Non-variceal upper gastro-intestinal bleeding

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Variceal and non-variceal upper GI bleeding still is a lethal disease

Mortality rates for upper GI bleeding in Europe

N=6750
New patients 7%
Inpatients 26%
Mean 10% (UK 1993 14%)

Gut 2011;60:1327-1335
Endoscopy 2012;44:998-1008
Data from 2007
Data from 2005-2006

In-hospital mortality decreased from 1989 to 2009 in the USA
New GI bleeding patients

<table>
<thead>
<tr>
<th>Year</th>
<th>In hospital endoscopy</th>
<th>Endotherapy</th>
<th>Nonvariceal</th>
<th>Variceal</th>
<th>Endoscopy &lt; 24 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>70%</td>
<td>10%</td>
<td>3%</td>
<td>36%</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>85%</td>
<td>22%</td>
<td>66%</td>
<td>70%</td>
<td></td>
</tr>
</tbody>
</table>

In-hospital mortality decreased from 1989 to 2009 in the USA
New GI bleeding patients

55-year old woman - Saturday 11.30 PM
Presents at the emergency department with hematemesis
No other medical conditions – no risk factors for liver disease
Medication: aspirin (Asaflow 80 mg daily) since 6 months (primary prevention – read it in a magazine)

Blood pressure 94/60 mm Hg
Heart rate 108 beats/minute

Lab results: hemoglobin 11.0 g/dl
platelets 220.000/ul – INR 1.0
blood urea nitrogen 40 mg/dl
Nonvariceal upper GI bleeding
Danny De Looze, UZ Gent

GASTROINTESTINAL EMERGENCIES IN ENDOscopy - SHOULD I STAY OR SHOULD I GO? September 2016

1. Upper GI endoscopy at the emergency room (0.00 am)
2. Transfer to ICU, upper GI endoscopy within 3 hours (2.00 am)
3. Gastro ward and upper GI endoscopy first thing in the morning (8.00 am)
4. Gastro ward and elective endoscopy on monday morning


Erythromycin before endoscopy for acute upper gastrointestinal bleeding

Meta-analysis in Alim Pharm Ther 2011;34:166-171

Erythromycin 250 mg IV/5 min.

20 minutes before endoscopy

PPI 40 mg IV

20 min. before endoscopy

Significant impact on:
- empty stomach
  - need for second endoscopy
  - blood transfusion
  - length of hospital stay

No significant impact:
- endoscopic procedure time
- mortality

Erythromycin before endoscopy for acute upper gastrointestinal bleeding

Meta-analysis in Alim Pharm Ther 2011;34:166-171

Cochrane review 2010; Jul 7

Erythromycin before endoscopy for acute upper gastrointestinal bleeding

Table 3. Meta-analysis of effects of erythromycin on secondary outcomes

Meta-analysis in Alim Pharm Ther 2011;34:166-171

PPI before endoscopy for acute upper gastrointestinal bleeding

Cochrane review 2010; Jul 7

Six RCTs comprising 2223 participants

<table>
<thead>
<tr>
<th>Comparison</th>
<th>PPI before endoscopy</th>
<th>PPI after endoscopy</th>
<th>OR (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality</td>
<td>6.1%</td>
<td>5.5%</td>
<td>1.12 (0.72-1.73)</td>
</tr>
<tr>
<td>Rebleeding</td>
<td>13.9%</td>
<td>16.6%</td>
<td>0.81 (0.61-1.09)</td>
</tr>
<tr>
<td>Surgery</td>
<td>9.9%</td>
<td>10.2%</td>
<td>0.96 (0.68-1.36)</td>
</tr>
<tr>
<td>Stigmata recent hemorrhage</td>
<td>37.2%</td>
<td>46.5%</td>
<td>0.67 (0.54-0.84)</td>
</tr>
<tr>
<td>Need for endotherapy</td>
<td>8.6%</td>
<td>11.7%</td>
<td>0.68 (0.50-0.93)</td>
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*Stigmata: active bleeding, non bleeding visible vessel, adherent clot


