

Duodenal perforation as a complication of E.R.C.P. after unsuccessful bile duct stone extraction and stenting

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Introduction: Perforation is a known complication of ERCP. Incidence of perforation ranges between 0.3 and 2%. In general, perforation regarding E.R.C.P. can be divided in four types:

- Type I: Free bowel wall perforation
- Type II: Retroperitoneal duodenal perforation secondary to periampullary injury
- Type III: Perforation of the pancreatic or bile duct
- Type IV: Retroperitoneal air alone

Case report: A 47-year-old woman was admitted to hospital care because of new onset of jaundice and pain in upper right abdominal quadrant. She also complained about nausea, but without vomiting. At admission, she was cardio – circulatory stable, icteric, no fever. Palpable pain was present in the right upper abdominal quadrant. Laboratory showed obstructive jaundice with elevated bilirubin, AF and gt. Coagulation tests were normal; percutaneous US showed a high probability for choledocholithiasis. ERCP was performed. After common bile duct cannulation and contrast application choledocholithiasis was confirmed with at least one stone of diameter 10 mm. Wide papillotomy was performed, and Dormia basket introduced. The stone was successfully captured in the basket, but due to very hard consistency of the stone, retrieval of the basket was not possible. Urgent lithotripsy was performed, and extraction of the basket was achieved. However, the impacted stone remained. A biliary stent was inserted, but it did not

pass the impacted stone. The next day patient presented with acute abdominal pain and leukocytosis. X-ray and abdominal CT confirmed abdominal perforation of duodenal wall, caused by the proximal end of biliary stent. The patient was referred to OR for surgical intervention. Stent extraction, cholecystectomy, choledochotomy with stone evacuation and suture of perforation were performed. Biliary drainage through T drain was achieved, feeding jejunostomy was applied. In the post-operative treatment, patient was stable, without abdominal pain or icterus. She was discharged 12 days after surgery.

Endoscopic lithotripsy is the first line of treatment in large bile duct stones. In this case, due to very hard consistency of the stones, endoscopic lithotripsy could not be performed after the initial attempt of stone extraction. Emergency lithotripsy was performed, resulting only in basket retrieval, leaving the impacted stone. At this point, electrohydraulic lithotripsy (EHL) would be the next endoscopic step for management of common bile duct stone impaction. After confirming perforation of the duodenal wall, which was caused by stent protrusion, surgical intervention was inevitable.

References

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