

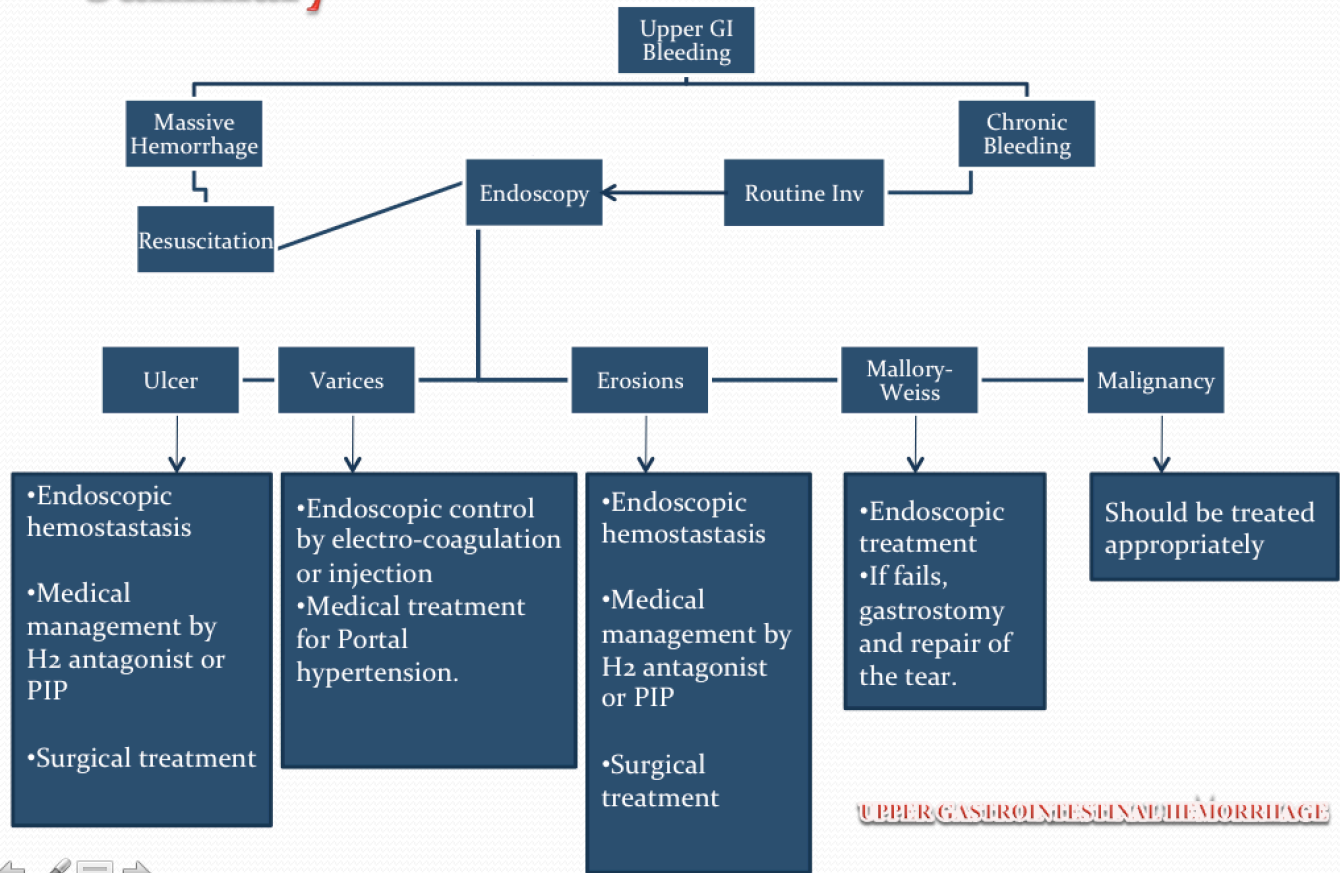
## Upper GIT Bleeding

<b>Introduction</b>	<ul style="list-style-type: none"> <li>Acute gastrointestinal bleeding is a potentially life-threatening (very frequent) abdominal emergency that remains a common cause of hospitalization.</li> <li>Can be categorized as either variceal or non-variceal. Variceal is a complication of end stage liver disease, while non-variceal bleeding associated with peptic ulcer disease or other causes of UGIB.</li> <li>Oesophageal varices, Bleeding Peptic ulcer, Gastritis and are the common causes for hemorrhage.</li> <li>Acute bleeding stops spontaneously in 75 % cases.</li> <li>Usually manifests as hematemesis or melena, and when severe, may even lead to hematochezia</li> <li>Endoscopy can provide the diagnosis, prognosis, and the potential for therapy.</li> <li>UGIB is 4 times as common as bleeding from lower GIT, with a higher incidence in male.</li> </ul>																								
<b>Definition</b>	Upper gastrointestinal bleeding (UGIB) is defined as bleeding derived from a source proximal to the ligament of Treitz.																								
