

ERCP in the management of pancreatic diseases in children

Jaya Agarwal, MD, D. Nageshwar Reddy, MD, DM, Rupjyoti Talukdar, MD, Sundeep Lakhtakia, MD, DM, Mohan Ramchandani, MD, DM, Manu Tandan, MD, DM, Rajesh Gupta, MD, DM, Nitesh Pratap, MD, DNB, G.V. Rao, MS

Hyderabad, India

Background: ERCP experience in pancreatic disorders in children is limited.

Objective: This study evaluated the utility and efficacy of ERCP in children with pancreatic diseases at a tertiary care referral center.

Patients and Settings: Consecutive patients 18 years of age and younger who underwent ERCP for pancreatic diseases from January 2010 to June 2011 were identified. Indications, findings, interventions, adverse events, and outcomes were recorded.

Results: A total of 221 ERCPs were performed in 172 children (102 boys, mean \pm standard deviation age 13.8 ± 3.2 years, 157 therapeutic). A total of 143 children (83.1%) had chronic pancreatitis (CP), 19 (11%) had recurrent acute pancreatitis (RAP), and 10 (5.8%) had acute pancreatitis (AP). Indications included pain (153, 89.4%), pancreatic fistula (11, 6.3%), symptomatic pseudocyst (4, 2.3%), and jaundice (3, 1.7%). In chronic pancreatitis patients, findings included a dilated and irregular main pancreatic duct (92, 64.3%), pancreatic duct (PD) calculi (76, 53%), dominant PD stricture (23, 16%), PD leak (7, 4.9%), pancreas divisum (35, 24.5%), and common bile duct (CBD) stricture (3, 2%). Therapeutic procedures included major papilla sphincterotomy (93, 65%), minor papilla sphincterotomy (32, 22.3%), PD stenting (77, 53.8%), and CBD stenting (3, 2.2%). PD stones larger than 5 mm were retrieved endoscopically after 57 extracorporeal shock wave lithotripsy sessions in 50 patients (34.9%). In patients with RAP, 6 (31.5%) had complete and 1 partial pancreas divisum. All underwent minor papillotomy. In patients with AP, 4 (40%) had stenting for PD leak, 2 (20%) underwent CBD clearance for biliary pancreatitis, and 4 (40%) had transpapillary pseudocyst drainage. During 13 ± 4.7 months (range 6-22 months) of follow-up, improvement of symptoms was seen in 143 of 172 (83%) patients. Procedure-related adverse events were seen in 8 (4.7%) patients.

Limitations: Retrospective study.

Conclusion: ERCP is a safe therapeutic option for pancreatic disorders in children. (Gastrointest Endosc 2014;79:271-8.)

Pancreatic disorders in children are being increasingly recognized throughout the world. ERCP is emerging as a main therapeutic option in the management of acute pancreatitis (AP) and chronic pancreatitis (CP) in children. Although ERCP is a well-established modality for the

management of pancreatic disorders in adults,^{1,2} experience in the use of therapeutic ERCP for pancreatic disorders in children is relatively scarce.³⁻⁹ With evolving techniques and advancements in endoscopic technology, ERCP is increasingly being used in children. The paucity

Abbreviations: AE, adverse event; AP, acute pancreatitis; CBD, common bile duct; CP, chronic pancreatitis; ESWL, extracorporeal shock wave lithotripsy; MPD, main pancreatic duct; PD, pancreatic duct; RAP, recurrent acute pancreatitis; SD, standard deviation.

DISCLOSURE: The authors disclosed no financial relationships relevant to this publication.

Copyright © 2014 by the American Society for Gastrointestinal Endoscopy 0016-5107/\$36.00

<http://dx.doi.org/10.1016/j.gie.2013.07.060>

Received April 17, 2013. Accepted July 31, 2013.

Current affiliations: Asian Institute of Gastroenterology, Hyderabad, India.

Presented at Disease Digestive Week, San Diego, California, May 19-22, 2012 (Gastrointest Endosc 2012;75:AB309).

Reprint requests: Dr D Nageshwar Reddy, MD, DM, Asian Institute of Gastroenterology, 6-3-661 Somajiguda Hyderabad 500082, India.

of data is likely attributed to factors such as the relative lack of availability of dedicated pediatric ERCP endoscopists and the lower frequency of pancreaticobiliary disease in children compared with adults. In this article, we present extensive experience of ERCP in the management of pancreatitis in pediatric patients to determine its utility and efficacy at a high-volume, tertiary care referral center.

