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Our experiences of Sanliurfa Mehmet Akif İnan Training and Research Hospital endoscopic retrograde cholangiopancreatography

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ABSTRACT

Endoscopic retrograde cholangiopancreatography (ERCP) is very important in the diagnosis and treatment of hepatopancreatic biliary diseases. This study shares 5.5 months of general surgical endoscopy unit experience. This study retrospectively evaluated clinical, medical, and radiological data of 213 patients with cholangitis who underwent ERCP between May 15, 2019, and January 1, 2020. Patients were 22–90 (average 53.2) years old, and there were 148 women (69%) and 65 men (31%). The most common indication was biliary obstruction and pancreatitis with fistula due to hydatid cyst surgery. The procedure time ranged from 20 min to 90 min (average, 37 min). Cannulation was done successfully in 203 patients (95%). Four of 10 patients who could not be cannulated were then cannulated with a precut technique, two of them underwent PTK, and three patients underwent open choledochal exploration. ES was performed in 203 patients, choledochal stone excision was performed in 164 patients, and stents were placed in 18 patients. After ERCP, 72 patients had hyperamylasemia that did not require treatment. Eighteen patients had acute pancreatitis, and they recovered within 3 days of medical treatment. Two patients had bleeding, which was stopped with adrenaline balloon. No mortality was recorded.

Keywords: Cholangitis; ERCP; endoscopic sphincterectomy.

Introduction

Endoscopic retrograde cholangiopancreatography ERCP was first performed in 1968.[1] It is very useful test in the treatment of hepato pancreatic biliary diseases.[2] ERCP is generally involved in the treatment procedure of gastroenterologists and also can be performed safely by trained surgeons.[3,4] This study is an evaluation of 213 ERCP results that performed in Sanliurfa Mehmet Akif Inan (MAI) Training and Research Hospital General Surgery Endoscopy Unit.

Materials and Methods

Age, gender, ERCP indication, procedures performed, success status, complications after ERCP, ERCP reports and patient files of 213 patients who underwent ERCP at the Şanlıurfa MAİ Training and Research Hospital General Surgery Endoscopy Unit between May 15, 2019 and January 1, 2020 were evaluated retrospectively. Preoperative anesthesia opinion and informed consent form were obtained from all patients before the procedure. Endoscopic procedures were performed under general anesthesia in a monitorized way.

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Findings

Totally, 213 patients were underwent an ERCP procedure between May 15, 2019 and January 1, 2020. The average age of the patients was 22-90 (median 53.2 years) and 148 of them were female patients (69%). Clinical diagnoses of the patients were made by hemogram-biochemistry results and computed tomography (CT), magnetic resonance cholangio pancreatectomy (MRCP). The ERCP indication of 211 patients was icterus because of occlusion, only two patients had bile stasis after hydatid cyst operation (Table 1). Averagely, ERCP duration was 37 minutes (20-90 mn). The cannulation was successful in 203 (95%) of 213 patients who were included in the study. In the second time ERCP of 5 patients who could not be cannulated, in 3 of them (1%) papilla was found with precut, and in one of them papilla was found easily because edema regressed. Percutaneous Transhepatic Catheter was placed in the other 5 patients. One patient underwent choledochal exploration procedure. Endoscopic sphincterotomy was performed in 203 (95%) patients, stones were removed from the biliary tract in 164 (76%) patients, and stent was applied to the biliary tract in 18 (8%) patients. Ten of the stent patients were women, and one of them had choledochal lower end tumor, others were underwent a procedure because of embedded stone clinic in the choledoch. Six of the 8 male patients who had stents also had embedded stone in the choledoch, one of them had pancreatic tumor, and one of them had choledochal lower end tumor (Figs. 1, 2). While the bilirubin value of the patient with pancreatic tumor was 27 mg/dL before the procedure, it decreased to 1.5 mg/dL after the procedure. As a complication; mostly amylase was increased in 72 (33%) patients, 18 of these patients were treated in the clinic for 3 days due to the acute pancreatitis clinic, 54 other patients did not need treatment. Stopped bleeding was observed in 2 of the patients by applying adrenaline balloon. Our serious complication rate is around 9%, including acute pancreatitis (18 patients) and gastrointestinal bleeding (2 patients) (Table 2).

