Buried bumper syndrome – a rare complication of PEG tube placement.

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Abstract - Percutaneous endoscopic gastrostomy is a relatively safe and widely accepted method of providing long standing enteral nutrition. A rare complication associated with PEG tube placement is migration of the internal retention balloon / ring out of the gastric lumen, referred to as buried bumper syndrome. Here we present a case of 71 year old lady with locally advanced esophageal malignancy who presented with complete dysphagia. PEG tube was placed for nutrition after failed attempt of nasogastric intubation. Post procedure period was uneventful. After approximately 4 weeks, she presented with peristomal leakage. Luminal contrast study through the PEG tube and CT sections showed the location of the internal retention ring in the subcutaneous plane of the anterior abdominal wall, with a track extending to the stomach and no leakage into peritoneal cavity. Diagnosis of buried bumper syndrome was made. Early identification of the symptoms helped us in diagnosing the condition and preventing life threatening complications like peritonitis, necrotizing infection of the abdominal wall etc. The PEG tube was removed and feeding jejunostomy was inserted for our patient.

Index terms - Buried bumper syndrome, Percutaneous endoscopic gastrostomy.

1 INTRODUCTION

Percutaneous endoscopic gastrostomy (PEG) tube was discovered in 1988 by gauderer et al. Since then it is commonly used for enteric nutrition in pharyngeal and esophageal causes of dysphagia. It is a relatively safe procedure, however can be rarely associated with complications.

Buried bumper syndrome is a serious and delayed complication associated with dislodgement of the internal retention ring / balloon outside the gastric lumen. Early detection of the same is important to avoid the life threatening effects like peritonitis and necrotising infection of the anterior abdominal wall.

We present here a case of buried bumper syndrome, diagnosed and intervened early.

2 CASE HISTORY

A 71 year old female with stage IV esophageal carcinoma, undergoing palliative treatment, presented with grade III dysphagia. Inspite of radiation treatment, her dysphagia worsened. Ryles tube insertion and balloon dilatation failed. Following which percutaneous endoscopic gastrostomy (PEG) tube was placed for enteral feeding. There were no immediate complications of the procedure. The patient presented after 4 weeks with peritubal leakage. She is having leakage only on administering feed in sitting position. In lying down position, she doesn't have any leak. On examination, there were no signs of developing peritonitis.

She was advised luminal contrast study through the PEG tube. Since there was no clinical suspicion of leakage into the peritoneal cavity / peritonitis, diluted gastrograffin is administered through the medication port of the PEG tube. The internal balloon is noted beneath the skin, probably in the subcutaneous plane. The contrast is seen filling the internal retention balloon and the tip of the radioopaque tube is also within the subcutaneous plane.

From the subcutaneous plane, the contrast is seen entering the stomach through a tract. No side tracking noted. No leakage into the peritoneal cavity noted.

Figure 1 – X ray lateral view of abdomen shows contrast getting filled in the internal bumper which is seen in the subcutaneous plane of anterior abdominal wall. The contrast is seen tracking into the lumen of stomach through a tract without any spillage into the peritoneal cavity.

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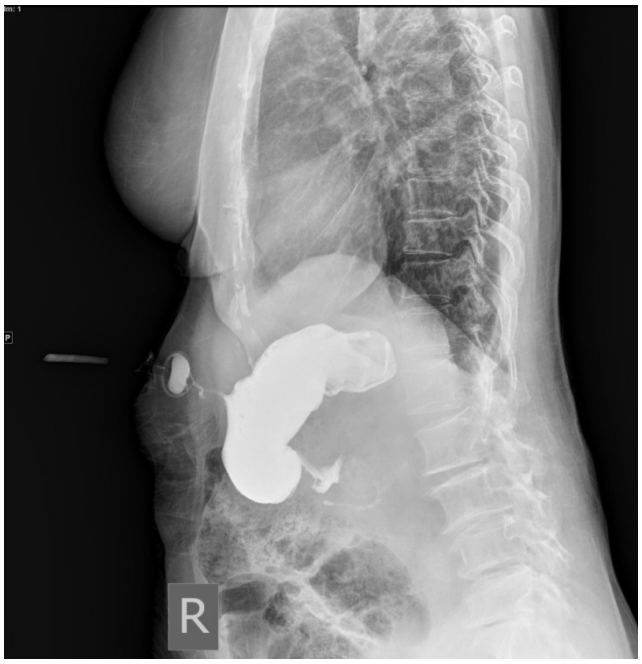
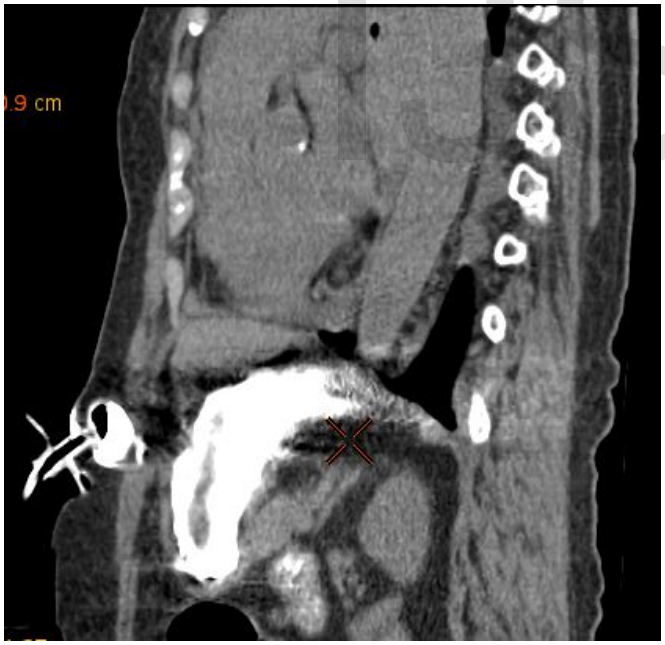


