Bleeding from Alimentary Canal

Introduction

- Hemorrhage can occur from any part of the G.I.T. and at any age.
- Sometime massive and sometimes it’s a sign of other medical or surgical pathology.
- Symptoms depends on level and rate of bleeding.

<table>
<thead>
<tr>
<th>Location of Bleeding Source</th>
<th>Neo- nate (&lt; 1mo)</th>
<th>1 mo to 1 yr</th>
<th>1 yr to 2 yr</th>
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<tbody>
<tr>
<td><strong>Upper Gastrointestinal:</strong></td>
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<tr>
<td>Hemorrhagic disease</td>
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<tr>
<td>Swallowed maternal blood</td>
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<tr>
<td>Esophagitis or Gastritis (see Chapter 55)</td>
<td>+</td>
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<tr>
<td>Peptic Ulcer Disease (see Chapter 55)</td>
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<tr>
<td>Gastric teratoma</td>
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<tr>
<td>Esophageal or Gastric varices (see Chapter 56)</td>
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<tr>
<td><strong>Lower Gastrointestinal:</strong></td>
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<tr>
<td>Anal fissure (see Chapter 27)</td>
<td>+++</td>
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<tr>
<td>Necrotizing enterocolitis (see Chapter 67)</td>
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<td>Gangrenous bowel</td>
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<tr>
<td>Malrotation with midgut volvulus (see Chapter 60)</td>
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<tr>
<td>Hirschsprung’s Disease with enterocolitis (see Chapter 64)</td>
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<tr>
<td>Allergic proctocolitis</td>
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<tr>
<td>Intussusception (see Chapter 25)</td>
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<tr>
<td>Prolapse (see Chapter 27)</td>
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<tr>
<td>Polyps (see Chapter 54)</td>
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<tr>
<td>Meckel’s Diverticulum (see Chapter 57)</td>
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<tr>
<td>Lymphonodular hyperplasia</td>
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<td>Enteritis (i.e., campylobacter, Yersinia, salmonella)</td>
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<tr>
<td>Inflammatory Bowel Disease (see Chapter 94)</td>
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<tr>
<td>Intestinal duplication (see Chapter 66)</td>
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<tr>
<td>GI vascular malformation</td>
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</tbody>
</table>

Causes of GIT bleeding

1- Blood in vomitus:
   A- Coffee Ground vomiting:
      - Pyloric stenosis.
      - Reflux esophagitis.
      - Nonspecific gastritis.
      - Mallory Weiss syndrome.
   B- Hematemesis (frank blood):
      - Esophageal varices.
      - Peptic ulcer.
   C- Other:
      - Nasal bleeding.
      - NGT. Ulceration.
   D- Rare causes:
      - Tonsil aneurysm.
      - Foreign body perforation of aorta.
2- Occult Blood
   A- Reflux esophagitis.
   B- Haemangioma of bowel.
   C- Polyps of the bowel.
   D- Inflammatory bowel disease.

3- Rectal Bleeding
   A- Neonatal
      • Necrotizing enterocolitis.
      • Volvulus with ischemia.
      • Hemorrhagic disease of newborn.
      • Gastroenteritis.
      • Anal fissure.
      • Maternal blood.
   B- Sick child with acute abdomen:
      • Intussusceptions.
      • Gastroenteritis.
      • Henoch-schonlein purpura.
   C- Major hemorrhage:
      • Esophageal varices.
      • Acute peptic ulcer.
      • Gastric erosion.
      • Duodenal ulcer.
      • Meckel’s diverticulum.
      • Tubular duplications.
   D- Small amount of bright blood in a well-child:
      • Anal fissure.
      • Polyps.
      • Unrecognized prolapse.
      • Hemorrhoids.
      • Idiopathic.
   E- Chronic illness with diarrhea:
      • Crohn’s disease.
      • Ulcerative colitis.
      • Nonspecific colitis
Classifications

*Blood in vomitus*

1- Coffee ground vomiting: Blood mixed with gastric content.
   A. Pyloric stenosis.
       • 1:600 infant
       • 1 month old infant
       • 3 cardinal sign?
   B. Reflux esophagitis.
       • Mucosal ulceration
       • Effortless vomiting
       • Treatment:
         o Positioning.
         o Reduce gastric acid
         o Surgery
   C. Nonspecific gastritis.
   D. Mallory Weiss syndrome.
       • Occur in any child who vomit or retch continually.
       • Split in upper gastric mucosa.
       • Respond to medical treatment.

