

Endoscopic retrograde cholangiopancreatography

Endoscopic retrograde cholangiopancreatography (ERCP) is an **endoscopic-radio diagnostic examination** that we use to **image the bile duct and pancreatic duct**. If necessary and possible, also for **therapeutic intervention** (e.g. biopsy of a tissue sample, insertion of a stent to clear the bile duct, papillotomy, removal of stones).

Examination procedure

In ERCP we use an endoscope – *lateroscope* and X-ray. After local anesthesia and analgesia, the patient, who is lying on the his or her left side with the limbs bent, is introduced with an endoscope through the mouth into the descent area of the duodenum, where the orifice of the bile duct and the orifice of the pancreas (papilla of Vater) can be found. The outlet is cannulated and a contrast agent is injected, which is detected by X-ray. The image is processed by computer and displayed on the monitor.

For analgesia, we usually use 5 mg of *midazolam* Template:HVLP i.v. (benzodiazepine) and then 40 mg of Buscopan Template:HVLP (spasmolytic). For cholangitis, antibiotics are given prophylactically before the examination. ^[1]

The examination lasts from 30 minutes to 2 hours; the patient remains under medical supervision for about an hour or two after the examination due to the application of sedatives, then he or she can go home. However, the procedure differs from workplace to workplace, and in some places the patient remains hospitalized overnight after each ERCP examination. In case of larger therapeutic interventions, the patient is always hospitalized in the inpatient ward for longer observation after performing ERCP. The patient must not drink or eat for several hours before and after the examination. Nevertheless, the patient can be given an intravenous infusion for hydration. ^[2]

Indications

300px|náhled|vpravo|Schéma ERCP

The indications for the implementation of ERCP are:

- **elucidation of cholestasis or jaundice** (we distinguish extrahepatic cholestasis from intrahepatic);
- **examination of the pancreas** (in acute recurrent pancreatitis, to diagnose and classify chronic pancreatitis, pancreatic tumors);
- next: choledochal cysts, anomalies and malformations of the bile ducts and pancreas (*pancreas divisum*), verification of a pathological finding in the papilla area detected by EGD (esophagogastroduodenoscopy).^[1]

Urgent ERCP

- severe acute biliary pancreatitis (endoscopic sphincterotomy must be performed);
- cholangitis (stent placement with biliary drainage).

Therapeutic ERCP

- insertion of a biliary stent (strictures, fistulas, patients at risk with irreversible stones);
- balloon dilatation of strictures;
- endoscopic papillosphincterotomy (EPST);
- endoscopic ampulotomy.

Kontraindications

200px|náhled|vpravo|ERCP – X-ray

Contradictions to the implementation of ERCP are:

- patient in shock, unstable;
- uncooperative patient;
- gastrointestinal stenosis causing obstruction to the endoscope.^[1]

We do not consider the patient's allergy to the administrated contrast agent to be a contraindication to the examination.

Complications

ERCP complications are not very common, but include:

- **cholecystitis** (caused by the infection of the duodenum in otherwise sterile outlets);
- **cholangitis**;
- **acute pancreatitis** (caused by mechanical irritation of the pancreas);
- **sepsis**;

- bleeding;
- **duodenal perforation.**^[1] [3]

According to statistics, we must expect a morbidity of 0,8–1,19 % and mortality of 0,05–0,12 % for ERCP. ^[1]

Preparation for examination

- The patient comes on empty stomach, no food and drink consumed 6–8 hours before the examination, no smoking;
- discontinuation of certain drugs in consultation with a physician;
- signing informed consent;
- introduction of peripheral venous access;
- prohibition of driving after examination - due to the application of sedatives.

References

Related articles

- Diagnostics imaging methods in the examination of the gallbladder and bile ducts
- Endoscopy

External links

- English video explaining the ERCP examination (Youtube) (https://www.youtube.com/watch?v=5VgoDJ31V_0)
- Interactive endoscopic atlas of the upper gastrointestinal tract (LF MU) (<https://is.muni.cz/elportal/estud/lf/js08/atlas/index.html>)

References

- 1.
- 2.
- 3.

Recommended literature

-