

## Endoscopic Treatment of Patients with Large Bile Duct Stones

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**Abstract :** Introduction: Under the definition "large biliary stones," we referred to stones over 1.5 cm, in which standard transpapillary litho extraction techniques were unsuccessful. Electrohydraulic and laser contact lithotripsy under SpyGlass control have been actively applied for the last decade in order to improve endoscopic treatment results. Aims and Methods: Between January 2019 and July 2022, the N.V. Sklifosovsky Research Institute of Emergency Care treated 706 patients diagnosed with choledocholithiasis who underwent biliary stones removed from the common bile duct. Of them, in 57 (8, 1%) patients, the use of a Dormia basket or Biliary stone extraction balloon was technically unsuccessful due to the size of the stones (more than 15 mm in diameter), which required their destruction. Mechanical lithotripsy was used in 35 patients, and electrohydraulic and laser lithotripsy under SpyGlass direct visualization system - in 26 patients. Results: The efficiency of mechanical lithotripsy was 72%. Complications in this group were observed in 2 patients. In both cases, on day one after lithotripsy, acute pancreatitis developed, which resolved on day three with conservative therapy (Clavin-Dindo type 2). The efficiency of contact lithotripsy was in 100% of patients. Complications were not observed in this group. Bilirubin level in this group normalized on the 3rd-4th day. Conclusion: Our study showed the efficacy and safety of electrohydraulic and laser lithotripsy under SpyGlass control in a well-defined group of patients with large bile duct stones.

**Keywords :** contact lithotripsy, choledocholithiasis, SpyGlass, cholangioscopy, laser, electrohydraulic system, ERCP

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