2- Hematemesis: large amounts of frank blood/significant blood in stomach.
   A. Esophageal varices: secondary to portal hypertension.
      ❖ Intrahepatic secondary to:
        o Biliary atresia.
        o Inborn error diseas.
        o Chronic viral hepatitis.
        o Cystic fibrosis.
      ❖ Extra hepatic secondary to portal vein thrombosis in neonate.
      Treatment:
        • Endoscopic.
        • Sengstaken-blakemor tube in massive bleeding.
        • Surgery either over sewing of the varices or shunt procedure.
B. Peptic ulcer:
   - Stress ulcer secondary to burn, cerebral tumor and head injury. It cause diffuse ulceration, sometimes duodenal.
   - Drugs.
   - H-pylori in adolescent.

Treatment:
   - Resuscitation.
   - Endoscopy.
   - Treat the cause.
   - Surgery rarely required.

3- Other causes:
   - Nose bleed.
   - N.G.T. ulceration.

4- Rare causes:
   - Aneurysm in tonsil bed.
   - Foreign body perforation of aorta.

*Occult bleeding:

It cause iron deficiency anemia.

1. Reflux esophagitis.
2. Bowel haemangioma.
3. Polyps.
4. Inflammatory bowel disease.

Rectal bleeding

A- Neonatal bleeding

Surgical Conditions:

1-Necrotising Enterocolitis (NEC):
   - It’s common in extreme premature baby.
   - Incidence increase with the advance nursing care.
   - Radiological finding:
     o Pneumatosis intestinalis
     o Portal v.gase.
     o Pneumoperitonium
• Treatment:
  o Adequate ventilatory care.
  o Resting for GIT.
  o Antibiotics.
  o Surgery if full bowel necrosis or no response to supportive treatment.

2- Volvulus neonatorum with ischemia:

  • Any age can be affected but mainly neonate.
  • Predisposing factors are malrotation with narrow mesentery
  • Which allow easily twisting of the entire mid gut.
  • Clinical features:
    o Bile stained vomitus.
    o Failure to pass meconium.
    o Mild abdominal distention.
    o Midgut ischemia may cause shock and rectal bleeding (late sign).
  • Treatment:
    o Urgent surgery by de twisting and ladd procedure.
    o If mid gut gangrene it carry high mortality rate.

Non-surgical conditions:

1. Hemorrhagic disease of newborn.
2. Gastroenteritis
3. Anal fissure.
4. Swallowed blood.

B- Small amount of blood in a well-child:

It’s the most common group.

1- Anal fissure:
  • Secondary to constipation, usually in the midline.
  • Pain on defecation & bright red blood on the stool.
  • The can be seen by inspection.
  • Do not do rectal examination?
  • Sometimes a sentinel pile is visible.
  • Treatment:
    o Treat the constipation.
    o Local anesthetics.
    o Surgery rarely indicated.

2- Polyps:
  • Suspected in painless bleeding.
  • Juvenile polyp.
3- Rectal prolapse:
   - Easy diagnosis by history and examination.
   - Secondary to chronic diarrhea, constipation, malabsorption and cystic fibrosis.
4- Hemorrhoids:
   - Rare in children.
   - Cause painless fresh bleeding.
   - Usually treated conservatively.
5- Idiopathic.

C- An ill child with an acute abdominal conditions:

1- Intussusception:
   - Vomiting, colic, screaming attacks and palpable sausage mass per abdomen.
   - Current jelly stool (mixture of blood and mucus).
   - Treatment: Reduction, either surgical, hydrostatic or pneumatic.
2- Gastroenteritis:
   - In severe GE blood mixed with stool.
3- Henoch-Schonlein purpura:
   - Cause arthralgia.
   - Skin rash
   - Abdominal pain.
   - Rectal bleeding.

D- Chronic illness with diarrhea.

A- Crohn’s disease:
   - Fever, weight loss, and chronic blood loss.
   - Any part of bowel could be affected.
B- Ulcerative colitis:
   - Diarrhea more common, mixed with blood.
C- Nonspecific colitis.

E- Major hemorrhage per rectum:

1- Meckel’s diverticulum:
   - 2% of population.
   - 2 type of mucosa (ectopic gastric mucosa).
   - 2 feet from iliocecal valve.
   - 2 inches in length.
   - Gastric mucosa produce acid that cause ileal mucosal ulceration.
Clinical features:

- Painless brick-red stool with associated anemia.
- Blood transfusion may be required.
- Bleeding stop spontaneously.
- **Diagnosis** by isotope study or laparoscopy.
- **Treatment** by resection with end to end anastomosis.

Complication:

1. Bleeding.
2. Intussusception.
4. Diverticulitis.
5. Peptic ulceration with ilial perforation.

2- **Tubular duplications:**

- Less common.
- Usually small bowel affected in the mesenteric side.
- Communicate with the bowel.
- May contain gastric mucosa and cause bleeding secondary to ulcer.
- Diagnosed either by isotope study or laparoscopy.

3- **Esophageal varices.**

4- **Acute peptic ulceration.**

5- **Gastric erosion.**

6- **Duodenal ulcer.**