OBSTRUCTIVE JAUNDICE

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Abstract: Obstructive jaundice is a syndrome in which the outflow of bile from the bile ducts is impaired as a result of their obstruction. With obstructive jaundice, bile accumulates in the ducts: due to obstacles in its path, it does not enter the duodenum and does not participate in digestion.

Keywords: malignant neoplasms, Obstructive jaundice, gallbladder, duodenum, pancreatic juice and incoming food.

In addition, the cause of obstruction of the outflow of bile can be helminthic infestation, previous surgical interventions, etc. However, in most cases, the cause of blockage is still malignant neoplasms. Normally, bile flows through the ducts according to a pressure gradient. Its release from the liver occurs under a pressure of 300-350 mm Hg. Art., then, having accumulated in the gallbladder, it is pushed out of it, thanks to its contraction, under a pressure of 250 mm Hg. Art., and if the sphincter of Oddi is relaxed, it flows freely into the duodenum, where it mixes with pancreatic juice and incoming food.

Bilirubin contained in bile, entering the intestine, under the influence of enzymes from bacteria that live in the intestine, becomes stercobilinogen, which colors the stool brown. When the amount of bile entering the intestines decreases, the stool becomes lighter. And when completely clogged, they become white-gray in color.Jaundice develops because the natural flow of bile is reduced or stopped, and the liver continues to produce bile despite mechanical obstruction. As a result, bile leaks into the walls of the gallbladder and ducts, and bile pigments (bilirubin) enter the blood and lymphatic system (cholemia). The sclera, skin, and mucous membranes turn yellow.

The toxic effect of bile acids affects:

- on the sinus node of the heart, which leads to a slower rhythm (bradycardia occurs);
- on the center of the vagus nerve, on the walls of blood vessels - blood pressure decreases;

The central nervous system suffers - depressed mood occurs, sleep is disturbed, headaches, fatigue and weakness occur,severe skin itching - caused by irritation of skin receptors by bile acids.

If an obstruction occurs in the bile ducts, the normal flow of bile is interrupted, and bile does not enter the intestines, and the stool becomes light-colored (acholic). Intestinal digestion is upset. The absorption of fats is impaired, feces become greasy (steatorrhea), fat-soluble vitamins - tocopherol, vitamin K, retinol - are not absorbed.

As a result of a lack of vitamin K in the body, a blood clotting disorder occurs, and increased bleeding appears, as well as numerous symptoms of other vitamin deficiencies.

Due to the fact that the kidneys are trying to free the blood from excess bilirubin, the urine, on the contrary, becomes very dark. Bile acids reduce the surface tension of urine, causing it to become very foamy ("beer" urine).Symptoms of obstructive jaundice.

So, with obstructive jaundice the following are observed:

- yellow color (canary color with an earthy tint) of the skin, sclera and mucous membranes,
- characteristic skin itching,
- light feces,
- dark urine,
- asthenovegetative disorders,
- bradycardia and decreased A/D.

The main goal of instrumental research is to discover the cause that led to obstruction of the bile ducts, its location, nature and size. In addition, find the signs that are found in subhepatic jaundice - these are dilated bile ducts, the contents of which are heterogeneous, and the walls are thickened.Ultrasound of the abdominal cavity. Used as screening for differential diagnosis of hepatic and obstructive jaundice. Ultrasound criteria by which one can confidently diagnose the mechanical cause of jaundice: deformation of the gallbladder or its enlargement, expansion (more than 8 mm) of the common bile duct, other ducts - more than 4 mm, detection of stones in the ducts or in the gallbladder, as well as detection of a tumor of the head of the pancreas or other localization in the biliary tract. If the ducts are not changed, while the liver is diffusely changed, then this speaks in favor of the hepatic variant of jaundice, and not the obstructive one. However, according to statistics, ultrasound data can determine the obstructive nature of jaundice only in 75% of cases.

Radiation diagnostics. CT scan of the abdomen with bolus contrast. This is the most accurate method for detecting tumors of the bile ducts, pancreas or duodenum that lead to jaundice. Unfortunately, computed tomography does not always reveal small non-contrast stones, even if they have led to blockage of the bile duct. MRI is more suitable for this purpose.

MRI cholangiography. This research method is used, as a rule, in addition to CT scans of the abdominal organs for the purpose of a thorough examination of the biliary tract, helping to identify the cause of obstruction: stones, duct strictures or narrowing. It also gives an idea of the parenchymal organs - the liver and pancreas.

Endoscopic ultrasonography. This method is a combination of ultrasound and endoscopic, which allows you to examine the organs of the gastrointestinal tract from the inside using ultrasound. The pancreas and its head, bile ducts, walls of the esophagus, stomach, etc. are clearly visualized from the duodenum. Since the ultrasound sensor is located close to the organs, the resolution is very high, which allows you to obtain a lot of important information. However, special equipment is required and the research takes a lot of time.This endoscopic method is performed in 2 stages in the X-ray room. Since the major duodenal papilla (MDP) is located on the posterior side of the inner wall of the descending duodenum, it is examined using an endoscope with lateral optics. A cannula is inserted into the BDS, through which a radiopaque substance is injected into the bile ducts. Then fluoroscopy of the bile and pancreatic ducts is performed.

