

Original Article

Efficacy of endoscopic retrograde cholangiopancreato-graphy in elderly patients

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Abstract

The incidence of biliary tract pathologies increases as the population ages leading to an increase in the demand of therapeutic use of endoscopic retrograde cholangiopancreatography (ERCP). This study was carried out to assess the effectiveness of therapeutic ERCP in elderly patients. It was a prospective observational study. Patients aged 65 years or more referred for therapeutic ERCP from July 2007 to June 2008 were reviewed by a preformed data sheet which included all the relevant details of the procedure. It was collected at the time of ERCP & before discharge. Of 67 patients audited, successful therapeutic ERCP was performed in 91.04% cases. Our study showed that ERCP was effective in the elderly patients.

Key words : ERCP, elderly people, biliary pathology

Introduction

Endoscopic retrograde cholangiopancreatography(ERCP) is a combined endoscopic and radiological procedure which plays an essential role in the diagnosis and management of disease of biliary tract and pancreas.¹ The diagnostic technique was first introduced in 1968. With newer diagnostic imaging technologies the diagnostic role of ERCP is diminishing and ERCP is evolving into predominantly therapeutic procedure.²

The World Health Organization (WHO) Report-2003 had drawn attention to ageing of global population because the

number of people aged 60 years or more will be double by the year 2025.

As a result of ageing of society, like all other branches of surgery, hepatobiliary and pancreatic surgeons are facing an increased number of elderly patients leading to an increase in the endoscopic intervention in this age group of patients.³ Therefore, there is a propensity for patients, their relatives, and physicians to adopt a more conservative therapeutic approach and to avoid surgical therapeutic procedures.

Treatment of biliary and pancreatic diseases in the elderly patients, particularly those 65 years of age or more, is thought to present certain difficulties. Postoperative morbidity and mortality of surgical treatment of gallbladder and bile duct stones depends on age, aetiological factors and co-morbid conditions.

Therefore, there is a propensity for patients, their relatives, and physicians to adopt a more conservative therapeutic approach and to avoid surgical therapeutic interventions. Therapeutic ERCP has been demonstrated as an alternative to open surgery for the treatment of biliary and pancreatic diseases and is currently the method of choice.⁴

Methods

This prospective observational study was carried out in the Department of Surgery, BSMMU during the period of July 2007 to June 2008. Patients of 65 years of age or older who underwent therapeutic ERCP for various indications were included in this study. Therapeutic ERCP was performed in a total of 67 patients aged 65 years and above.

Purposive sampling method was followed as per inclusion and exclusion criteria. Data collected included age, sex, clinical symptoms at admission, previous interventions and surgery, important chronic concomitant diseases, endoscopic findings, endoscopic interventions, cannulation success rate, procedure related complications, and early mortality after complications.

All data were recorded in a semi-structured data sheet and analyses were carried out using SPSS for windows, version 16. Baseline data were analyzed using parametric statistics and are expressed as mean values.

Results

During the study period, therapeutic ERCP was performed in 67 patients. All the patients were aged 65 years and above.

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Age range was 65-85 years with mean age of 68.91 years. The proportion of female patients was 53.73%. (Table-I)

Table-I: Demographic characteristics of the patients(n=67)

Demographic	Number	Percentage	Mean±SD
Age 65-70	35	52.24	
71-75	21	31.34	68.91±4.77
76-80	9	13.43	
81-85	2	2.99	
Sex Male	31	46.27	
Female	36	53.73	

The leading clinical features were jaundice in 49 patients (73.13%), abdominal pain in 38 patients (56.72%), cholangitis was present in 16 patients (23.88%), pancreatitis was present in 3 patients (4.48%). Anorexia and fever developed in 30 patients (44.78%) and 22 patients (32.84%) respectively. Four patients (5.97%) were asymptomatic. These different presentations either alone or in combination were due to varied underlying pathology. (Table-II).

Table – II : Clinical features present at ERCP (n=67)

Clinical features	Number	Percentage
Jaundice	49	73.13
Abdominal pain	38	56.72
Cholangitis	16	23.88
Pancreatitis	6	8.96
Fever	22	32.84
Anorexia	30	44.78
Asymptomatic	4	5.97

The overall success rate for various indications was 91.04%. The Sphincterotomy done in 47 patients (70.5%) of total cases. It was successfully done in 46 patients (97.87%). Endoscopic sphincterotomy was performed in 47 patients who had malignant biliary obstruction and endoprosthesis was placed in 43 patients. Endoscopic biliary decompression and palliation was considered successful in 40 patients (84.10%). Complete clearance of CBD stone was achieved in 19.40% of total cases. The common bile duct was cleared successfully in 13 patients (86.66%).

