Upper Gastrointestinal Bleeding

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- Common medical condition with morbidity, mortality, and medical care cost
- Presents with hematemesis and/or melena
- Hematochezia

EPIDEMIOLOGY

- The annual incidence 100 per 100,000 individuals
- Hospitalization rate sixfold higher than for lower GI bleeding
- Higher in men than in women (128 versus 65 per 100,000 in one study)
- Increases with age

- Older studies peptic ulcer disease was approximately half of UGIB
- Ulcer disease is now a less common cause (approximately 20 to 25 percent of cases)
- Gastric ulcers are more common than duodenal ulcers

DIFFERENTIAL DIAGNOSIS

- Gastric and/or duodenal ulcers
- Esophagogastric varices
- Severe or erosive esophagitis

- Severe or erosive gastritis/duodenitis
- Portal hypertensive gastropathy
- Angiodysplasia (also known as vascular ectasia)

- Mass lesions (polyps/cancers)
- MalloryWeiss syndrome
- No lesion identified (10 to 15 percent of patients)

Other less common causes

- Dieulafoy's lesion
- Gastric antral vascular ectasia
- Hemobilia
- Hemosuccus pancreaticus

- Aortoenteric fistula
- Cameron lesions
- Ectopic varices
- Iatrogenic bleeding after endoscopic interventions

INITIAL EVALUATION

- History, physical examination, laboratory tests
- Assess the severity of the bleed
- Identify potential sources of the bleed

GENERAL MANAGEMENT

- All patients with hemodynamic instability, active bleeding should be admitted for resuscitation + close observation
- Outpatient management may be appropriate for some low risk patients

GENERAL SUPPORT

- Supplemental oxygen
- Nothing per mouth

- Two large caliber (16 gauge or larger) peripheral intravenous catheters

- Hemodynamic instability , central venous line or pulmonary artery catheter
- Endotracheal intubation

FLUID RESUSCITATION

- Adequate resuscitation and stabilization is essential prior to endoscopy
- Intravenous fluids (eg, 500 mL of normal saline or lactated Ringer's solution over 30 minutes)
- Typed and crossmatched for blood transfusion

BLOOD TRANSFUSION

- Blood transfusions if the hemoglobin <7 g/dL (70 g/L)
- Hemoglobin at a level of ≥9 g/dL (90 g/L) for patients with unstable coronary artery disease

- Transfusing patients with suspected variceal bleeding to a hemoglobin >10 g/dL (100 g/L) should be avoided
- Low platelet count (<50,000/microL) should be transfused with platelets

- Prolonged prothrombin time with INR >1.5 should betransfused with fresh frozen plasma (FFP)
- INR ≥3, we attempt to correct the INR to <3 prior to starting an endoscopy

MEDICATION

- Acid suppression
- Prokinetics (erythromycin and metoclopramide)
- Somatostatin and its analogs
- Antibiotics for patients with cirrhosis
- Anticoagulants and antiplatelet agents should be held in patients with upper GI bleeding

CONSULTATION

- Gastroenterological consultation – all patients with suspected clinically significant acute upper GI bleeding

- Surgical and interventional radiology consultations prior to endoscopy – patients with persistent or recurrent bleeding, or with risks/complications stemming from endoscopic therapy (perforation, precipitation of massive bleeding)

Surgical and interventional radiology consultation

- Endoscopic therapy unlikely to be successful
- High risk for rebleeding
- Complications with endoscopy
- Concern aortoenteric fistula

DIAGNOSTIC STUDIES

- Upper endoscopy
- Angiography
- Deep small bowel enteroscopy
- Upper GI barium studies are contraindicated

UPPER ENDOSCOPY

- Modality of choice
- High sensitivity and specificity for locating and identifying bleeding lesions and therapeutic endoscopy
- Early endoscopy (within 24 hours) is recommended
- The endoscopic appearance helps determine which lesions require endoscopic therapy

Endoscopic predictors of recurrent peptic ulcer hemorrhage

Endoscopic stigmata of recent hemorrhage	Prevalence, percent	Risk of rebleeding on medical management, percent
Active arterial bleeding (Forrest Ia)	10	90
Oozing without visible vessel (Forrest Ib)	10	10 to 20
Non-bleeding visible vessel (Forrest IIa)	25	50
Adherent clot (Forrest IIb)	10	25 to 30
Flat spot (Forrest IIc)	10	7 to 10
Clean ulcer base (Forrest (III)	35	3 to 5

Adapted from: Katschinski B, Logan R, Davies J, et al. Dig Dis Sci 1994; 39:706.

Graphic 78607 Version 5.0

RISK STRATIFICATION

- Endoscopic
- Clinical
- Laboratory features

Factors associated with rebleeding

- Hemodynamic instability
- Hemoglobin less than 10 g/L
- Active bleeding at the time of endoscopy
- Large ulcer size (greater than 1 - 3 cm in various studies)
- Ulcer location (posterior duodenal bulb or high lesser gastric curvature)

RISK SCORES

- The Blatchford score
- The Rockall score
- AIMS65

BLATCHFORD SCORE

- Range: 0 - 23
- Requiring endoscopic intervention increases with increasing score
- Blatchford score of zero associated with low likelihood of need for urgent endoscopic intervention

Calculator: Blatchford score for gastrointestinal bleeding

Blood urea nitrogen

- ○ <18.2 mg/dL (<6.5 mmol/L) (0 points)
- ○ >=18.2 and <22.4 mg/dL (>=6.5 and <8 mmol/L) (2 points)
- ○ >=22.4 and <28 mg/dL (>=8 and <10 mmol/L) (3 points)
- ○ >=28 and <70 mg/dL (>=10 and <25 mmol/L) (4 points)
- ○ >=70 mg/dL (>=25 mmol/L) (6 points)