Table 1. ERCP indications

Indications	n	%
Choledocholithiasis	164	76
Pancreatitis	20	9.3
Pancreatic tumor	1	0.004
Choledochal tumor	2	0.009
Bile leakage	2	0.009

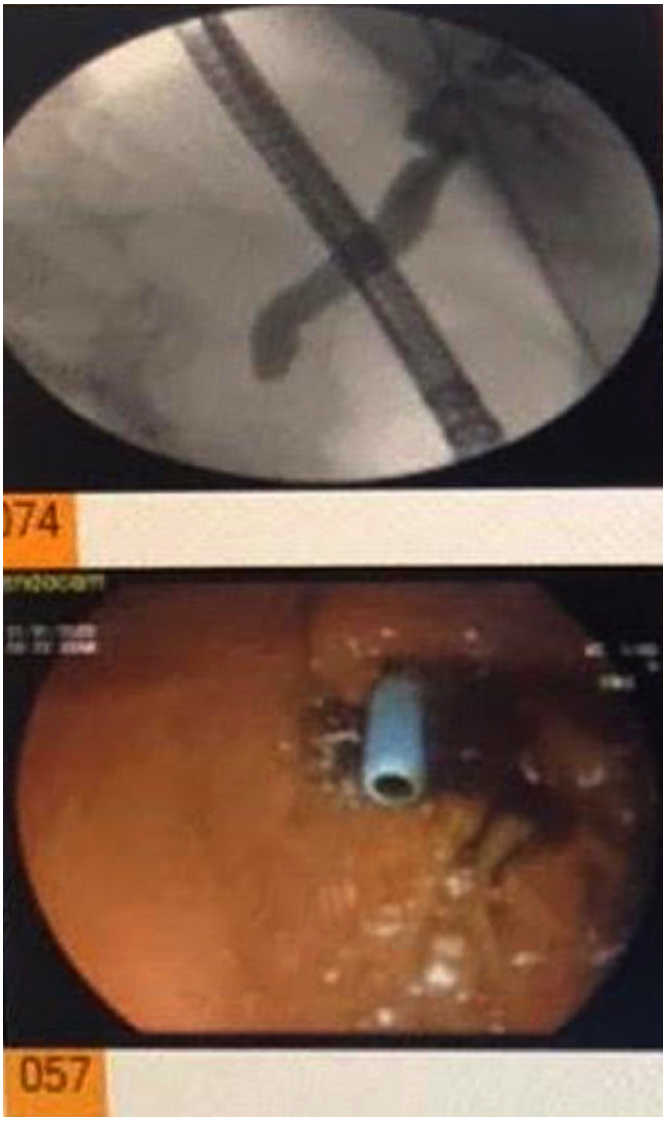

Figure 1. Obstruction of Distal Choledoch.

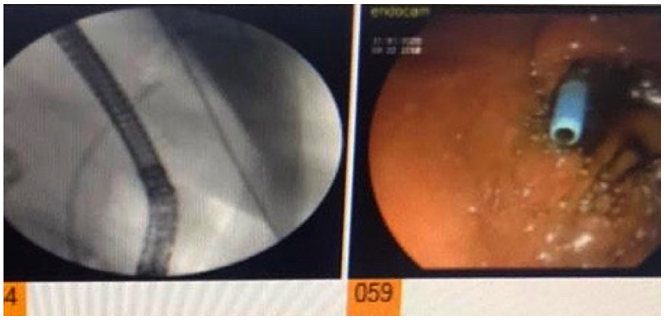

Figure 2. Stent was placed with ERCP.

