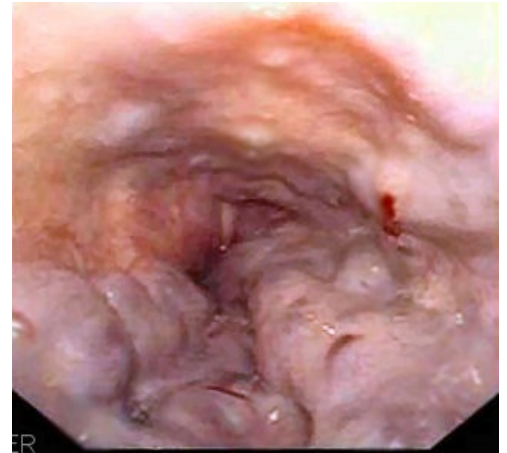


# Bleeding from the gastrointestinal tract

Bleeding can occur from any part of the gastrointestinal tract (GIT), localization can be difficult. In general, bleeding from the upper part of the GIT (i.e. above the ligament of Treitz) is manifested by hematemesis and melena, bleeding from the lower part of the GIT is manifested by enterorrhagia. In some children, after strenuous vomiting, we can find red veins in the vomit (from a damaged mucosa of the esophagus or pharynx).

## Bleeding from the upper digestive tract

Bleeding is characterized by its origin from the upper parts of the GIT to the duodeno-jejunal bend and is most often manifested by hematemesis or melena. **Hematemesis** is characterized as vomiting of blood. If the blood is bright red, its most common cause is bleeding from esophageal varices or arterial bleeding from a peptic ulcer. The dark content of the regurgitated stomach contents ("coffee grounds") is most often digested blood, at the same time it is accompanied by melena. Melena is a black, gummy, tarry stool caused by bleeding orally from the cecum. Bleeding is complicated by the development of hemorrhagic shock: tachycardia over 100/min, hypotension, hypovolemia, sweating, dizziness, cold acra. In the blood count, there is a decrease in hemoglobin (by more than 20 g/l), anemia can be manifested by pallor and shortness of breath.



Endoscopy

### The most common causes of bleeding

- Peptic ulcer of the stomach and duodenum - responsible for 50% of all bleeding, often resolves spontaneously, but also often rebleeds. The most common causes of ulcers (and subsequent complications) are: *Helicobacter pylori* infection and the use of nonsteroidal antirheumatic drugs (2/3 of ulcers that have bleeding complications are caused by nonsteroidal antirheumatic drugs).
- Erosive gastropathy.
- Reflux esophagitis: bleeding is often diffuse.
- Mallory-Weiss syndrome: occurs as a result of effortful and repeated vomiting.
- Esophageal varices: arise as a complication of portal hypertension, loss of often more than 500 ml of blood.
- Mucous angiectasia (rare anomaly of blood supply to the stomach).
- Cancerous diseases of the stomach.

## Examination and therapeutic options

### Endoscopy

Endoscopy is a basic diagnostic and therapeutic method. Determines the source and level of bleeding, assesses the risk of recurrence. Locally stops bleeding by electrocoagulation or ligation. Urgent endoscopy is preferred when the source of bleeding can be seen. Endoscopy should be performed in special intensive care units where there is the possibility and equipment to resuscitate the patient. Emphasis is placed on the experience of the endoscopist and the entire team.

### Other options

- Insertion of a central venous catheter.
- Vital signs monitoring.
- Blood transfusion: 3-4 units of erythrocyte mass or 1 unit of frozen plasma.
- For acute non-varicose bleeding, a proton pump blocker (omeprazole 80 mg, pantoprazole 40 mg) is administered before endoscopy, followed by a bolus of proton pump blocker in infusion.
- For variceal bleeding: vasoactive drugs - somatostatin, octreotide or terlipressin (pay attention to CVS contraindications) and ligation or sclerotization of esophageal varices. Vasoactive agents are always given when varicose bleeding is suspected. With endoscopic confirmation, continue for 5 days. Exit on exclusion.
- **Angiographic radiointerventional methods** demonstrate the extravasation of the contrast material and thus determine the location of the bleeding.
- For bleeding from esophageal varices, TIPS (transjugular intrahepatic portosystemic shunt) is performed

## Prognosis

Bleeding recurrences are more common in older patients, who also have a worse prognosis. Comorbidities (CHD, renal insufficiency, lung disease, cancer) also play a role. The Forrest classification is used to assess and assess the risk of recurrence:

Forrest classification	
degree	a sign
Ia	arterial bleeding from an eroded vessel
Ib	oozing venous or capillary bleeding
II	the bleeding stopped spontaneously
IIa	visible stump of the vessel
IIb	ulcer covered with coagulum
IIc	ulcer with hematin base
III	ulcer without bleeding stigmata


## Bleeding from the lower digestive tract

Bleeding originates from the lower parts of the GIT (distal from the duodeno-jejunal bend). Massive bleeding leads to circulatory instability up to hemorrhagic shock. Occult bleeding manifests as an anemic syndrome.

**Enterorrhagia** is the defecation of fresh blood - it means bleeding from the lower part of the tube (most often from the anal canal or just above it). **Hematochezia** indicates the presence of darker blood clots or darker blood coming from the proximal sections of the colon.

The most common causes of bleeding:

- colonic diverticula (40%);
- angiodysplasia (20%);
- mesenteric colitis (10-15%);
- bleeding after endoscopic polypectomy: early (i.e. during the procedure) or late (often neglected – the patient is already at home after the procedure);
- colopathy and enteropathy from nonsteroidal antirheumatic drugs;
- post-radiation proctocolitis: months after radiation therapy for prostate cancer or cervical cancer;
- stercoral ulcers of the rectum: in elderly patients with constipation;
- infectious inflammation of the large intestine (Salmonella, EHEC) with a seeped ulcerated mucosa.

 A number of foods stain the stool, making it look like it contains blood. These foods include spinach, beets, blueberries, charcoal, and iron-containing medications.

## The most common causes of bleeding in children

### Infants

- bacterial enteritis, hemorrhagic disease of the newborn, cow's milk protein allergy, intussusception, anal fissures;
- melena can also be given by swallowed maternal blood from ragads of the breast nipple.

### Older children

- Bacterial enteritis, anal fissures, intestinal polyps, peptic ulcer, esophageal varices, Mallory-Weiss syndrome (longitudinal tear in the esophagogastric junction), Henoch-Schönlein purpura, foreign bodies, chronic intestinal inflammation, esophagitis, Meckel's diverticulum.

### Adolescent

- Bacterial enteritis, chronic intestinal inflammation, peptic ulcers, polyps, esophageal varices, coagulation disorders.

### Diagnostics

- endoscopy (gastroscopy, colonoscopy);
- arteriography (injection of truncus coeliacus or mesenteric).

## Links

### Related articles

- Krev ve stolici novorozence
- Krvácení z jícnových varixů
- Meléna

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