Managing **Late Complications** of Gastrostomy Tube Insertion

Sarah Fagan
PEG Credentialed Dietitian
(acknowledgement to Lisa Murnane)
Overview

Management of:

- Gastric Leakage
- Hypergranulation Tissue
- Buried Bumper Syndrome
- Dislodged Tubes
- Migrating Tubes
CASE 1: Miss GL

- 3 monthly PEG clinic appt
- Feed leaking out of PEG site
- Staining her t-shirt
- Very upset and embarrassed
Gastric Leakage

- Leakage of enteral formula &/or gastric contents from the gastrostomy stoma site can be a significant management problem\(^{(1)}\)
- Complication rate is 1-2\(^{\%}\)(\(^{(2)}\)
- Exact etiology is not known
- No difference in gastric leaking rates between PEG and RIG\(^{(3)}\)
- Increase burden of care for patients:
  - Pain & discomfort
  - Leaking on clothes & hygiene
  - Social isolation
  - Associated financial burden with treatments/dressings

## Gastric Leakage

<table>
<thead>
<tr>
<th>Risk Factors(^{(2, 4)})</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impaired wound healing</td>
<td>Improve BGL’s and nutrition status</td>
</tr>
<tr>
<td>- Unstable BGL’s</td>
<td></td>
</tr>
<tr>
<td>- Malnutrition</td>
<td></td>
</tr>
<tr>
<td>- Immuno-compromised</td>
<td></td>
</tr>
<tr>
<td>Infected gastrostomy stoma site</td>
<td>Inspect stoma site for infection</td>
</tr>
<tr>
<td></td>
<td>- swab &amp; culture</td>
</tr>
<tr>
<td></td>
<td>Consider antibiotics</td>
</tr>
<tr>
<td>Gastric hyper secretion</td>
<td>Consider use of proton pump inhibitors</td>
</tr>
<tr>
<td>Excessive cleaning with corrosive agents (hydrogen peroxide)</td>
<td>Advise on recommended cleaning method</td>
</tr>
<tr>
<td>Excessive device movement</td>
<td>Correct position of internal &amp; external bumper</td>
</tr>
<tr>
<td></td>
<td>Consider use of low profile tube to reduce torsion</td>
</tr>
</tbody>
</table>

Gastric Leakage

- The use of a larger tube is not indicted\(^1\)
- Remove tube for several hours to allow tract to reduce in size\(^2\)
- If gastric pressure is of concern, trial venting of gastrostomy tube
- Monitor & treat constipation
- Consider jejunal extension, especially if gastric dysmotility is a contributing factor
- Last resort..... re-site gastrostomy feeding tube

CASE 1: Miss GL

• Commenced on protein pump inhibitor (Nexium) and bowel regime (lactulose + coloxyl and senna) and problem resolved
CASE 2: Mr HT

- Red lump of skin under PEG site
- Not sore but occasionally bleeds if knocked
Hypergranulation

• Also called
  – granulation
  – hypertrophic granulation
  – hyperplasia of granulation tissue
  – proud flesh

• Minor complication but not uncommon
Hypergranulation - Clinical Features\(^{(4)}\)

- Highly vascular
- Moist and bleeds easily
- Dark pink or light red flesh
- Smooth, bumpy or granular
- Forms beyond the surface of the stoma opening

Hypergranulation – **WHAT** is it from??

- Exact etiology is unknown
- Widely accepted that the cause is related to an inflammatory response predicated by:
  - Excessive moisture
  - Prolonged inflammation\(^{(6, 7)}\)
  - Oedema\(^{(8)}\)
  - Mechanical or trauma\(^{(5, 9)}\)
  - Reaction to foreign body\(^{(6, 7)}\)
  - Allergy/ hypersensitivity

Hypergranulation - Prevention

• Keep stoma clean & dry \(^{(10)}\)
• Prevent excessive friction
• Ensure correct position of external flange/bolster
• Monitor for signs of infection
• Ensure low-profile device is fitted correctly \(^{(5)}\)

## Hypergranulation - Management

Hypergranulation should not be treated unless it is problematic \(^{(10)}\)

<table>
<thead>
<tr>
<th>Treatment Options</th>
<th>Indications / Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foam Dressing (^{(6, 11, 12)})</td>
<td>- Non-occlusive &amp; absorbent</td>
</tr>
<tr>
<td></td>
<td>- Apply firmly to create local pressure</td>
</tr>
<tr>
<td>Hypertonic sodium chloride dressing (i.e. Mesalt(^{\text{TM}}), Curasalt(^{\text{TM}}))</td>
<td>- Absorbs exudate</td>
</tr>
<tr>
<td></td>
<td>- Hypertonic environment is unfavourable to bacteria</td>
</tr>
<tr>
<td></td>
<td>- Apply for 3-4 weeks</td>
</tr>
<tr>
<td></td>
<td>- Avoid application to unaffected skin</td>
</tr>
<tr>
<td></td>
<td>- Minimal evidence &amp; expensive</td>
</tr>
<tr>
<td>Topical Steroids(^{(13)}) (i.e. corticosteroid cream)</td>
<td>- Promotes collagen breakdown</td>
</tr>
<tr>
<td></td>
<td>- Not licensed for this use</td>
</tr>
<tr>
<td></td>
<td>- Little evidence of efficacy</td>
</tr>
</tbody>
</table>