Discussion

ERCP; Remnant choledochal stones after cholecystectomy with ES and stent applications, are useful in biliary tract problems such as post-operative biliary tract injuries, bile leak, bile duct stenosis.[3] In this study, the findings of 213 patients who underwent ERCP are presented. The

Table 2. ERCP complications

Complications	n	%
Hyperamylasemia	72	33
Acute pancreatitis	18	0.08
Cholangitis	0	
Bleeding	2	0.009
Perforation	0	

success rate in the removal of choledochal stones in the literature is between 80-97%.[5,6] In this study, 164 patients diagnosed with choleditis due to choledoch stone were performed ERCP and 154 patients were treated (93%). In biliary pancreatitis, ERCP and ES and/or stenting are also widely used.[2,10] In our study, the number of patients with biliary pancreatitis was 20 (9%) and all of them got better clinically after ERCP. ERCP provides valuable information also in the diagnosis and palliative treatment of biliary tract and pancreatic malignancies.[7] Surgical treatment in obstructive malignancies of the biliary tract can be applied only in the half and curative surgery can be performed in 20% of these patients. In studies, ERCP has an 80-90% success rate in endoscopic palliative treatment of inoperable patients.[8] There were 3 inoperable malignancy patients in our study group, and they benefited from ERCP + stent therapy. Cyst hydatid, hemobilia, biloma, and hepatic malignancies are other problems that we see the benefit of ERCP.[9] Also, our 2 patients with bile leakage after hydatid cyst operations was treated with ES. The success rate of the ERCP cannulation ranges from 79.6% to 94.6%.[2,10] Our cannulation success rate is 95% and cannulation with precut was performed in 3 patients (1%). The causes of cannulation failure are obstruction due to biliary tract and either duodenal tumor, papillary narrowing due to inflammation, abnormal location of the papilla (located in or around the diverticulum), and a history of gastrectomy with Billroth II or Roux-en-y reconstruction.[2,10] Periampullary diverticulitis is also a factor that requires special skills for cannulation and these patients are more likely to have stones in the choledocleta after ERCP.[11] In our study group, 17 patients had periampullary diverticulum and papilla was found in two patients using precut. Complications such as bleeding, cholangitis, pancreatitis, duodenal perforation, gram-negative sepsis due to ERCP procedure are seen in 2-3%, whereas mortality is between 0.1-1.5%.[10,12] We have applied prophylactic anti biotherapy because ascending cholangitis after ERCP, after bacterial infection of the obstructed biliary tract usually bacteremia occurs due to gram-negative microorganisms. There was no cholangitis after ERCP in our series.

Pancreatitis is the most common complication of endoscopic retrograde cholangiopancreatography, with clinically significant morbidity and mortality potential.PEP risk factors are defined depending on the patients and procedures.Although the rate of pancreatitis after ERCP has a wide range (1.6-15.7) in meta-analysis results including twenty-one prospective studies (1.6-15.7) it was approximately 3.5%;[13,15,16] it was 8% in our study. In this meta-analysis, while the rate of bleeding after ERCP is between 1.3% and 70%, this rate is 0.9% in our series. In ERCP, the perforation rate ranges from 0.1% to 0.6%[17,18] and the vast majority are retroperitoneal.[19] The most important reason of the perforation is the uncontrolled incision and the incision by keeping the majority of the sphincterotomy in the papillae. The incision angle should be well adjusted and the guidewire passing through the sphincterotome should be in the choledoch. There was no perforation in our series. As a summary, in studies, the complication rate due to ERCP is 4.9% of Masci et al., 11.2% of Vandervoort J et al., 8% of Panda CR et al.[20,21,22] Our complication rate is close to this level as 9%. The mortality rate after ERCP is 0.8-1.2% in the literature.[2,10,19] In our study, no mortality due to ERCP-related cardiopulmonary or anesthesia was experienced. Our patient, who was diagnosed with pancreatic tumor, died due to multiorgan failure 6 months after the procedure. As a result, ERCP is very useful in the diagnosis and treatment of hepatopancreatic duodenal diseases. Our series overlaps with previous studies. ERCP; Remnant choledochal stones after cholecystectomy with ES and stent applications, are useful in biliary tract problems such as post-operative biliary tract injuries, bile leak, bile duct stenosis.[3]

Disclosures

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

Authorship Contributions: Concept – E.T.U.; Design – E.T.U.; Supervision – S.Y.; Materials – E.T.U.; Data collection and/or processing – E.T.U.; Analysis and/ or interpretation – E.T.U.; Literature search – E.T.U.; Writing – M.B.K., H.A.D.; Critical review – M.B.K., H.A.D., S.Y.

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