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Buried bumper syndrome

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ABSTRACT

Percutaneous endoscopic gastrostomy (PEG) tube has been used to provide long-term nutritional support for patients who are unable to maintain sufficient oral intake. Buried bumper syndrome (BBS) is an uncommon complication of PEG tube insertion that can be associated with serious complications. We report a case an 82-year-old man who presented with BBS that occurred eight months after PEG tube insertion. The migrated PEG tube was removed and fortunately, the patient's swallowing had improved to allow sufficient oral intake. Clinicians should consider BBS in any patients with PEG tube who present with difficulty with feeding or tube blockage.

Keywords: complications, migration, percutaneous endoscopic gastrostomy

INTRODUCTION

Percutaneous endoscopic gastrostomy (PEG) tube has been used to provide long term nutritional support for patients who are unable to maintain sufficient oral intake.[1, 2] Complications are not unexpected and this include wound infections, tube malfunction and dislodgement. Fortunately most are mild and can be easily managed. However, significant complications can occur.[3, 4] Buried bumper syndrome (BBS) is an uncommon complication of PEG tube insertion that can be associated with serious complications.[4] We reported a case of BBS that occurred eight months after the PEG tube insertion.

CASE REPORT

BA is an 82-year-old male patient with a background history of ischaemic heart disease, coronary artery bypass, hypertension, dyslipidaemia, gout and left hemiplegia secondary to a cerebrovascular accident (CVA). He has been bed-bound since the CVA and was at risk of recurrent aspiration pneumonia. Therefore a percutaneous endoscopic gastrostomy (PEG) tube was inserted in April 2009.

Eight months after the PEG tube insertion, he was brought to the Accident and Emergency Department after family experienced difficulty with feeding through the PEG tube for the last two days. They noted leakage and backflow from the tube. The patient himself complained of pain at the PEG tube site. He was referred to the Endoscopy unit evaluation. On examination, he was afebrile and was haemodynamically stable. Cardiorespiratory examination was unremarkable. However, there was swelling, erythema and

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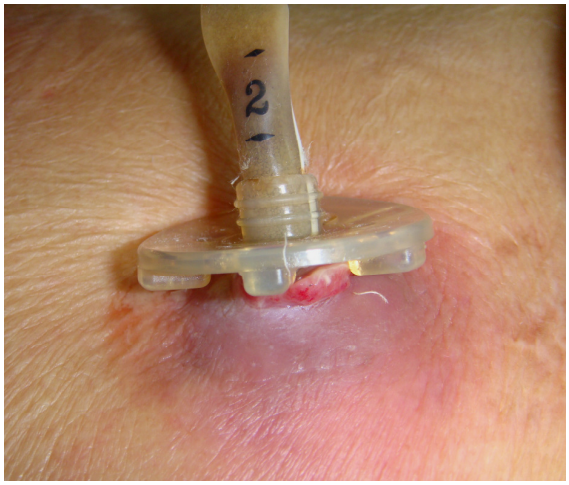

Fig 1: Stoma site that is swollen and inflamed with the external PEG marker located at one centimeter.

mild tenderness at the PEG site (Fig. 1). The external marker was located at one cm, indicating PEG migration. Urgent endoscopy revealed an ulcer at the stoma site and the internal bumper was not seen (Fig. 2) confirming the occurrence of BBS. The PEG tube was extracted with traction without much complication apart from slight bleeding that was easily controlled with pressure. He was admitted to the ward and was treated with intravenous antibiotics and fluids. He was reassessed by the speech and language therapist and was deemed fit to take SS2 diet. He continued to take orally without complications, in particular silent aspiration. He remained well and was later discharged from the Gastroenterology clinic follow up.

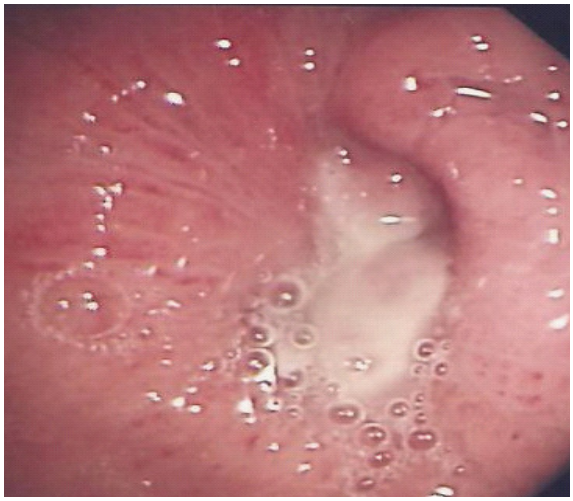

Fig 2: Endoscopic view showing an ulcerated area representing the site where the internal bumper had been prior to migration.

