



Invited commentary on “Management of choledocholithiasis in the elderly: Same-admission cholecystectomy remains the standard of care”



Currently, there are more than 46 million adults aged ≥ 65 living in the United States; in the next 10 years, this number is expected to increase by 18 million, meaning by 2030, 20% of Americans are projected to be ≥ 65 years of age.¹ As the prevalence of gallstones increases with age, both the number of elderly and very elderly (often defined as ≥ 80 -years-old) patients requiring treatment for gallstone disease will continue to increase, necessitating increased focus on thoughtful and evidence-based approaches to surgical intervention in this age group.

Although current surgical guidelines recommend either cholecystectomy with common bile duct exploration or cholecystectomy after endoscopic retrograde cholangiopancreatography (ERCP) during initial hospitalization for choledocholithiasis,² the adoption of these guidelines remains somewhat varied across clinical practice, particularly when dealing with elderly patients with biliary disease. The reasons for this are no doubt multifaceted, as there are inherent concerns with operating on older patients who are perceived to be at higher risk of surgical complications. In addition, some studies purport ERCP alone as a safe alternative to cholecystectomy in select patients of advanced age with choledocholithiasis.³

In this well-designed retrospective review of $>16,000$ patients over the age of 65 admitted for choledocholithiasis, Berndtson et al add substantial support to the evidence base behind the current guidelines recommending index hospitalization cholecystectomy (IHC) after ERCP for choledocholithiasis in the elderly. In this study, IHC was associated with lower risk of readmission for biliary disease or complications as well as lower rates of death. However, startlingly, only 38.4% of the elderly patients in this national analysis underwent IHC. In further support, a multivariate analysis identified older age as an independent predictor of nonoperative management (odds ratio 0.963 per year of age), but age was not a contributor to the models of readmission or death. So when making the decision to proceed with IHC, as the saying goes, is age indeed just a number?

A recent systematic review and meta-analysis comparing laparoscopic cholecystectomy outcomes in the extreme elderly (80+) to younger patients (12 studies, 366,522 patients) demonstrated that differences in mortality were nonsignificant in all but one study.⁴ Moreover, higher complication rates were predominantly related to increased comorbidities and more complex gallbladder disease.⁴ Additional studies comparing operative outcomes for biliary disease between patients 60 to 79 years of age and patients 80 years of age and older have found no significant difference in the therapeutic efficacy between the two groups, suggesting that surgical treatment in much older patients with biliary disease is also safe and feasible.⁵ However, these studies have noted increased

postoperative complications related to comorbidities, namely postoperative respiratory failure, pneumonia, anemia, and electrolyte disorders, suggesting that proactive management of preoperative comorbidities and deliberate, watchful management to prevent and/or treat postoperative complications is necessary to improve perioperative safety of extremely elderly patients with biliary disease.⁵

Additionally, the authors' findings of predictive characteristics for those less likely to undergo IHC prompt further discussion—to whom are we offering (and not offering) IHC? In addition to being older, the patients who did not undergo cholecystectomy were found more likely to be female and to be treated at a teaching hospital. Although the lack of granularity in the data does not allow clear delineation of whether these patients were being offered surgery at lower rates or just ultimately underwent surgery at lower rates (i.e., surgery was offered but the patient declined), research into these disparities is much needed. If determined to be related to bias, education and intervention should be provided to remedy this disparity.

The authors themselves note that their study is limited by its representation of only inpatient encounters; planned delayed cholecystectomies in the outpatient setting are therefore not included. This also inhibits full analysis of the rate of loss to follow-up for patients scheduled to undergo interval cholecystectomy, making it impossible to compare the rates of readmission/complications or death between IHC and patients discharged from the hospital with plan for interval cholecystectomy. Patients who received cholecystostomy tube placement during index admission were also not accounted for.

As life expectancy continues to rise worldwide and the general population continues to age, perhaps the time has come to remove the term “elderly” altogether, as it carries connotations of increased risk and concerns that may be unfounded. Although research has already shifted toward measurements of frailty, there is no agreed-upon endpoint to describe frailty as binary, thus limiting its use in colloquial practice. Regardless, as proposed by Berndtson et al., age alone is not predictive of outcomes for IHC in patients admitted with choledocholithiasis; therefore surgical intervention should be guided (as with all surgeries) by a careful evaluation of risk, benefits, and value, and combined with an optimal informed consent process to make the final decision.

Although this large retrospective study using a national data base unavoidably had some limitations, it can serve as a starting point for evaluating our own practices for possible bias related to age, as well as other factors such as sex, gender, race, and ethnicity.

As we strive to eschew unfounded bias and instead cultivate evidence-based practice, only then can we provide appropriate surgical care for all of the populations who would benefit from it, including the growing population of older adults.

Funding/Support

This research did not receive any specific funding from any agencies in the public, commercial, or not-for-profit areas.

Conflict of interest/Disclosure

The authors have no conflicts of interests or disclosures to report.

Wendy Y. Rockne, MD, Claire Sakae, MD, Jeffrey Nahmias, MD, MPHE*

Department of Surgery, Division of Trauma, Burns, and Surgical Critical Care, University of California, Irvine Medical Center, Orange, CA

* Corresponding author: Jeffrey Nahmias, MD, MHPE, Department of Surgery, Division of Trauma, Burns, and Surgical Critical Care, University of California, Irvine Medical Center, 333 The City Blvd West, Suite 1600, Orange, CA 92868-3298.

E-mail address: jnahmias@hs.uci.edu (J. Nahmias);
Twitter: @WendyRockne (W.Y. Rockne), @jnahmias1, @UCI_Trauma, @UCIrvineSurgery, @UCIHealth (J. Nahmias)

Accepted 6 July 2022

References

1. Mather M, Jacobsen L, Pollard K. Aging in the United States. *Population Bulletin*. 2015;70(2).
2. Jung JJ, Gee DW. Management of choledocholithiasis: General surgeons must play a role. *J Trauma Acute Care Surg*. 2021;91:e31–e33.
3. Yasui T, Takahata S, Kono H, et al. Is cholecystectomy necessary after endoscopic treatment of bile duct stones in patients older than 80 year of age? *J Gastroenterol*. 2012;47:65–70.
4. Lord AC, Hicks G, Pearce B, Tanno L, Pucher PH. Safety and outcomes of laparoscopic cholecystectomy in the extremely elderly: a systematic review and meta-analysis. *Acta Chir Belg*. 2019;119:349–356.
5. Zhang Z, Zhao Y, Lin F, et al. Protective and therapeutic experience of perioperative safety in extremely elderly patients with biliary diseases. *Medicine (Baltimore)*. 2021;100:e26159.