Esophageal Stents

WILSON KWONG, MD
DIVISION OF GASTROENTEROLOGY – ADVANCED ENDOSCOPY
UNIVERSITY OF CALIFORNIA SAN DIEGO
Overview

- What is a stent
- Indications
- Placement
- Securing the Stent
- Post-stent Precautions
- Removal
- Complications and Management
Introduction

- Metal
  - Alloys – Nitinol (nickel/titanium)
  - Covered with a polymer or silicone
- Plastic
- Biodegradable
Indications

- Obstruction
  - Malignant
  - Benign
- Perforation
- Leaks
- Fistulas
- Achalasia
- Variceal Bleeding
Most common indication

Malignant Obstruction
Alternatives to Esophageal Stent

- G tube for nutrition
- Surgery- distal esophagectomy – high morbidity, some mortality
Esophageal Perforation
Refractory Variceal Bleeding
Achalasia
Deployment
Placement

- Decide uncovered vs covered
- Define length of stricture – endo vs fluoro
- Decide TTS vs alongside deployment
- Pick a stent 4cm longer than stricture (2cm on either side)
- Pick stent diameter – how tight is stricture
- Try to place stent at least 2cm distal to upper esophageal sphincter – can cause globus sensation
- Pass a wire past stricture – consider fluoroscopy (not required)
- Deploy stent over wire
Securing the Stent
Securing the Stent

- Clips (through the scope)
- Ovesco Clip (over the scope)
- Endoscopic suturing
- Partially covered vs Fully Covered
Post-Stent Precautions

- Full liquid diet for a day -> soft diet
  - Consider carbonated beverages
  - Avoid dry breads and large pieces of meat
- If crossing GE junction: aspiration precautions
  - PPI BID
  - Stay 45 degrees upright
- Analgesics PRN
Stent Removal

- Rat tooth Forceps
- Stent within a stent technique
- APC for stent ingrowth or clip removal
- Stent Inversion
Stent Removal
Stent Removal
Stent Ingrowth - APC
Stent Removal - Inversion
Stent ingrowth – Stent in Stent Technique
Complications

- Chest Pain
- Migration
- Bleeding
- Esophageal-arterial fistula
- Tracheal stenosis
- Perforation
- Aspiration
- GERD
- Infection – abscesses
- Recurrent obstruction
<table>
<thead>
<tr>
<th>Complication</th>
<th>Frequency (%)</th>
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<tbody>
<tr>
<td>Immediate (at the time of placement)</td>
<td></td>
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<tr>
<td>Technical failure</td>
<td>&lt;1</td>
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<tr>
<td>Aspiration</td>
<td>Not routinely reported</td>
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<tr>
<td>Stent dislodgement</td>
<td>&lt;1</td>
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<tr>
<td>Perforation</td>
<td>&lt;1</td>
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<tr>
<td>Airway compromise</td>
<td>&lt;1</td>
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<tr>
<td>Procedure-related mortality</td>
<td>0-1.4</td>
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<tr>
<td>Early (up to 1 week post stent placement)</td>
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<tr>
<td>Chest pain</td>
<td>12-14</td>
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<tr>
<td>Bleeding</td>
<td>3-8</td>
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<tr>
<td>Nausea</td>
<td>5-10</td>
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<tr>
<td>Late (beyond 1 week post stent placement)</td>
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<tr>
<td>Migration (UC vs PC)</td>
<td>0-6 vs 25-32</td>
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<tr>
<td>Tumor ingrowth (Uc vs PC)</td>
<td>17-36 vs 0-5</td>
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<tr>
<td>Fistulization/perforation</td>
<td>2.8</td>
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<tr>
<td>Bleeding</td>
<td>3-8</td>
</tr>
<tr>
<td>GERD/aspiration</td>
<td>3.7</td>
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Stent Fracture
Airway Compression
Case 1
Case 2
Case 3
Caustic Ingestion
Thank You