Erythromycin before endoscopy for acute upper gastrointestinal bleeding

Mortality 6.1% 5.5% 1.12 (0.72-1.73)
Rebleeding 13.9% 16.6% 0.81 (0.61-1.09)
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GASTROINTESTINAL EMERGENCIES IN ENDOSCOPY - SHOULD I STAY OR SHOULD I GO?
September 2016

Timing of endoscopy in suspected non-variceal upper GI bleeding

**LOW RISK**
- Lee et al
  - GIE 1999;50:755-761
  - 110 patients
  - HD stable
  - <2h vs. < 4h
  - Early endoscopy: early discharge / cheaper
- Bjorkman et al
  - GIE 2004;65:1-8
  - 93 patients
  - HD stable
  - <6h vs. < 4h
  - Early endoscopy may lead to early discharge (but is not always done)

**HIGH RISK**
- Lin et al (RCT)
  - All pts.
  - <12h vs. > 12h
  - No advantage
- Lin et al (OBS)
  - Endoscopy 2011;43:390
  - 934 pts
  - NVGIB
  - GBS >12
  - < 13h vs. > 13h
  - 0 % vs. 44% mortality (p<0,001)
  - Multivariate analysis: time from presentation to endoscopy
  - 166 pts
  - GBS>3
  - < 6h vs. > 24h
  - rapid vs early
  - No difference in rebleeding, surgery need, mortality

**Recommendations.**
9. Patients with UGIB should generally undergo endoscopy within 24 h of admission, following resuscitative efforts to optimize hemodynamic parameters and other medical problems (Conditional recommendation, low-quality evidence).  
10. In patients who are hemodynamically stable and without serious comorbidities endoscopy should be performed as soon as possible in a non-emergent setting to identify the substantial proportion of patients with low-risk endoscopic findings who can be safely discharged (Conditional recommendation, moderate-quality evidence).
11. In patients with higher risk clinical features (e.g., tachycardia, hypotension, bloody emesis or NG aspirate in hospital) endoscopy within 12 h may be considered to potentially improve clinical outcomes (Conditional recommendation, low-quality evidence).

- Lee et al GIE 1999;50:755-761
- Bjorkman et al GIE 2004;65:1-8
- Lin et al Endoscopy 2011;43:390
- American College of Gastroenterology (2012)

**Timing of endoscopy in suspected non-variceal upper GI bleeding**

**Recommendations.**
- MRT7. Following hemodynamic resuscitation, ESGE recommends early (<24 hours) upper GI endoscopy.

**Risks of “rapid” endoscopy**
- Oxygen desaturation / inappropriate resuscitation
- HD unstable patient
- Airway protection
- Not enough visualisation
- Need for a trained endoscopy nurse/assistant

**Timing of endoscopy in upper GIB and EBM?**

<table>
<thead>
<tr>
<th>Patient Group</th>
<th>Time to Endoscopy</th>
<th>Outcome</th>
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<tbody>
<tr>
<td>Low Risk</td>
<td>&lt;2h vs. &gt; 4h</td>
<td>Early discharge / cheaper</td>
</tr>
<tr>
<td>High Risk</td>
<td>&lt;12h vs. &gt; 12h</td>
<td>No advantage</td>
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**Recommendations.**
- **Low Risk**
  - Endoscopy < 24h after admission
  - Quicker if Glasgow Coma Scale < 8
- **High Risk**
  - Endoscopy < 12h vs. > 12h
  - No advantage

**Endoscopy**

- Median time to endoscopy was 17.7 h (IQR 6.1 h to 29.4 h).
- Suspected variceal bleeding 12.4 h (IQR 4.5 h to 25.0 h).
- Nonvariceal bleeding 18.3 h (IQR 6.3 h to 30.0 h).
- Overall, 65.6% of patients underwent endoscopy within 24 h.

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Blood pressure is normalized by fluid etc...and

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Guidelines: endoscopy within 12 h (US) or 24 h (EUR) / no need for ICU

Suspected non-variceal upper GI bleeding

Always within 24 hours after admission

Low risk
- Early endoscopy leads to early discharge

High risk
- Within 12 hours
- Use your common sense!