DISCUSSION

PEG tube insertion was first described in 1980 [1] and has been used to provide nutritional support on a long term basis for those patients who are unable to maintain sufficient oral intake as alternative to nasogastric tube. Complications of PEG tube include wound infection which reported as the most frequent complications, colon or small bowel injuries, gastrocolic fistula, duodenal haematoma, liver injury, gastric perforation and catheter migration.[2] Severe complications such as necrotising fasciitis have also been reported. Although an uncommon complication, BBS is considered a serious complication. Failure to recognise it can prove to be fatal as it may result in gastric perforation, severe cutaneous infections, peritonitis and gastrointestinal haemorrhage.[3]

BBS has been reported to occur in 0.3 to 2.4% of patients [4] and can occur as early as 21 days and late as three years after PEG insertion.[2,5] The internal bumper becomes lodged anywhere between the gastric wall and the skin along the original tract. It occurs as a result of prolonged excessive tension between the internal and external bumpers causing gastric ulceration to the internal bumper site. This usually occur when the external bumper has been secured too tightly resulting in ischaemia. The internal bumper will migrate further into the gastric wall and epithelisation will set in covering the internal bumper resulting in the eventual complete closure of the orifice (Fig. 3). Continued migration will even-

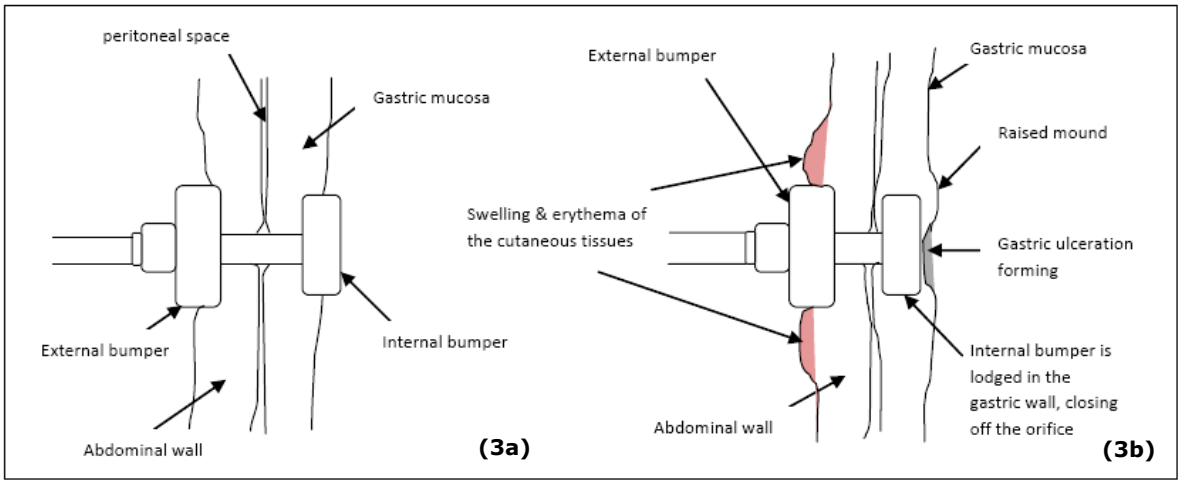

Fig 3: Diagrammatic representation of the process leading to buried bumper syndrome; (3a) shows the normal PEG tube position with the external and internal bumper opposed adequately, (3b) shows the internal bumper has migrated outward due to excessive traction secondary to the external bumper being secured to tightly and the surrounding stoma site showing some degree of inflammation.

tually lead to the internal bumper located within the subcutaneous tissue. Patient may present with abdominal pain, leakage around the tube, difficulty in feeding or flushing the PEG tube, inability to advance, withdraw or rotate the tube.[2] Endoscopy may reveal a small irregular crevice, [6] a raised mound and a central small round concave area of gastric mucosa without ulceration or oedema.[7,8]

It has been suggested that changes in the physical characteristics of the internal bumper as a result of interaction with the gastric acid, may facilitate necrotic changes to the gastric wall with subsequent migration of the bumper.[8]

All buried bumper should be removed even though the patient is asymptomatic. There is still a high risk of complications especially infections. Several investigations such as endoscopy, computed tomography, ultrasonography, and even endoscopic ultrasound are able to facilitate the localisation of the buried internal bumper. However, in most cases, clinical examination of the tube is adequate to make the diagnosis. Most can be managed with traction extraction but immediate replacement is not recommended if there is infection or significant inflammation. Therefore, it is therefore important to recognise this complication of PEG tube early to prevent any further untoward complications.

In conclusion, our case highlighted a rare but important complication of PEG tube insertion. It is important to detect it early and manage it appropriately to avoid further complications.

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