MATERIAL AND METHODS

Consecutive patients 18 years of age and younger who underwent ERCP for the management of pancreatic diseases with clinical pancreatitis (AP, RAP, and CP) from January 2010 to June 2011 were identified through an audit of a computer database search. Our institute is a tertiary care referral center in Hyderabad, India, where a large volume of advanced endoscopic procedures are performed in adults. Indications, findings, interventions, and adverse events (AEs) after ERCP were recorded. Ethical approval for this clinical audit was given by the institutional review board. Informed written consent for the procedure was obtained from the parent or guardian of each child. All ERCPs were performed by 1 of 6 experienced endoscopists by using standard adult duodenoscopes (JF145, JF 160, JF 180; Olympus, Tokyo, Japan) with an outer diameter of 11.2 to 12.5 mm and an accessory channel diameter of 2.8 to 4.2 mm. All procedures were performed in the endoscopy suite under fluoroscopic control (Axiom Iconos R 200; Siemens, Erlangen, Germany). Sphincterotomy was performed by using standard accessories (KD-211Q0720; Olympus and RX-4505; Boston Scientific, Natick, Mass). Stones were extracted with standard baskets (FG-22Q-1, Olympus and MWB-2 × 4, Cook Medical, Center Valley, Pa). Radiation exposure was kept to a minimum by limiting fluoroscopy time, but no special shielding was used to decrease patient radiation exposure. In general, the procedures were performed with patients under moderate sedation with ketamine and midazolam administered by an anesthesiologist. The patients were observed for 4 to 24 hours after the ERCP in the recovery area or as an inpatient.

The diagnosis of CP was based on abdominal pain along with the presence of any of the following: (1) duct changes on imaging by using transabdominal US and/or MRCP, (2) pancreatic calcification (including duct stones) on imaging including plain abdominal x-rays. US and MRCP were used to determine duct diameter and stone size and location. In addition, MRCP was used to ascertain any structural abnormality such as pancreas divisum, annular pancreas, stricture, and/or stones in the main pancreatic duct (MPD) as well as congenital abnormalities of common bile duct (CBD) such as choledochal cyst. Patients with CP and pain as their main symptom were considered for therapeutic endoscopy after failure of medical therapy. Medical therapy consisted of pancreatic enzyme supplementation along with antioxidants. Extracorporeal shock

Take-home Message

- ERCP is a safe therapeutic option for pancreatic disorders in children at centers with expertise. Adverse event rates are comparable to adults' rates.

wave lithotripsy (ESWL) was used to fragment stones larger than 5 mm in diameter and when not amenable to removal by ERCP with pancreatic sphincterotomy and basket/balloon extraction. Subjects with isolated pancreatic tail calculi; extensive calculi in the head, body, and tail; multiple MPD strictures; associated pseudocyst; and pancreatic ascites were not considered for ESWL.

Another group of patients comprised those with clinical recurrent acute pancreatitis (RAP) who had 2 or more episodes of AP with intervening asymptomatic intervals of varying duration and in the absence of changes in CP on noninvasive imaging. The diagnosis of AP was based on the presence of 2 of the following 3 criteria: (1) sudden onset of typical abdominal pain, (2) elevation of serum amylase and lipase levels 3 times the upper limit of normal or more, and (3) radiologic imaging consistent with the diagnosis, usually by using CT or magnetic resonance imaging.^{10,11} Therapeutic ERCP was attempted in this group after serum amylase and lipase levels had decreased to less than 2 times the upper limit of normal, along with resolution of the episode.

Adverse events

AEs of ERCP were defined according to the consensus criteria.¹² Post-ERCP pancreatitis was defined as new or worsened abdominal pain for more than 24 hours after endoscopy with an amylase level of more than 3 times the upper limit of normal, which either required hospitalization or prolongation of planned hospitalization for more than 2 days. For AE assessment, according to protocol, outpatients were monitored in the recovery room for 6 hours after the procedure and thereafter sent with clear instructions to report to hospital in case of any symptoms. Also patients were contacted by telephone 24 hours after the procedure.

Follow-up

Clinical follow-up was obtained by using existing records and telephone contact. The follow-up period was defined as the period between the date of the first endoscopic intervention at our hospital and the date of the last follow-up contact (in person or by telephone). At the time of last follow-up, the primary study endpoint was abdominal pain (in patients with CP), which was graded by using a 5-point Likert scale: 1, cured; 2, better; 3, same; 4, worse; and 5 much worse requiring additional interventions (including surgery). Resolution of symptoms (eg, ascites, jaundice) was recorded separately. Need for ERCP or surgical procedures as well as pain medication was also recorded.

Download English Version:

<https://daneshyari.com/en/article/3303554>

Download Persian Version:

<https://daneshyari.com/article/3303554>

[Daneshyari.com](https://daneshyari.com)