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Original Article

ERCP in Nakhonpathom Hospital

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ABSTRACT

ERCP (Endoscopic Retrograde Cholangio-Pancreatography) is widely accepted in the era that minimal invasive surgery are very popular and laparoscopic surgery are widely used. During two consecutive years, ERCP was performed in 204 patients by one endoscopist. (76 men, 128 women, mean age 55.3, range 14-94). Success rate was 92.16%, 78 diagnostic and 126 therapeutic procedures. The most common diagnosis were common bile duct stone and gallstone. Complications were found in 6 patients (2.94%) 3 of perforations, 2 of bleedings and 1 apnea from deep sedation but no mortality.

In conclusion, ERCP is helpful in the diagnosis and therapeutic to reduce open surgery. In Nakhonpathom hospital, success rates, complications and mortality were comparable to literatures.

Introduction

ERCP is first introduced in 1968 but not widely accepted until the last decade that minimal invasive surgery are very popular and laparoscopic surgery are widely used. The main advantage of ERCP is reduction need of open surgery to remove common bile duct stones but at the present we use ERCP in many other indication eg. for treatment of Common bile duct stricture, pancreatitis and cholangiocarcinoma

Patients and method

During two consecutive years,ERCP was performed in 204 patients by one endoscopist (76 men, 128 women, mean age 55.3, years old range 14-94). Indications as shown in Table 1.

All patients received preoperative antibiotics, local anesthesia and conscious sedation then performed procedure.

Result

Long route endoscopy was performed in 34 patients and short route was performed in 170 patients and there were 78 for diagnosis, 126 for therapeutics. The detail for therapeutic procedure as shown in Table 2. Precut before insertion of canula was done in 39 patients (19.1%). The diagnosis of the patients as shown in Table 3.

Table 1 Indications for ERCP

Indication	n
- Jaundice	88
- CBD stone	52
- pre-op L.C.	27
- Abdominal pain after biliary tract surgery	26
- Pancreatitis	5
- Injury to biliary-pancreatic system	4
- Suspected bile leakage post-op	3
- Cholangitis	2

Table 2 Details of therapeutic procedures (some patients had more than one procedures)

Procedure	n
Endoscopic sphincterotomy	77
Retain stent	61
Stone removal	48
Irrigation	12
Dilate strictures	12
Remove impact ampulla stone	1

Procedures were performed successfully in 188 patients (92.16%). Type of ampulla that were found in this study as shown in Table 4.

Complications were found in 6 patients (2.94%) 3 of perforations, 2 of bleedings and 1

Table 3 Diagnosis of patients (some patient had more than one diagnosis)

Diagnosis	n
CBD stone	65
Gallstone	34
Stricture CBD	30
Sump syndrome	13
Cholangiocarcinoma	10
CA pancreas	10
Intrahepatic duct stone	9
CA ampulla	6
Injury to CBD or pancreas	6
Cholangitis	6
Medical jaundice	6
Pancreatitis	5
Cirrhosis	5
External compression	2
Bile leakage	2
Impact ampulla stone	1
Mirizzi's syndrome	1
Choledochal duct cyst	1

Table 4 Type of ampulla

Type of ampulla	n	%
I	5	2.45
II	51	25
III	129	63.24
IV a	10	4.9
IV b	4	1.96
V	5	2.45

apnea from deep sedation but no mortality. Two of complications were treated by open surgery (one is perforation and the other is bleeding). The remains of complication were successfully treated by endoscopic and conservative treatment

Discussion

Jaundiced patients can be accurately separated into broad diagnostic categories of nonobstructive and obstructive biliary tract disease on clinical ground alone in about 90% of cases.[1] U/S (ultrasonography) can have an accuracy as high as 90% in differentiating between biliary obstruction and hepatocellular causes of jaundice, but it has limitation[2] and proven CBD stones are missed by U/S between 24-50%.[3,4] Even in CT scan it has the same accuracy as U/S.[5] So these are reasons why ERCP is helpful.