# Hypergranulation - Management

<table>
<thead>
<tr>
<th>Treatment Options</th>
<th>Indications / Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topical antimicrobial products (i.e. povidone-iodine: Betadine™, cadexomer-iodine)</td>
<td>Use for 10-14 days</td>
</tr>
<tr>
<td>Silver Nitrate(5, 13)</td>
<td>Not ideal</td>
</tr>
<tr>
<td></td>
<td>Can cause further inflammation</td>
</tr>
<tr>
<td></td>
<td>Requires multiple treatments</td>
</tr>
<tr>
<td></td>
<td>Potential to damage surrounding skin</td>
</tr>
<tr>
<td></td>
<td>May cause pain</td>
</tr>
<tr>
<td></td>
<td>Should only be considered as last option</td>
</tr>
<tr>
<td>Systemic antibiotics (WUWHS 2008)</td>
<td>Not recommended for local wound infections</td>
</tr>
</tbody>
</table>

CASE 2: Mr HT

- Foam dressing applied daily for 3 weeks
- Reiterated importance of drying around PEG site and cleaning with soapy water daily
CASE 3: Mr BB

- 3 monthly visit to PEG clinic
- Pain when dietitian attempting to rotate PEG and moving PEG in and out
Buried Bumper Syndrome\textsuperscript{(14)}

- Buried bumper syndrome is a rare complication
- Usually prevented by:
  - Daily 360 degree rotation
  - External flange pulled along tube away from skin, tube pushed inwards 2-3 cm then carefully pulled back to resistance of internal fixation device
Buried Bumper Syndrome\(^{(14)}\)

• Clinical features:
  – Unable to do above prevention measures
  – Protrusion at stoma site
  – External marking less than usual (i.e. close to 1cm)

• Nearly always removed via endoscopy
CASE 3: Mr BB

- PEG removed via endoscopy and new tube placed
- Reminded regarding importance of daily rotation
CASE 4: Ms MG

• Phone call to Dietitian.....
• Nausea++ when feeding
Migrating Gastrostomy Tube

Clinical Features

- cm marking at skin greater (eg. 5cm compared to 2cm)
- Y-port sitting at skin level
- Symptoms of gastric outlet obstruction: nausea & vomiting, epigastric pain, abdominal distension
Migrating Gastrostomy Tube

Management

• Do not pull tube back to normal position if excessive resistance
• Deflate balloon, pull back to usual cm marking
• Reinflated balloon to usual volume
• Secure external fixation device close to skin with clip or bread tie
• Consider low-profile device
CASE 4: Ms MG

- Advised to check cm marking...
- PEG had been retracted into stomach.
- Pulled back out to usual marking and flange tightened to skin level
- Advised to place bread tie to keep flange in correct position
CASE 5: Mr DG

- Phone call to dietitian
- VERY DISTRESSED!!!
- PEG has fallen out at work
Dislodged Gastrostomy Tube

• Tube dislodgement usually occurs due to:
  – Burst or deflated balloon
  – Tube disintegration
  – Patient ‘pulling’ at tube

• A displaced gastrostomy tube requires prompt attention to prevent the stoma/tract from closing.

• Most health services have protocols to manage dislodged feeding tubes.
Dislodged Gastrostomy Tube
Early / Initial Displacement\(^{15}\)

- Within 0-4 weeks of insertion, tract/fistula may not be fully mature
- Removal of gastrostomy tube during this time may cause peritonitis
- ‘Blind’ insertion of replacement gastrostomy at bedside is NOT recommended within 2-4 weeks of insertion
- Urgent replacement should occur via endoscopy or radiology
- After 2-4 weeks a replacement balloon gastrostomy may be inserted at the bedside by a suitably qualified professional

Dislodged Gastrostomy Tube
Late Displacement\(^{(15)}\)

- Most commonly seen in balloon-retained devices.
- Within approximately 4 weeks stoma tract is matured & well formed.
- Tube displaced = established tract can close within 12-24hrs.
- To preserve the fistula:
  - Reinsert feeding tube into stoma & tape to skin. Do not use until device is replaced by a suitably qualified professional.
  - If replacement tube unavailable, temporary use Foley/urinary catheter of same gauge/French to keep tract open. Tape to skin, do not use.

CASE 5: Mr DG

- Told to put PEG tube back into stoma, tape down and DO NOT use
- Presented to ED
- Balloon had burst (10 months since placed)
- Tube replaced at bed side
Reference List