SWSC 2020 On-Demand Meeting Abstracts

5. FIX IT WHILE YOU CAN... MORTALITY AFTER UMBILICAL HERNIA REPAIR IN CIRRHOTIC PATIENTS

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Background: Umbilical hernia repair in cirrhosis has long been associated with increased mortality and morbidity, leading many surgeons to consider elective repair prohibitive. Recent studies have shown improved outcomes in the elective setting when compared to emergent repair, however these studies are limited to retrospective reviews of small cohorts. Additionally, there are no clear guidelines regarding patient selection for elective repair. This study aims to provide insight into patient selection criteria and associated mortality in patients undergoing both elective and emergent umbilical hernia repair (UHR). We hypothesize that patients with compensated cirrhosis undergoing elective UHR have an improved mortality compared to those undergoing emergent UHR.

Methods: The National Inpatient Sample, a publicly available all-payer inpatient care database, was queried for patients undergoing UHR by CPT code. The ICD-10 codes associated with each patient encounter were used to form three separate patient categories of non-cirrhosis (NC), compensated cirrhosis (CC) and decompensated cirrhosis (DC). Compensated cirrhosis included patients with ICD-10 codes for all types of cirrhosis, with a subcategory for decompensated cirrhosis for those with codes for ascites and/or hepatic encephalopathy. Timing of repair was deemed emergent or elective based on the admission code. We then compared emergent vs elective UHR across each cirrhosis category, with a primary outcome of mortality and a secondary outcome of length of stay.

Results: A total of 32,526 patients underwent UHR, 97% no cirrhosis, 1.1% compensated cirrhosis, 1.7% decompensated cirrhosis. From this population, 17,853 (55%) patients underwent elective UHR and 14,520 (45%) underwent emergent UHR. On univariate analysis, mortality in the elective setting for NC, CC and DC was 0.6%, 2% and 5% respectively. There was no significant difference between the NC and the CC group ($p = 0.16$), but statistically significant difference between NC and DC ($p = < 0.0001$). Similarly, length of stay followed the same trend, with an average of 6 days for NC and CC to 14 days for DC ($p = < 0.0001$). Mortality in the emergent setting for each group was 3%, 7% and 8% respectively, with significant difference between no cirrhosis and both compensated and decompensated cirrhosis ($p = 0.001$ and $p = < 0.0001$). On logistic regression, cirrhosis was found to be independently associated with mortality (OR 2.841, CI 2.14 – 3.77). On subset analysis of only cirrhosis patients, elective repair was found to be protective from mortality (OR 0.361, CI 0.15- 0.87, $p=0.02$).

Conclusion: In this retrospective database review of inpatients, cirrhosis as well as emergent UHR in cirrhotic patients were independently associated with mortality. More specifically, electively (rather than emergently) repairing an umbilical hernia in cirrhotic patients was independently associated with a 64% reduction in mortality. We believe that the historical reluctance towards elective UHR in cirrhosis may not be warranted. Umbilical hernias in compensated cirrhotics should be repaired in an elective fashion in order to avoid the significantly higher mortality associated with emergent UHR in this population.