ERCP for severe acute cholangitis: The earlier, the better

Iyad Khamaysi, Rana Taha

Rappaport Faculty of Medicine, Technion-Israel Institute of Technology Rambam Health care Campus, Haifa, Israel

Cite this article as: *Khamaysi I, Taha R. ERCP for severe acute cholangitis: The earlier, the better. Turk J Gastroenterol 2020; 31(1): 78-9.*

Dear Editor,

ERCP was first performed in 1968 and was soon adopted as a safe and effective procedure for evaluating biliary and pancreatic ductal systems. With the introduction of sphincterotomy 5 years later, interventional pancreaticobiliary endoscopy was subsequently developed (1).

ERCP is particularly useful for treating obstructive jaundice. A successful procedure with relief of obstruction should be technically achievable in >90% patients (2).

Acute cholangitis can be a mild disease responding to antibiotics alone or present as a severe form requiring urgent decompression of the biliary system. The mortality for acute cholangitis has decreased dramatically from 100% to approximately 20% (9%-40%), with the introduction of antibiotics and procedures for biliary decompression (3).

Urgent decompression is recommended for patients when they present with classic Charcot's triad of pain, fever, and jaundice accompanied by hypotension and mental confusion (Reynolds pentad) (4).

The relationship between early ERCP and mortality in patients with acute cholangitis is still unclear. Results of a recent study (5) revealed that early ERCP performed within 24 hours from hospital admission is associated with a lower 30-day mortality (odds ratio, 0.23; 95% confidence interval, 0.05-0.95; p=0.04).

We wish to add more evidence supporting the benefit of very early (emergent) intervention (within 12 hours) in patients with severe acute cholangitis.

We conducted a retrospective study at Rambam University Hospital, Haifa, Israel.

The study was conducted as a retrospective registry study at the Department of Gastroenterology, a 1100-bed tertiary referral center where 500-600 ERCP procedures were performed yearly. Data collection and storage were performed with the consent and approval of the local Institutional Review Board (Rambam Health Care Campus Helsinki Review, January 1, 2016).

In total, 2210 consecutive patients underwent ERCP during the period from January 2011 to December 2015. Overall, 91 patients fulfilled the criteria of Tokyo Guidelines 2013 for acute severe cholangitis (6). Among these patients, 34 (37%) patients underwent emergent ERCP within 12 hours (mostly during on-calls) from admission (group 1) compared with 57 (63%) patients who underwent intervention later (group 2).

The groups were similar in terms of age (medians 83 vs. 84.5 years) and ASA score (mean 2.8 vs. 2.7), but patients in group 1 had higher pulse rate (medians 80 vs. 71 beats/min, p=0.022), temperature (medians 37.9 vs. 36.7 °C, p=0.05), WBC (medians 13.8 vs. 6.7 10^3/μL, p=0.003), total bilirubin (medians 4.88 vs. 1.42 mg/dL, p=0.026), and CBD width (medians 14 vs. 11.7 mm, p=0.043).

ERCP with biliary decompression was successful in 31/34 (91%) patients in group 1 compared with 56/57 (98%) patients in group 2. A patient in group 1 had periampullary perforation; nevertheless, the groups were similar in terms of adverse events.

The overall 30-day mortality was 19% (n=17). Mortality was 15% (n=5) in group 1 and 21% (n=12) in group 2 (p=ns).

The association between early ERCP and improved outcome is supported by previous studies, although they slightly differ in endpoints and timeframes for defining early ERCP. Previous data indicated that early

Corresponding Author: ***Iyad Khamaysi; k_iyad@rambam.health.gov.il***
Received: ***December 14, 2018*** *Accepted:* ***February 4, 2019***

DOI: ***10.5152/tjg.2020.19103***

ERCP performed within 24 hours from hospital admission is associated with a lower 30-day mortality. According to our data, emergent ERCP within 12 hours was associated with a further trend toward a lower 30-day mortality.

Therefore, we believe that in terms of urgency, the earlier, the better.

Informed Consent: Written informed consent was obtained from the patients who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - I.K., R.T.; Design - I.K., R.T.; Supervision - I.K., R.T.; Resources - I.K., R.T.; Materials - I.K., R.T.; Data Collection and/or Processing - I.K., R.T.; Analysis and/or Interpretation - I.K., R.T.; Literature Search - I.K., R.T.; Writing Manuscript - I.K., R.T.; Critical Review - I.K., R.T.

Conflict of Interest: The authors have no conflict of interest to declare.

Financial Disclosure: The authors declare that this study has received no financial support.

REFERENCES

1. NIH state-of-the-science statement on endoscopic retrograde cholangiopancreatography (ERCP) for diagnosis and therapy. NIH Consens State Sci Statements 2002; 19: 1-26.

2. Eisen GM, Dominitz JA, Faigel DO, et al. An annotated algorithm for the evaluation of choledocholithiasis. Gastrointest Endosc 2001; 53: 864-6. ***[CrossRef]***

3. Hui CK, Lai KC, Yuen MF, Ng M, Lai CL, Lam SK. Acute cholangitis-predictive factors for emergency ERCP. Aliment Pharmacol Ther 2001; 15: 1633-7. ***[CrossRef]***

4. Navaneethan U, Gutierrez NG, Jegadeesan R, et al. Delay in performing ERCP and adverse events increase the 30-day readmission risk in patients with acute cholangitis. Gastrointest Endosc 2013; 78: 81-90. ***[CrossRef]***

5. Tan M, Schaffalitzky de Muckadell OB, Laursen, SB. Association between early ERCP and mortality in patients with acute cholangitis. Gastrointest Endosc 2018; 87: 185-92. ***[CrossRef]***

6. Kiriyama S, Takada T, Strasberg SM, et al. TG13 guidelines for diagnosis and severity grading of acute cholangitis (with videos). J Hepatobiliary Pancreat Sci 2013; 20: 24-34. ***[CrossRef]***