<b>Presentations</b>	<ol style="list-style-type: none"> <li><b>Hematemesis:</b> vomiting of blood either : Digested blood in the stomach (coffee-ground emesis that indicate slower rate of bleeding) or fresh/unaltered blood (gross blood and clots, indicates rapid bleeding)</li> <li><b>Melena:</b> stool containing partially digested blood (black tarry, semisolid, shiny and has a distinctive odor, when its present it indicates that blood has been present in the GI tract for at least 14 h. The more proximal the bleeding site, the more likely melena will occur.</li> <li><b>Massive GIT haemorrhage:</b> Rapid loss of at least one liter of blood or acute blood loss of any volume sufficient to cause hypovolaemia.</li> </ol> <ul style="list-style-type: none"> <li>Patients presenting with haematemesis have a higher mortality than those presenting with melena alone.</li> <li>Coffee-ground vomitus refers to the vomiting of black material which is assumed to be blood. Its presence implies that bleeding has ceased or has been relatively modest.</li> <li>Melena is the passage of black tarry stools usually due to acute upper gastrointestinal bleeding but occasionally from bleeding within the small bowel or right side of the colon.</li> <li>Hematochezia is the passage of fresh or altered blood per rectum usually due to colonic bleeding. Occasionally profuse upper gastrointestinal or small bowel bleeding can be responsible.</li> </ul>																								
<b>Shock</b>	<p>Shock is circulatory insufficiency resulting in inadequate oxygen delivery leading to global hypoperfusion and tissue hypoxia. In the context of GI bleeding shock is most likely to be hypovolaemic (due to inadequate circulating volume from acute blood loss). The shocked, hypovolaemic patient generally exhibits one or more of the following signs or symptoms:</p> <ul style="list-style-type: none"> <li>a rapid pulse (tachycardia)</li> <li>anxiety or confusion</li> <li>a high respiratory rate (tachypnoea)</li> <li>cool clammy skin</li> <li>low urine output (oliguria)</li> <li>low blood pressure (hypotension).</li> </ul> <p>It is important to remember that a patient with normal blood pressure may still be shocked and require resuscitation.</p>																								
<b>Analysis of UGIB, firstly exclude epistaxis / hemoptysis</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #2c5e8c; color: white;">Features</th> <th style="background-color: #2c5e8c; color: white;">Hemoptysis</th> <th style="background-color: #2c5e8c; color: white;">Haematemesis</th> </tr> </thead> <tbody> <tr> <td>Definition</td> <td>Coughing out of blood</td> <td>Vomiting out of blood</td> </tr> <tr> <td>Symptoms</td> <td>Symptoms of pulmonary and CVS disease</td> <td>Symptoms of upper GI tract diseases</td> </tr> <tr> <td>Content &amp; colour</td> <td>Mixed with sputum &amp; bright red in colour</td> <td>Mixed with food particles &amp; coffee-ground in colour</td> </tr> <tr> <td>Premonitory symptoms</td> <td>Cough, salty sensation in throat</td> <td>Nausea, vomiting, retching, abdominal discomfort.</td> </tr> <tr> <td>Melena</td> <td>Does not occur</td> <td>Usually followed by melena the next day</td> </tr> <tr> <td>Amount</td> <td>Relatively less</td> <td>Huge in amount</td> </tr> <tr> <td>Reaction</td> <td>Alkaline</td> <td>Acidic</td> </tr> </tbody> </table>	Features	Hemoptysis	Haematemesis	Definition	Coughing out of blood	Vomiting out of blood	Symptoms	Symptoms of pulmonary and CVS disease	Symptoms of upper GI tract diseases	Content & colour	Mixed with sputum & bright red in colour	Mixed with food particles & coffee-ground in colour	Premonitory symptoms	Cough, salty sensation in throat	Nausea, vomiting, retching, abdominal discomfort.	Melena	Does not occur	Usually followed by melena the next day	Amount	Relatively less	Huge in amount	Reaction	Alkaline	Acidic
Features	Hemoptysis	Haematemesis																							
Definition	Coughing out of blood	Vomiting out of blood																							
Symptoms	Symptoms of pulmonary and CVS disease	Symptoms of upper GI tract diseases																							
Content & colour	Mixed with sputum & bright red in colour	Mixed with food particles & coffee-ground in colour																							
Premonitory symptoms	Cough, salty sensation in throat	Nausea, vomiting, retching, abdominal discomfort.																							