Hemoglobin

- ○ Male >=13 g/dL (>130 g/L) (0 points)
- ○ Male >=12 and <13 g/dL (>=120 and <130 g/L) (1 point)
- ○ Male >=10 and <12 g/dL (>=100 and <120 g/L) (3 points)
- ○ Female >=12 g/dL (>120 g/L) (0 points)
- ○ Female >=10 and <12 g/dL (>=100 and <120 g/L) (1 point)
- ○ Male or female <10 g/dL (<100 g/L) (6 points)

Systolic blood pressure

- ○ >=110 mmHg (0 points)
- ○ 100 to 109 mmHg (1 point)
- ○ 90 to 99 mmHg (2 points)
- ○ <90 mmHg (3 points)

Other markers

- ☐ Heart rate >=100 per minute (1 point)
- ☐ Melena at presentation (1 point)
- ☐ Syncope at presentation (2 points)
- ☐ Hepatic disease present (2 points)
- ☐ Cardiac failure present (2 points)

ROCKALL SCORE

- Scored 2 or less (Range: 0 - 11)
- Rebleeding and mortality

Calculator: Rockall score for upper gastrointestinal bleeding

Age

- ◯ <60 years old (0 points)
- ◯ 60-79 years old (1 point)
- ◯ >=80 years old (2 points)

Hemodynamic Shock

- ◯ None with systolic BP >=100 mmHg and pulse <100/min (0 points)
- ◯ Tachcardic with pulse >=100/min but systolic BP >=100 mmHg (1 point)
- ◯ Hypotension with systolic BP <100 mmHg (2 points)

Major Comorbidities

- ◯ None (0 points)
- ◯ Cardiac failure, ischemic heart disease or similar major comorbidity (2 points)
- ◯ Renal failure, hepatic failure or disseminated cancer (3 points)

Diagnosis

- ◯ Mallory-Weiss tear, but no major lesions and no stigmata of recent bleed (0 points)
- ◯ Other nonmalignant gastrointestinal diagnoses (1 point)
- ◯ Upper gastrointestinal tract malignancy (2 points)

Recent hemorrhage

- ◯ None (or dark area only) (0 points)
- ◯ Blood found in upper gastrointestinal tract (clot adherence, spurting or visible vessel) (2 points)

AIMS65

- Factors were associated with increased inpatient mortality

- **Albumin less than 3.0 g/dL (30 g/L)**
- **INR greater than 1.5**
- **Altered Mental status**
- **Systolic blood pressure of ≤90 mmHg**
- **Age ≥65 years**

- Zero risk factors: 0.3 %
- One risk factor: 1 %
- Two risk factors: 3 %
- Three risk factors: 9 %
- Four risk factors: 15 %
- Five risk factors: 25 %

จำนวนผู้ป่วยนอก UGI bleeding ปี 2557-2559

ผู้ป่วยนอก	ปี 2557	ปี 2558	ปี 2559
คน	2,307	2,238	2,400
ครั้ง ที่มา OPD	2,836	2,967	3,228

ผู้ป่วยใน	ปี 2557	ปี 2558	ปี 2559
คน	1,254	1,283	1,402
ครั้ง ที่มา admit	1,436	1,462	1,570

สรุปยอด UGIB หน่วยส่องกล้อง

รายการ	2557	2558	2559
ยอด EDG.+push enteroscope	1715+1	1892+1	1931+2
Variceal bleeding	122	100	82
Stop bleeding ได้	120	99	81
Non variceal bleeding	145	166	157
Stop bleeding ได้	141	164	147
Consult ศัลย์	2	1	4

แนวทางการดูแลรักษาผู้ป่วยเลือดออกทางเดินอาหารส่วนต้น (UGIB)

UGIB อาการถ่ายดำ/อาเจียนเป็นเลือด

ประเมินการ ADMIT *BLATCHFORD SCORE

SBP<110 mmHg BUN เพิ่ม> 8 PR>100bpm

Hb<13gm%(male) or <12 gm% (female)

Melena, syncope, comorbidity

yes

admit

no

นัด EGD OPD case

รพช.นัดผ่านศูนย์ refer

ประเมิน severity * UGIB guideline สมาคมทางเดินอาหาร

Age > 60

Comorbidity (CKD, cirrhosis,CAD, COPD)

Hemodynamic instability after load IV fluid > 2 L or

PRC > 2ua

Continuous fresh blood from NG after irrigation

Hematochezia

Variceal hemorrhage

Rare blood group

Hct drop >6% in 1 day, >10% in 2-3 days

Clinical rebleeding (Hct drop > 6% + melena)

yes

high risk

Emergency EGD in 12 hr

ในเวลาราชการ รพช แจ้งศูนย์ refer แจ้งแพทย์ GI ทราบ

นอกเวลาราชการ รพช แจ้งศูนย์ refer แพทย์ ER ประเมินอาการ แล้วแจ้งแพทย์เวร GI

no

Low risk

NPO, IV fluid

PPI IV

Blood transfusion

EDG in 24 hr (รพช โทรแจ้งศูนย์ refer ในเวลาราชการ)

EGD

high risk stigmata

PPI or sandostatin

Drip 72 hr

Hb > 9 gm% or 10 gm% in CAD

Low risk stigmata

Hb > 9 gm% or 10 gm% in CAD

D/C

F/U 1 mo