

Cholelithiasis

Cholelithiasis is the most common biliary tract disease and one of the most common surgical indications. According to autopsy findings, up to 20–30% of the population is affected by cholelithiasis. It occurs four times more often in women, and it is more common in obese, diabetics and patients with prehepatic (hemolytic) jaundice.

Pathogenesis

Cholelithiasis can be primary or more often secondary – a stone travels from the gallbladder to the bile duct. Stones are formed when there is a disproportion between the concentrations of the basic components of bile (cholesterol, bile acid salts and phospholipids).

Composition of stones:

- bilirubin, bile acids, calcium.

Division:

- **according to the predominant component**,
 - **cholesterol** – solitary, spherical, in cross section crystals of cholesterol are arranged radially. They are formed when there is an increased concentration of cholesterol in the bile (cause – high fat diet);
 - **pigment**:
 - **black** – solid, multiple, they occur in the gallbladder during hemolytic jaundice (increased bilirubin);
 - **brown** – oily, usually in the bile ducts during cholestasis and inflammation;
 - **mixed** (most common in the Czech Republic) - multiple, faceted stones, they occur mainly in the chronically inflamed gallbladder, their presence is considered precancerous;
- **according to the shape** – so-called sand ("gallbladder sludge"), larger solitary or multiple stones (multiple stones have a polyhedral shape with flat areas - facets - in places of mutual contact → faceted stones).

Etiology

- **High fat diet** – cholesterol stones;
- **hemolysis** – black pigment stones;
- **cholestasis** – brown pigment stones in the choledochus;
- **inflammation** – brown pigment stones in the choledochus, mixed stones in the gallbladder;
- **stones** can be both a cause and a consequence of inflammation and cholestasis;
- cystic obstruction causes biliary colic and can lead to acute cholecystitis;
- risk factors include high fat diet, obesity, hemolytic states, pregnancy, DM.

Clinical picture

Asymptomatic form

Dyspeptic form

- non-specific symptoms - pressure in the abdomen, nausea, vomiting, belching, flatulence, feeling of tension after eating food with fats;;
- sensitivity in the right lower area under rib cage, positive Murphy's sign.

Colica form

- typical manifestation of the disease;
- when there is closure of the cystic duct with a stone;
- provocative moment - dietary mistake - foods rich in fats, eggs, chocolate, mental shocks, anger;
 - but often just drinking water is enough;
- night attacks - they are explained by easier clogging of the cystic duct in a horizontal position;
- they can happen often, almost daily, or in other cases they do not recur for years.
- **Nature of pain**:
 - sudden onset of severe convulsive pain in the area under right rib cage, radiates under the right shoulder blade;
 - in contrast to inflammation - this pain forces the patient to move and look for a relief position;
 - The pain may spread to the precordium and mimic ischemic coronary heart disease;

Diagnosis

thumb|ERCP – kámen ve žlučovodu

- Simple biliary colic lasts for several hours.
- Prolonged pain - beginning of inflammation of the gallbladder is suspected
- Usually a typical clinical picture, to confirm - USG, X-ray of the abdomen (stones, if they contain Ca²⁺).
- Oral cholecystography, or cholangiography - recommended only after the pain has subsided (for example, after 2-3 weeks).
- The ERCP (Endoscopic retrograde cholangiopancreatography) gives us an accurate idea of the shape and placement.

Complication

- Acute and chronic cholecystitis - we always find different degrees of inflammation, it is difficult to decide what was the first;
- Gallbladder Hydrops - Clogging of the cystic duct, a palpable pear-shaped formation underneath rib cage ;
- Choledocholithiasis - smaller stones pass through the cyst, they can get blocked in the papilla - pancreatitis, obstructive jaundice, cholangitis; ...

When fused with the surroundings, the stones can travel as biliodigestive fistula into the surrounding structures - duodenum, colon transversum, choledochus, abdominal wall - biliary ileus;

- Gallbladder cancer;

Differential diagnostics

- Ulcer, pancreatitis, hepatitis, gallbladder carcinoma, distension of the hepatic flexion of the colon, irritable bowel syndrome, subhepatic appendicitis, kidney, AIM (acute infarct of myocard) and others.

Therapy

thumb|Duodenoskopie – extrakce pigmentového kamenu ze žlučovodu

- We treat colic without infection by resting in bed, local application of warm compresses (if we are sure that it is not inflammation);
- We administer analgesics and antispasmodics (Spasmoveralgin, Dolsin;...).
- The first two days, until calming - a tea diet;
- After subside of the attack - gallbladder diet;
- There is no conservative treatment for lithiasis (other than cholesterol);
 - administration of chenodeoxycholic acid - dissolution of cholesterol stones, frequent recurrences;
- Lithotripsy - compared to the previous treatments it has little results;
- Radical method of treatment - cholecystectomy - classically or laparoscopically;
 - should be performed as soon as possible after evidence of cholelithiasis - this will reduce the percentage of complications;

Links

Related articles

- Diseases of the gallbladder and pancreas in children
- Lithiasis
- Cholecystectomy
- Choledocholithiasis

External links

- Cholelitiáza (https://www.youtube.com/watch?v=UPw3ot1M_o0) – Cholelithiasis - video on YouTube.com

References

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Source

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