Melena	Does not occur	Usually followed by melena the next day																							
Amount	Relatively less	Huge in amount																							
Reaction	Alkaline	Acidic																							
<b>Causes of UGIB</b>	<b>Esophageal causes</b>	<ol style="list-style-type: none"> <li>Esophageal varices</li> <li>Esophagitis</li> <li>Esophageal cancer</li> <li>Esophageal ulcers</li> <li>Mallory-Weiss tear</li> </ol>																							
	<b>Gastric causes</b>	<ol style="list-style-type: none"> <li>Gastric ulcer</li> <li>Gastric cancer</li> <li>Gastritis</li> <li>Gastric varices</li> <li>Dieulafoy's lesions</li> </ol>																							
	<b>Duodenal causes</b>	<ol style="list-style-type: none"> <li>Duodenal ulcer</li> <li>Vascular malformation including aorto-enteric fistulae</li> <li>Hematomelia, or bleeding from the biliary tree</li> <li>Hemosuccus pancreaticus, or bleeding from the pancreatic duct</li> <li>Severe superior mesenteric artery syndrome</li> <li>Duodenal tumor</li> </ol>																							

<b>Ddx</b>	Most common 1. Peptic ulcer disease 2. Gastroesophageal varices 3. Erosive esophagitis/ gastritis/ duodenitis		
<b>Uncommon Causes of non variceal bleed (&lt; 5%)</b>	<ul style="list-style-type: none"> <li>Gastroesophageal reflux disease</li> <li>Esophageal ulcer</li> <li>Cameron lesion</li> <li>Stress ulcer</li> <li>Drug induced erosions</li> <li>Angioma Dieulafoy's lesion</li> </ul>	<ul style="list-style-type: none"> <li>Watermelon stomach</li> <li>Portal hypertensive gastropathy</li> <li>Aorta-enteric Fistula</li> <li>Radiation telangiectasis/ Enteritis</li> <li>Benign tumours ,Malignant tumour</li> <li>Osler-Weber-Rendu syndrome</li> </ul>	<ul style="list-style-type: none"> <li>Haemobilia Hemosuccus pancreatitis</li> <li>Infections(CMV,HSV)</li> <li>Stomal ulcer</li> <li>Zollinger-ellison syndrome</li> </ul>
<b>Diagnosis</b>	<b>History</b>	<ul style="list-style-type: none"> <li>Helpful to find out the site and cause</li> <li>History suggestive of acid – peptic disease</li> <li>Alcoholic liver diseases / chronic hepatitis / Cirrhosis</li> <li>History of anticoagulant / anti platelets / NSAIDS / Alcohol binge intake / steroids</li> <li>History of Coagulation disorder</li> <li>BURN, Sepsis, Head Trauma may have stress ulcers</li> <li>Past medical :previous episodes of upper gastrointestinal bleeding, diabetes mellitus; coronary artery disease; chronic renal or liver disease; or chronic obstructive pulmonary disease</li> <li>Past surgical: previous abdominal surgery</li> </ul>	
	<b>Signs &amp; symptom</b>	<ol style="list-style-type: none"> <li>Hematemesis</li> <li>Melena</li> <li>Hematochezia</li> <li>Syncope</li> <li>Dyspepsia</li> <li>Epigastric pain</li> </ol>	<ol style="list-style-type: none"> <li>Heartburn</li> <li>Diffuse abdominal pain</li> <li>Dysphagia</li> <li>Weight loss</li> <li>Manifestations of liver cell failure eg,Jaundice,ascites</li> </ol>
	<b>Examination</b>	<ul style="list-style-type: none"> <li>Pulse = Thready, BP = Orthostatic Hypotension</li> <li>Signs of dehydration (dry mucosa, sunken eyes, skin turgor reduced).</li> <li>SKIN changes               <ol style="list-style-type: none"> <li>Cirrhosis – Palmer- erythema, spider angioma</li> <li>Bleeding diathesis – Purpura /Echymosis</li> <li>Coagulation Disorder – Haemarthrosis, Muscle Hematoma</li> </ol> </li> <li>P/A :-               <ol style="list-style-type: none"> <li>Liver , Spleen, ascites = Cirrhosis</li> <li>Epigastric Tenderness = APD/ Ulcer</li> </ol> </li> <li>Respiratory, CVS, CNS → For comorbid diseases</li> </ul>	
