Acute Variceal Bleeding

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Treatment of Acute Variceal Hemorrhage

General Management:
- IV access and fluid resuscitation
- Do not overtransfuse (hemoglobin ~ 8 g/dL)
- Antibiotic prophylaxis

Specific therapy:
- Pharmacological therapy: terlipressin, somatostatin and analogues, vasopressin + nitroglycerin
- Endoscopic therapy: ligation, sclerotherapy
- Shunt therapy: TIPS, surgical shunt
# Prophylactic Antibiotics Improve Outcomes in Cirrhotic Patients with GI Hemorrhage

<table>
<thead>
<tr>
<th></th>
<th>Control (n=270)</th>
<th>Antibiotic (n=264)</th>
<th>Absolute rate difference (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infection</strong></td>
<td>45%</td>
<td>14%</td>
<td>-32% (-42 to –23)</td>
</tr>
<tr>
<td><strong>SBP / Bacteremia</strong></td>
<td>27%</td>
<td>8%</td>
<td>-18% (-26 to –11)</td>
</tr>
<tr>
<td><strong>Death</strong></td>
<td>24%</td>
<td>15%</td>
<td>-9% (-15 to –3)</td>
</tr>
</tbody>
</table>

*Bernard et al., Hepatology 1999; 29:1655*
Early Administration of Terlipressin/Nitroglycerin Improves Control of Active Variceal Hemorrhage

Levacher et al., Lancet 1995; 346:865
Combination Drug / Endoscopic Therapy is More Effective Than Endoscopic Therapy Alone in Achieving Five-Day Hemostasis

- Sclero + Octreotide: Besson, 1995
- Ligation + Octreotide: Sung, 1995
- Sclero + Octreotide / ST: Signorelli, 1996
- Sclero + Octreotide: Ceriani, 1997
- Sclero + Octreotide: Signorelli, 1997
- Sclero + ST: Avgerinos, 1997
- Sclero + Octreotide: Zuberi, 2000
- Sclero / ligation + Vapreotide: Cales, 2001

**TOTAL**

Favors endoscopic therapy alone: 1.6
Favors endoscopic plus drug therapy: 1.8

Bañares R et al., *Hepatology* 2002; 35:609
Endoscopic Variceal Band Ligation

- Bleeding controlled in 90%
- Rebleeding rate 30%
- Compared with sclerotherapy:
  - Less rebleeding
  - Lower mortality
  - Fewer complications
  - Fewer treatment sessions
Transjugular Intrahepatic Portosystemic Shunt

Hepatic vein

Portal vein

TIPS

Splenic vein

Superior mesenteric vein
TRANSJUGULAR INTRAHEPATIC PORTOSYSTEMIC SHUNT (TIPS)
TIPS in the Treatment of Variceal Hemorrhage

- TIPS is rescue therapy for recurrent variceal hemorrhage
  (at second rebleed for esophageal varices, at first rebleed for gastric varices)

- TIPS is indicated in patients who rebleed on combination endoscopic plus pharmacologic therapy

- In patients with Child A/B cirrhosis, the distal spleno-renal shunt is as effective as TIPS
  (dependent on local expertise)
Treatment of Varices / Variceal Hemorrhage

- No varices
- Small varices
  - No hemorrhage
- Medium/large varices
  - No hemorrhage
- Variceal hemorrhage
  1) Safe vasoactive drug + endoscopic therapy + antibiotic prophylaxis
  2) TIPS / Shunt (rescue therapy)
- Recurrent hemorrhage
Management of Acute Variceal Hemorrhage

Variceal Hemorrhage Suspected
Management of Acute Variceal Hemorrhage

Variceal Hemorrhage Suspected

**Initial Management**

- Transfuse to hemoglobin ~ 8 g/dL
- Early pharmacotherapy
- Antibiotic prophylaxis
Management of Acute Variceal Hemorrhage

Variceal Hemorrhage Suspected

- Initial Management
  - Transfuse to hemoglobin ~ 8 g/dL
  - Early pharmacotherapy
  - Antibiotic prophylaxis

- Endoscopic Intervention
  - Endoscopic variceal band ligation (EVL) is preferred to sclerotherapy
Management of Acute Variceal Hemorrhage

Variceal Hemorrhage Suspected

Initial Management

Acute Hemorrhage Controlled?

NO

Balloon Tamponade (bridging therapy)

Rescue TIPS/Shunt surgery
Management of Acute Variceal Hemorrhage

Variceal Hemorrhage Suspected

Initial Management

Acute Hemorrhage Controlled?

NO

Balloon Tamponade

Rescue TIPS/Shunt surgery

YES

Early rebleeding?

YES

2nd Endoscopy

Further bleeding
Management of Acute Variceal Hemorrhage

Variceal Hemorrhage Suspected

Initial Management

Acute Hemorrhage Controlled?

YES

Early rebleeding?

YES

2nd Endoscopy

NO

Prophylaxis against recurrent hemorrhage

NO

Further bleeding

Rescue TIPS/Shunt surgery

Balloon Tamponade
Management of Acute Variceal Hemorrhage

Variceal Hemorrhage Suspected

**Initial Management**

Acute Hemorrhage Controlled?

**NO**

Balloon Tamponade

**YES**

Early rebleeding?

**YES**

2nd Endoscopy

Further bleeding

**NO**

Prophylaxis against recurrent hemorrhage
Treatment of Varices / Variceal Hemorrhage

- No varices
- Small varices
  - No hemorrhage
- Medium/large varices
  - No hemorrhage
- Variceal hemorrhage
  - Recurrent hemorrhage

Preventing recurrent hemorrhage
THANKS