Figure 2 – CT sagittal reconstructed image shows the internal bumper within the subcutaneous plane of the anterior abdominal wall.

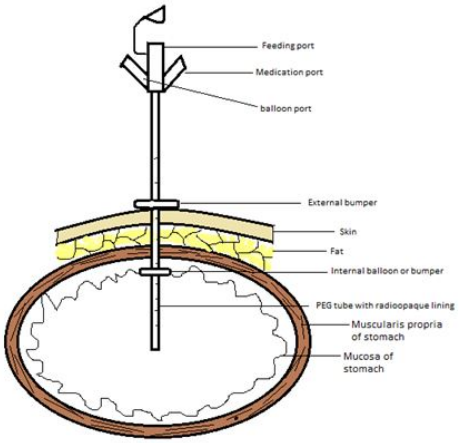


Since the internal bumper migrated out of the stomach in our case, it was treated by the surgeon. With a small skin incision along the stoma, the PEG tube is pulled out and the stoma is closed. A feeding jejunostomy was done for the patient. Unfortunately after two months, our patient died of disease progression.

3 DISCUSSION:

PEG tube has an internal retention bumper or balloon, external retention ring / bumper, tube with radio opaque stripes, balloon inflation port, medication port and a feeding port.

Figure 3 showing pictorial representation of the position of PEG tube in the stomach wall.



NORMAL POSITION OF PEG TUBE INSERTED INTO THE STOMACH

PEG tube insertion is a widely accepted method of enteric access to provide nutrition in a variety of conditions. Most common indications are head and neck malignancy, esophageal malignancy, neurological disorders like amyotrophic lateral sclerosis, multiple sclerosis etc. It is described as a safe procedure. Even though complications do occur occasionally.

Complications are basically divided into minor and major. Minor complications range from 6 to 7%[4] and major complications range from 2 to 3%[4].

Minor complications[1] of the gastrostomy tube insertion are peristomal leakage, tube dislodgement without peritonitis, superficial stomal infection, small abdominal wall hematoma and pain. Major complications are Peritonitis, perforation, septicaemia, deep wound infections, hemorrhage, anaesthesia complications.

A late and serious complication is buried bumper syndrome where in the tube is dislodged from its normal position in the gastric lumen. The internal retention balloon / ring (bumper) is either within the gastric wall (incomplete type of BBS) or between the gastric wall and the abdominal wall (complete type of BBS). Extensive abdominal wall infection may be associated with the BBS. About 1.5 to 2cm of tube is left between the skin and the external bumper to prevent BBS from occurring. The length of the external tube can be measured on regular basis to identify retraction of the tube early.

Tube dislodgement before 4 weeks of placement has increased incidence of peritonitis, due to immature tracts. After 4 weeks, it is less likely to be associated with peritonitis.

Different modes of treatment are adopted, depending on the presence of marginal overgrowth, location of the

internal bumper, prognosis from the underlying disease. Conservative management may be done in minor dislodgement especially in patients with dismal prognosis. If the internal bumper has migrated outside the stomach, the case is referred to a surgeon. Otherwise endoscopic widening of the overgrown margin and reinsertion of the tube may be done.

4 CONCLUSION:

PEG tube insertion is generally considered to be a safe procedure. However, it can be rarely associated with complications. Buried bumper syndrome is one such complication, which can be categorised as minor, when not associated with peritonitis and major, when associated with peritonitis. Early diagnosis and treatment is hence very important. Adequate instructions need to be given to the patient and their caretakers to identify the signs of dislodgement early. Hence the life threatening complications can be averted.

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7 ABBREVIATIONS:

PEG – Percutaneous Endoscopic Gastrostomy

BBS – Buried bumper syndrome.