Carrying out this technique requires special skills from the endoscopist and good medical preparation of the patient, since the procedure is lengthy and has certain contraindications.This procedure is not performed for patients with severe somatic diseases, acute pancreatitis and iodine intolerance. The technique is not used if the outlet of the common bile duct is completely obstructed, when the BDS is located in the area of a large diverticulum or is not accessible for other mechanical reasons.During diagnostic ERCP, a therapeutic measure can be used - endoscopic papillosphincterotomy (EPST) for the purpose of decompression of the biliary tract and endoscopic removal of stones (choledocholithoextraction), as well as balloon dilatation of the narrowing area, drainage or stenting of the biliary tract.

In 3-10% of cases, complications with ERCP are possible: acute pancreatitis, cholangitis. With papillotomy (rarely -1%), there may be bleeding and perforation of the duodenum. Therefore, most often, when planning such a study, they immediately imply subsequent therapeutic intervention.Percutaneous transhepatic cholangiography (PTCHG) with percutaneous transhepatic cholangiostomy (PTCHS)When the common bile duct is “low” blocked and ERCP is unsuccessful, percutaneous transhepatic cholangiography (PTCHG) is indicated. During this study, a puncture is performed with a special thin needle at the point of the 8-9 intercostal space along the right mid-axillary line. The needle is inserted 10-11 cm towards the XI-XII vertebrae under ultrasound control, its direction is horizontal. When the needle is 2 cm to the right of the spine, the needle is slowly withdrawn, creating negative pressure in the syringe. The moment bile appears means that the tip of the needle is in the lumen of the bile duct. The bile is removed, the ducts are filled with water-soluble contrast, and fluoroscopy is performed.This study provides information about the flow of contrast in a physiological direction, allowing you to

track the location and extent of obstruction, unlike ERCP. The study turns out to be more informative in case of dilated bile ducts (information can be obtained in 90% of cases).Due to the fact that the procedure is invasive and involves liver puncture, it has a number of contraindications. Such a study cannot be carried out in the general serious condition of the patient, in cases of a violation of the blood coagulation system, liver hemangiomas, when the intestine is located between the anterior abdominal wall and the liver, with ascites and intolerance to iodine preparations.

Possible complications: biliary peritonitis, blood entering the bile ducts, bleeding, fistula formation, etc.After PCHG, the treatment procedure PCHG (percutaneous transhepatic biliary drainage) is often performed, which is a palliative minimally invasive operation. The essence of the method is that bile is drained either outside (external drainage) or into the duodenum (internal drainage), due to which it is possible to achieve decompression in the bile ducts and stop obstructive jaundice and eliminate cholangitis. After eliminating the jaundice and normalizing the condition, it becomes possible for most patients to undergo radical surgical treatment. This preparation can reduce the incidence of complications and mortality after radical surgery in patients with subhepatic jaundice.

Fistulocholecystocholangiography.In some cases, when obstructive jaundice is accompanied by a significant dilation of the gallbladder, there is a tumor of the head of the pancreas, or the distal parts of the bile ducts are affected (when traditional surgical measures cannot be performed due to the serious condition of the patient), they resort to cholecystostomy. This can be done by puncture under ultrasound guidance, using laparoscopy or surgery. If the outflow of bile is restored, then the biliary tree can be contrasted using cholecystostomy.For certain indications, hepatobilioscintigraphy, liver puncture biopsy, elastography, retrograde endoscopic or percutaneous transhepatic choledochoscopy with biopsy are used for diagnosis.Experienced surgeons know that performing surgery at the peak of severe jaundice often leads to death. Recently, 2-stage treatment tactics have been developed.At the first stage, it is necessary to eliminate cholestasis. In this case, minimally invasive interventions are used in combination with conservative treatment methods. Endoscopic or percutaneous drainage methods are used to perform decompression of the biliary tract.In the second stage, against the background of attenuation of jaundice, radical surgical methods are undertaken.It is clear that radical treatment of this condition directly depends on the cause of the obstruction.

For example, treatment of cholelithiasis comes down to the need to remove stones from the bile ducts, where they caused obstruction, and subsequently the

gallbladder as the source of migration of stones into the ducts. For choledocholithiasis, ERCP is used. With endoscopic access, a special balloon catheter is inserted through the sphincter of Oddi, with its help the duct is expanded and the stone is removed. If the size of the stone is large and cannot be removed in this way, then choledochotomy or sphincterotomy is used. With the help of ERCP, positive results are achieved in 85% of cases. If the stone is larger than 18 mm, then it is pre-crushed using a lithotripter, mechanical, laser or magnetic wave action. This makes it possible to increase the effectiveness of ERCP up to 90%.If stones are found in the gall bladder, it is removed. Currently, this is usually performed laparoscopically.If the cause of obstructive jaundice is a tumor, after its elimination and improvement of the patient's condition, radical oncological operations are performed.

Used literature:

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