<b>Lab diagnosis</b>	<ol style="list-style-type: none"> <li><b>CBC with Platelet Count, and Differential</b> <ul style="list-style-type: none"> <li>A complete blood count (CBC) is necessary to assess the level of blood loss. CBC should be checked frequently(q4-6h) during the first day.</li> </ul> </li> <li><b>Type and Crossmatch Blood</b> <ul style="list-style-type: none"> <li>The patient should be crossmatched for 2-6 units, based on the rate of active bleeding. The hemoglobin level should be monitored serially in order to follow the trend. An unstable Hb level may signify ongoing hemorrhage requiring further intervention.</li> </ul> </li> <li><b>LFT-</b> to detect underlying liver disease</li> <li><b>RFT-</b> to detect underlying renal disease</li> <li><b>Calcium level-</b> to detect hyperparathyroidism and in monitoring calcium in patients receiving multiple transfusions of citrated blood</li> <li><b>Gastrin level</b></li> <li><b>Cardiac enzymes and ECG-</b> An electrocardiogram (ECG) should be ordered to exclude arrhythmia and cardiac disease, especially acute myocardial infarction due to hypotension</li> </ol>		
<b>Nasogastric lavage</b>	<ul style="list-style-type: none"> <li>A nasogastric tube is an important diagnostic tool.</li> <li>This procedure may confirm recent bleeding (coffee ground appearance), possible active bleeding (red blood in the aspirate that does not clear), or a lack of blood in the stomach (active bleeding less likely but does not exclude an upper GI lesion).</li> </ul> <p><b>Benefits of lavage :</b></p> <ol style="list-style-type: none"> <li>Better visualization during endoscopy.</li> <li>Give crude estimation of rapidity of bleeding.</li> <li>Prevent the development of porto-systemic encephalopathy in cirrhosis.</li> <li>Increases PH of stomach and hence decreases clot dissolution due to gastric acid dilution</li> <li>During gastric lavage use saline and not use large volume of water to avoid water intoxication.</li> </ol> <ul style="list-style-type: none"> <li>Gastric lavage should be done in alert and cooperative patient to avoid broncho-pulmonary aspiration</li> <li>If gastric aspirate either is grossly bloody or yields coffee ground effort should be made to lavage the stomach before proceeding to diagnostic or therapeutic endoscopy.</li> <li>The presence of bloody gastric aspirate confirms UGI Bleed.</li> <li>A negative aspirate (16%) does not exclude an upper bleeding. For Example in case of duodenal ulcer due to absence of duodenogastric reflux aspirate is clear</li> </ul>		
<b>Endoscopy</b>	<ul style="list-style-type: none"> <li>Initial diagnostic examination for all patients presumed to have UGIB</li> <li>Endoscopy should be performed immediately after endotracheal intubation (if indicated), hemodynamic stabilization, and adequate monitoring in an intensive care unit (ICU)</li> </ul>		

<p><b>Angiography</b></p>	<ul style="list-style-type: none"> <li>• Angiography may be useful if bleeding persists and endoscopy fails to identify a bleeding site.</li> <li>• Angiography requires active bleeding (1 mL/min) to be diagnostic.</li> <li>• Angiography along with transcatheter arterial embolization (TAE) should be considered for all patients with a known source of arterial UGIB that does not respond to endoscopic management, with active bleeding and a negative endoscopy.</li> </ul>
<p><b>Management</b></p>	<pre> graph TD     A[Management of UGIB] --&gt; B[GENERAL MEDICAL MANAGEMENT]     A --&gt; C[TYPE OF BLEEDING]     C --&gt; D[VARICEAL BLEEDING]     C --&gt; E[NON VARICEAL BLEEDING]     D --&gt; F[MEDICAL]     D --&gt; G[PRESSURE TECHNIQUES]     D --&gt; H[ENDOTHERAPY]     D --&gt; I[SURGICAL INTERVENTION]   </pre>
