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Combined Antegrade and Retrograde Approaches for the Treatment of “Endoscopically Complex” Forms of Choledocholithiasis: Clinical Cases

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Abstract

Background: Choledocholithiasis is the most widespread disease of the common bile duct with an incidence of 10-17% among the population of developed countries. Endoscopic papillosphincterotomy and endoscopic choledocholithoextraction are the options of treating choledocholithiasis. However, in some cases it is impossible and even dangerous to perform effective interventions on the major duodenal papilla. It became possible to ensure direct access to bile ducts thanks to the introduction of percutaneous transhepatic endobiliary interventions to the clinical practice. “Rende-vousse” interventions help resolve “endoscopically complex” forms of choledocholithiasis in a mini-invasive fashion, which is particularly relevant for patients with a high anesthetic risk and elderly patients. *Purpose:* to improve “rende-vousse” interventions for the treatment of “endoscopically complex” forms of choledocholithiasis.

Methods: In 2017, 2 patients with “endoscopically complex” forms of choledocholithiasis complicated by obstructive jaundice who were treated at the clinical facilities of the Department of Surgery No. 1 of Kharkiv National Medical University at the State Institution “V. T. Zaycev Institute of General and Urgent Surgery of the National Academy of Medical Sciences of Ukraine” and underwent “rende-vousse” interventions. In both cases, the attempts of endoscopic resolution of choledocholithiasis turned out to ineffective – the first patient had impaction of the Dormia basket, and the second patient developed hemorrhage from the papillotomy wound.

Results: “Rende-vousse” interventions resolved choledocholithiasis in both cases. We have developed “Choledocholithiasis treatment method” (Utility Model Patent of Ukraine No. 126337) aiming to improve the treatment of choledocholithiasis by minimizing the number of endoscopic interventions and reducing the number of required open operative interventions. The method is carried out as follows. After failed endoscopic removal of calculi percutaneous transhepatic cholangiography and cholangiodrainage are performed. Lithoextraction is done by bringing the calculi down to the duodenal lumen through the papillotomy orifice using a double-lumen indwelling catheter by percutaneous transhepatic method under the X-ray imaging control.

The technical effect of the developed choledocholithiasis treatment method is due to the synergy of percutaneous transhepatic and endoscopic interventions. Percutaneous transhepatic cholangiography and cholangiodrainage help determine the level and nature of the biliary blockade in a mini-invasive fashion, perform biliary decompression and prevent complications after failed endoscopic treatment. If the diameter of the calculus is not greater than the common bile duct diameter distally to the obstruction site, the calculus can be brought down to the duodenum antegradely through the papillotomy orifice under the X-ray imaging control.

Conclusions: “Rende-vousse” interventions in patients with “endoscopically complex” forms of choledocholithiasis help avoid open operative interventions and thus reduce the number of post-operative complications. These methods should be further introduced to the clinical practice in order to define more precise indications and contraindications to certain choledocholithoextraction techniques in “endoscopically complex” forms of choledocholithiasis.

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