

Acute Cholangitis in the Geriatric Population: Interventions and Outcomes from a Nationwide Analysis (2016-2018)

Muhammad Waqas Tahir MD, Rochester General Hospital, Rochester, NY; Raseen Tariq MBBS, Mayo Clinic, Rochester, MN; Sarah Enslin PA-C, University of Rochester, Rochester, NY; Vivek Kaul MD, University of Rochester, Rochester, NY.

INTRODUCTION

- Acute cholangitis (AC) is a medical emergency resulting from biliary obstruction and infection of the biliary tract.
- ERCP is the treatment of choice but percutaneous drainage by Interventional Radiology (IR) or surgical drainage are also performed.
- Geriatric AC patients are high-risk for severe morbidity/mortality.

PURPOSE

- We aim to study the utilization of different interventions (ERCP, IR and surgery) and their outcomes for patients admitted for AC.

METHODS

- We used National Inpatient Sample for 2016 to 2018.
- All diagnoses and procedures were identified using ICD 10 codes.
- We identified geriatric (age >65) patients admitted with AC. We stratified data into 2 groups: age 65–79 (G1) and age >80 (G2).
- We identified ERCP, IR and surgical procedures for treatment of AC using ICD-10 PCS codes.
- Inpatient mortality and length-of-stay (LOS) were calculated.
- Logistic regression was used to adjust for age, sex, race, comorbidities (using Elixhauser Index), and interventions (ERCP, IR, surgery or any combination of these) to calculate adjusted odd ratio (OR) for inpatient mortality.

RESULTS

- 87,950 geriatric patients were admitted from 2016 to 2018 with AC. 55,570 (63.2%) belonged to G1 and 32,380 (36.8%) to G2.
- There was a significantly higher proportion of females in G2 (50.9% vs 42.9%, P-value < 0.01). Overall mortality was 6.8%; higher in G2 (7.3% vs 6.6%, P-value < 0.01). The median LOS was 5 days (G1 and G2).
- ERCP only was performed with less frequency in G1 (38.9% vs 43.1%). IR only was performed more in G1 (5.9% vs 3.8%) and surgery only was done rarely in each group (0.3% vs 0.3%).
- Combinations of ERCP, IR and surgery were rarely performed.
- Mortality without procedures was 8.7% overall, but lower in G1 (7.9% vs 10.0%, P < 0.05).
- ERCP had the lowest overall mortality of 3.9% compared to 9.5% with IR and 7% with surgery.

ROCHESTER REGIONAL HEALTH

Rochester General Hospital



UNIVERSITY of
ROCHESTER
MEDICAL CENTER

In Geriatric patients with Acute Cholangitis, ERCP is associated with lower mortality and decreased length of stay compared to IR or surgery.

Table 1. Interventions performed for Acute Cholangitis in the two geriatric age groups.

Intervention	Age Group	Utilization	Mortality	Length of Stay
None	G1	53.0% *	7.9% *	4
	G2	51.2% *	10.0% *	5
ERCP only	G1	38.9% *	4.0%	5
	G2	43.1% *	3.7%	5
IR only	G1	5.9% *	10.0% *	8
	G2	3.8% *	8.2% *	8
Surgery only	G1	0.3%	5.4%	8
	G2	0.3%	10.0%	9
ERCP and IR	G1	1.6%	10.5%	10
	G2	1.4%	11.4%	11
ERCP and Surgery	G1	0.3%	10.0%	12
	G2	0.2%	16.7%	10
IR and Surgery	G1	<0.1%	n/a	12
	G2	<0.1%	n/a	10
ERCP, IR and Surgery	G1	<0.1%	n/a	12
	G2	<0.1%	n/a	10

G1 = Age 65 to 79 years; G2 = Age 80 and above.

* P<0.05 for comparison with other age group within same intervention.

Results Cont.

- Mortality was lower in G1 with ERCP vs IR (4% vs 10.0%, P < 0.001) and similarly lower in G2 with ERCP vs IR (3.7% vs 8.2%, P < 0.001).
- Mortality was similar in G1 with ERCP vs surgery (4.0% vs 5.4%, P = 0.343) but lower in G2 with ERCP vs surgery (3.7% vs 10.0%, P = 0.004).
- LOS data is summarized in Table 1.
- Adjusted OR for mortality was higher for female gender (OR 1.33, 95% CI 1.17–1.51), lower for ERCP vs no intervention (OR 0.49, 95% CI 0.42–0.57) and higher for G2 (vs G1) (OR 1.27, 95% CI 1.11–1.44).

CONCLUSION

- In AC patients, ERCP is associated with lower mortality and decreased length of stay compared to IR or surgery. ERCP can be safely considered as the preferred intervention in geriatric patients with AC.

References

- Tohda, G., Ohtani, M., & Dochin, M. (2016). Efficacy and safety of emergency endoscopic retrograde cholangiopancreatography for acute cholangitis in the elderly. *World journal of gastroenterology*, 22(37), 8382–8388.
- Garcia, C. J., Lopez, O. A., Islam, S., Othman, M., Jia, Y., Mulla, Z. D., & Zuckerman, M. J. (2016). Endoscopic retrograde cholangiopancreatography in the elderly. *The American journal of the medical sciences*, 351(1), 84-90.



@waqastahir



@tariqrseen