In the earlier studies, the overall success rate for ERCP in visualizing biliary tree was only 70%,[6] but more recent studies have demonstrated success rates of up to 90%[7] and in this study success rate was 92.16%, the same as recent studies

ERCP has many indications, in this study we found that 3 most common indications were jaundice, CBD stone and preoperative before LC. The literatures have shown that in the era that LC had become the procedure of choice for removal of the galibladder in most patients[8] and the hospital mortality rate was lower in endoscopicallly treated group than in surgical treated group of cholangitis,[9] these two reasons given rise to new indications for ERCP[10]

In a study of 1,390 consecutive LC patients, Reiger and Wayand[11] found that the combination of elevated liver function enzymes plus radiologic findings suggesting bile duct obstruction had accuracy of 69% so there are numerous studies have been published concerning the role of ERCP in patients about to undergo LC because of symptomatic gallbladder disease.[11-22] The majority of the reports described selective use of ERCP before LC when there is evidence to suggest the presence of stones in the bile duct.[11-21] In this study I had the same opinion that selective use of preoperative ERCP is more reasonable and can identify relatively few cases of clinically silent stones.[18]

For the other indication in pancreatic disease such as acute gallstone pancreatitis, Safrany and Cotton[23] reported experience with urgent endoscopic sphincterotomy for acute gallstone pancreatitis in 1981. In my study there are only 5 pancreatitis (2.45%) and no one had gallstone pancreatitis, this may be that a majority of pancreatitis in Nakhonpathom caused by alcohol.

In pancreatic trauma, ERCP can help in diagnosis by showing disruption of the main pancreatic duct (sensitivity and specificity 100%)[24] and when demonstrated disruption, is usually an indication for surgical drainage.[25]

In pancreatic mass, U/S, CT and MRI still have failure rates as high as 10% to detect early stage of carcinoma[26-29] but ERCP offers the best chance to detect subtle changes within pancreatic ducts suggestive of carcinoma and may collect specimen for cytology from pancreatic duct. In this study found only 1 silent carcinoma that can't be identified by U/S or CT

Since the introduction of endoscopic sphincterotomy in 1974, the overall indications for ERCP had shifted from purely diagnotic to therapeutic.[30-31] My study 38.24% were diagnostic ERCP, 61.76% were therapeutic ERCP and endoscopic sphincterotomy for 77 from 204 patients.

In my study most common complications are perforation (1.47%) and bleedings (0.98%) but Ghazi and Mcshery found that most common complications are pancreatitis and cholangitis.[32] Other complication is from oversedation during prolonged procedures.[33-34] This study found one oversedation and apnea but no mortality

The table 5 show success rates, complications and mortality in comparative.

Conclusion

ERCP is helpful in diagnosis and therapeutic to reduce open surgery. In Nakhonpathom hospital, success rates, complications and mortality are

Table 5 Sucuss rate, complication, death rate in comparative

Study	Procedures (n)	Success (%)	Complications (%)	Death (%)
Safrany, 1977[35]	265	92.0	10.0	1.2
Koch et al, 1977[36]	267	95.0	7.1	0.8
Viceconte et al, 1981[37]	296	86.1	7.0	0.8
Siegel, 1981[38]	267	96.6	5.0	0.77
Wurbs, 1982[39]	808	94-99	7.3	1.4
Escourrou et al, 1984[40]	443	92.0	7.0	1.5
Leese et al, 1985[41]	394	98.0	10.4	0.8
Neoptolemos et al, 1987[42]	55	96.4	9.1	0
Ikeda et al, 1988[43]	469	99	6.3	0.4
Vaira et al, 1989[44]	1000	97.5	6.9	0.4
Podolsky et al, 1989[45]	137	100	6.6	0
Lambert et al, 1991[46]	602	91.5	10.5	2.2
Hill et al, 1991[47]	218	96.8	7.6	0.9
Moreira et al, 1991[48]	18	94.4	13.3	6.6
Sherman et al, 1991[49]	423	-	6.9	1.7
Freeman et al, 1996[50]	2347	-	9.8	0.43
Coppola et al, 1997[51]	546	98	5.4	0.3
Sawaengtham, 2002	204	92.16	2.9	0

comparable to literatures.

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