<p><b>General management</b></p>	<ol style="list-style-type: none"> <li>1. Vitals are monitored</li> <li>2. Assessment of severity of blood loss :- An orthostatic decrease of 20 mm Hg in systolic blood pressure or increases in the pulse of 20 beats / min. indicate – 10% blood loss, if pt is pulsless and in shock- &gt; 20% loss.</li> <li>3. Insertion of central venous line may be beneficial to measure adequacy of fluid replacement and perfusion of vital organ .</li> <li>4. Order CBC,LFT,creatinin, BUN,sugar, grouping and cross matching of blood.</li> <li>5. Fluid resuscitation is done by crystalloids such as normal saline or RL if hypoalbuminemia is detected use colloids.</li> <li>6. Monitor urine output. Oxygen support to prevent hypoxia of tissues</li> <li>7. Placing the patient in trendelenburg position to maintain cerebral blood flow.</li> </ol>
<p><b>Nb</b></p>	<p><b>Transfuse blood for</b></p> <ol style="list-style-type: none"> <li>a) Obvious massive blood loss</li> <li>b) Hematocrit &lt; 25% with active bleeding</li> <li>c) Symptoms due to low hematocrit and hemoglobin</li> </ol> <p><b>Platelet transfusions</b> should be offered to patients who are actively bleeding and have a platelet count of &lt;50000. (symptomatic thrombocytopenia)</p> <p><b>Fresh frozen plasma</b> should be used for patients who have either a fibrinogen level of less than 1 g/litre, or (INR) greater than 1.5 times normal.</p> <p>-Over-transfusion may be as damaging as under-transfusion. -Keep the pt nil by mouth for the endoscopy</p>
<p><b>Treatment of non-variceal bleeding</b></p>	<ul style="list-style-type: none"> <li>○ Endoscopy is now the method of choice for controlling active peptic-ulcer related UGIB.</li> <li>○ Endoscopic therapy should only be delivered to actively bleeding lesions, non-bleeding visible vessels and, when technically possible, to ulcers with an adherent blood clot.</li> <li>○ Black or red spots or a clean ulcer base with oozing do not merit endoscopic intervention since these lesions have an excellent prognosis without intervention.</li> </ul>
<p><b>Treatment of variceal bleeding</b></p>	<p><b>Oesophageal varices:</b></p> <ul style="list-style-type: none"> <li>• Band ligation</li> <li>• Stent insertion is effective for selected patients</li> <li>• Transjugular intrahepatic portosystemic shunts (TIPS) should be considered if bleeding from oesophageal varices is not controlled by band ligation.</li> </ul> <p><b>Gastric varices:</b></p> <ul style="list-style-type: none"> <li>• Endoscopic injection of N-butyl-2-cyanoacrylate should be used.</li> <li>• TIPS should be offered if bleeding from gastric varices is not controlled by endoscopic injection of N-butyl-2-cyanoacrylate</li> </ul>
<p><b>Surgical management</b></p>	<ul style="list-style-type: none"> <li>• TIPS (transjugular intrahepatic porto-systemic shunt): transjugular approach → connect portal v. and hepatic v. → reduce portal v. pressure gradient to &lt; 12-15 mmHg</li> <li>• Complications include: bleeding, dye-induced renal failure, hemolysis, stent migration, and puncture of the gallbladder or other organs adjacent to the liver.</li> </ul>
<p><b>Prognostic factors</b></p>	<p><b>Adverse prognostic factor in UGIB</b></p> <ol style="list-style-type: none"> <li>1. Age over 60</li> <li>2. Shock(SBP&lt;100mmhg), pulse &gt; 100</li> <li>3. Malignancy or varices as bleeding source.</li> <li>4. Severe coagulopathy</li> <li>5. Comorbid medical illness</li> <li>6. Continued or recurrent bleeding</li> <li>7. Severe active Bleeding (Hypotension, multiple transfusion, bright red nasogastric aspirate)</li> <li>8. Endoscopically identified arterial bleeding or visible vessel</li> </ol>

# Summary



UPPER GASTROINTESTINAL HEMORRHAGE

