was removed from the lower end of the oesophagus (figure 1).

On further discussion, the other recollected the PEG tube being exchanged for a button device by cutting the bolster end of the PEG tube at the skin level, with the expectation that the bolster would be passed spontaneously per rectum.

There is no record of passing the retained end per rectum.

OUTCOME AND FOLLOW-UP

No complications ensued. Symptom resolution followed.

DISCUSSION

Nutritional support via PEG is successful in children with chronic conditions. Techniques used for PEG removal are

- ▶ Cut and push technique: PEG tube is cut at the skin level close to the internal bolster, which is left inside to be passed out per rectum^{2,3};
- ▶ External traction and⁴
- ▶ Endoscopic retrieval of the internal bolster.⁵

The cut and push technique for PEG removal has been recognised since 1991. Reviews in adults⁴ support the practice in adults with a caution. A large paediatric series² have reported complications of oesophageal and gastric outlet obstruction (2.1%) with PEG removal by the cut and push technique. Other reported complications of retained PEG remnants in children include stricture, broncho-oesophageal fistula,⁶ oesophageal aspiration,^{6,7} bowel obstruction and perforation,^{8,9} bacterial and candidal peritonitis.¹⁰ Mollitt *et al*² highlighted the potential sequelae of retained remnants suggesting monitoring for prompt passage. Steps include radiographic confirmation¹¹ in 2 weeks if not passed per rectum and endoscopic retrieval in children younger than 6 years⁶ and in suspected GI stricture.⁶

External traction⁴ became a local departmental policy at our centre after a large paediatric series (166 traction, 51 endoscopic and 3 Foley to button device change). Risk of device misplacement was 0.6%.⁴

Complications after endoscopic removal include oesophageal abrasions and retro-pharyngeal abscess.⁵

Bezoars are retained concretions of indigestible foreign material in the gastrointestinal tract. They increase in size over time by accretion of vegetable fibre (phytobezoar), hair (trichobezoar), inspissated milk/formula (lactobezoar).

Trichobezoars usually form in the stomach and intestine because of their slippery mucosal surface, where they resist forward propulsion by peristalsis and adhere to the mucosa.

Oesophageal bezoars are a rare but distinct clinical entity, usually associated with structural or motility disorders,^{12,13} enteral formula feeding^{14,15} containing casein in an acidic environment and sucralose.¹⁴ PICA is known to be associated with learning disability and retrospectively hair ingestion was noted by the mother in this patient.

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Figure 1 Retained end of G tube in esophageal trichobezoar.

Abdominal x-ray, upper GI contrast and CT imaging can confirm obstruction. Upper GI endoscopy confirms diagnosis.

Removal of the oesophageal trichobezoar can be performed endoscopically.¹⁶ However, the nature and extension of the obstruction may warrant surgical exploration and removal.¹⁶ Enzyme degradation,¹⁵ though attractive for its non-invasiveness, has been reported as ineffective.¹⁷

A review of published literature reported only one case of an oesophageal trichobezoar in a child with antecedent surgical intervention acting as a nidus.¹

Our case is the first containing a retained G tube.

Learning points

- ▶ Learning disability and a foreign body (retained end of a G tube) created an environment for the formation of an oesophageal trichobezoar.
- ▶ This case prompts caution in using the cut and push technique of percutaneous endoscopic gastrostomy removal in young and neurodisabled children.
- ▶ The cut and push technique if used should be monitored for prompt passage of the retained end.
- ▶ Possible complications should be discussed while obtaining informed parental consent.
- ▶ A mobile foreign body in the oesophagus could lead to a potentially catastrophic outcome.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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