Four of these procedures required repeat ERCP. Of these repeat procedures 2 were due to retained stone and 2 were necessary because of difficulties in cannulating the common bile duct. Two patients required ERCP for third time. Of these two patients in whom the common bile duct could not be cannulated one needed surgery and the other was treated conservatively. Failed to complete clearance was mainly due to large stone (>2 cm) and impaction of stones. Stents were inserted in 47.76% of total procedures. It was done successfully in 32 cases (91.42%). Stenting failed in 3 cases (4.48%). Warm extraction was done in 5 cases (7.46%) and it was successful in 100% cases. (Table III)

Table - III : Outcome of ERCP procedures (n=67)

	Number	Percentage	Chi-square	P value
Overall success rate	61	91.04%		
Unsuccessful procedure	6	8.96	70.560	0.001
Sphincterotomy	47	70.15		
Failed	1	1.49	44.083	0.001
CBD stone extraction				
Complete	13	19.40		
Incomplete/ failed	2	2.99	8.067	0.005
Stenting	32	47.76		
Primary Stenting	25	37.31		
Replacement stent	7	10.45	24.029	0.001
Stenting not possible	3	4.48		
Worm extraction	5	7.46		

Discussion

ERCP is a widely used therapeutic procedure for the pancreatobiliary tract. Diseases affecting the gallbladder, bile ducts and the pancreas occur frequently in the elderly. The number of patients aged 65 years or older undergoing ERCP is increasing as a result of the ageing of society in Bangladesh. With advanced age, interventions are frequently necessary in critically ill patients.

ERCP was defined as therapeutic procedure when endoscopic sphincterotomy or drainage procedure was carried out alone or in combination. Therapeutic failure was defined as the lack of effective endoscopic treatment.

In this study, a total 67 cases were evaluated. In our study jaundice and abdominal pain were the main clinical features. These findings are similar with other published studies.

The overall success rate in our study was 91.04%. Sheferd et al reported 90% success rate in endoscopic palliation for malignant disease but only included patients who had distal common bile duct obstruction. In elderly patients, difficult cannulation resulted mainly from a deviation of the papilla due to a diverticulum; periampullary diverticulas are frequent in the elderly.⁷ Prior surgery or tumor stenoses make it impossible to reach the papilla in certain cases.

Endoscopic sphincterotomy and stone removal is the treatment of choice in patients with common bile duct stones. However, complete stone removal can sometimes be difficult or impossible. In our series, complete clearance of stones was achieved in 86.67% by use of standard extraction methods, including lithotripsy. In patients with retained stones, an stents was inserted. Adequate biliary drainage was achieved in all patients.

ERCP should be reserved for those patients with a reasonable likelihood of a necessary and successful therapeutic intervention, either on the basis of clinical criteria (biliary dilation, sepsis, jaundice) or abnormalities identified by other imaging modalities. The highest rate of complications appears to occur in a group of patients that is least likely to benefit from standard ERCP.⁸

The results of the study demonstrated the substantial technical success rate of ERCP; this investigation seems to be justified and clinically useful in the elderly, even in the very old patients. The findings are of interest and relevant, especially for clinicians and endoscopists caring for elderly patients. Decision to undergo ERCP should be determined

by standard clinical guidelines and age should not be the major deciding factor in considerations about ERCP as treatment option in older patients.

References

1. Morris PJ and Ronald A. Oxford text book of surgery. 1st ed. New York :Oxford University Press; 1994. pp 1351-7.
2. Clarke GA, Jacobson BC, Hammett RJ, Carr-Locke DL. The indications, utilization and safety of gastrointestinal endoscopy in an extremely elderly patient cohort. *Endoscopy*. 2001;33:580-4.
3. World Health Organization. World Health Report 2003. Robert Beaglehole, Alec Irwin, Thomson Prentice, 2003.
4. Ashton CE, McNabb WR, Wilkinson ML, Lewis RR. Endoscopic retrograde cholangiopancreatography in elderly patients. *Age Ageing*. 1998;27:683
5. Freeman ML, DiSario JA, Nelson DB. Risk factors for post-ERCP pancreatitis: a prospective, multicenter study. *Gastrointest Endosc*. 2001;54:425-34.
6. Loperfido S, Angelini G, Benedetti G. Major early complications from diagnostic and therapeutic ERCP; a prospective multicenter study. *Gastrointest Endosc*. 1998;48:1-10.
7. Lobo DN, Balfour TW, Iftikhar SY. Periampullary diverticula: consequences of failed ERCP. *Ann R Coll Surg Engl*. 1998;80:326-31.
8. MacMahon M, Walsh TN, Brennan P, Osborne H, Courtney MG. Endoscopic retrograde cholangiopancreatography in the elderly: a single unit audit. *Gerontology*. 1993; 39:28-32.