

# Postoperative gastrointestinal complications

Functional disorders of the gastrointestinal tract are a very common postoperative phenomenon. They are characterized by **increased sympathetic activity** and increased levels of catecholamines in the blood. The arrest of passing gas, transient intestinal paresis, and vomiting are considered a normal reaction of the body in the first 24 hours after surgery. The basic postoperative complications include acute gastric dilatation, erosions and ulcers, ileus, and parotid gland inflammation.

## Acute gastric dilatation

Acute gastric dilatation (ectasis) describes the state of obstruction of the upper gastrointestinal tract accompanied by the dilatation and congestion of the stomach and sometimes the duodenum. Leftover digested food, gastric juice, pancreatic juice, duodenal secretion, and bile accumulate in the dysfunctional part. This content leads to dilatation of the stomach. The stomach wall can become chemically damaged by the action of enzymes present in the stomach contents; thus, microbes can pass into the blood, resulting in bacteremia. The consequences of damage to the gastric mucosa also include the development of erosions and ulcers with subsequent possible hemorrhage. The contents of such a stomach are green-brown, hemorrhagic in case of bleeding, and sour-smelling.

It manifests as abdominal pain, abdominal pressure, nausea, gas arrest, and eventually repeated vomiting of large contents. Diuresis declines and the patient becomes restless and suffers from tachycardia. Physical examination methods such as percussion and palpation can demonstrate stomach enlargement.

Treatment is based on nasogastric tube removal of stomach contents. Parenteral replacement of fluids and ions is important. Saline gastric lavage is also effective and is used.

## Erosions and ulcers

In addition to the stomach, they also occur in the duodenum, esophagus, and small intestine. They always occur only on the mucosa. The cause of their formation is increased acidity or a long-established probe in the digestive tract. They are dangerous mainly due to the risk of bleeding and perforation.

The treatment is aimed at eliminating the cause of the damage. Once eliminated, these lesions heal very quickly. Coadministration of antacids, H<sub>2</sub>-blockers, and β-adrenolytics is suitable.

## Ileus

Cessation of intestinal peristalsis leads to the accumulation of gaseous and liquid contents accompanied by many symptoms. One of them is the displacement of the diaphragm, resulting in airway restriction, respiratory disorders (superficial and accelerated breathing), or tachycardia. It normally resolves on its own after surgery within 3 days.

There are several types of *ileus*: **neurogenic** (paralytic, spastic), **vascular** (mesenteric vessel **occlusion** - acute, chronic), and **mechanical** (it can be termed simple, which results from the occlusion of the intestinal lumen, or it can be strangulated when there is compromised vascular and nervous supply).

### Paralytic ileus

Paralytic ileus belongs to the group of neurogenic ileus. It is caused by a disturbance of the balance of sympathetic and parasympathetic activity. Symptoms include difficulty in breathing, feeling full, vomiting, and painless and enlarged abdomen without audible peristalsis. Eventually, the following will ensue: dehydration, disruption of ABB, oliguria and possibly anuria, and ultimately intoxication of the organism. This could lead to death without treatment. X-ray imaging is used in diagnostics. In the case of ileus, the hydroaeric phenomena (levels) can be observed (mainly found in the small intestine).

During treatment, it is necessary to empty the contents of the intestine using the Miller-Abbot tube (inserted into the duodenum) and replace lost fluids and minerals. An enema or local Priessnitz compresses are often used to support intestinal activity. If this treatment fails, an intestinal stoma is created.

### Mechanical ileus

A mechanical barrier is most often formed by the fusion of the intestinal loops with each other, the omentum, the peritoneum, or other organs located in the abdominal cavity. The mechanical barrier can be external (tumor, abscess, or adhesions), in the intestinal wall (hematoma), or in the intestinal lumen (stool, foreign bodies, or parasites). If the ileus is located in the upper part of the intestine, this is a case of "high ileus". If it is located in the large intestine, this is a case of "low ileus". Ileus caused by bowel obstruction is called obstructive ileus, and ileus caused by adhesions without compromised vascular supply is called adhesive ileus.

This form of ileus is accompanied by severe pain, which comes in intervals and is accompanied by significant peristalsis above the site of the obstruction. The peristalsis above the site of the obstruction is an attempt at moving the obstacle. As soon as the mechanical compression of the blood vessels and nerves ensues, there is

intense pain with signs of shock. The most common occurrence is hypovolemic shock, which arises due to the presence of the "third space". This space is formed by the fluid accumulating above the obstacle. Intestinal ischemia and perforation can eventually occur. Disorders of ABB very often occur. Alkalosis in high ileus (due to vomiting) occurs, while acidosis in low ileus (due to the loss of  $\text{Na}^+$  to the third space) occurs.

Treatment is based on **ABB** correction and surgical **removal of the obstruction**.

## Links

### Related articles

- Stomach
- Intestine
- Ileus

### Literature

- ČERNÝ, Ján. *Chirurgia : základy všeobecnej a špeciálnej chirurgie*. 3. edition. Bratislava : Slovak Academic Press, 1998. 0 pp. ISBN 8088908248.
- ZEMAN, Miroslav. *Chirurgická propedeutika*. 2. edition. Praha : Grada, 2000. 524 pp. ISBN 80-7169-705-2.