

Robotic vs. Laparoscopic Cholecystectomy at a Safety Net Hospital



Aryan Meknat MD, Ghayth Alawa MD, Ruben Toribio MD, Frederique Pinto MD,
Mohammed Aman MD, Anthony Tortolani, MD
Department of Surgery, Brookdale University Hospital and Medical Center

Introduction: The goal of safety net hospitals is to provide quality care to patients who may not have access to adequate health care due to various adverse circumstances. The aim of this study was to look at cholecystectomy outcomes at a single safety net institution. We hypothesized that there would be no significant difference in outcomes between robotic and laparoscopic surgery.

Methods: This is a retrospective study that looked at all patients undergoing robotic or laparoscopic cholecystectomy between the years of 2018 and 2019. Patients were stratified by operative approach (robotic versus laparoscopic) for comparison in outcomes. Evaluated outcomes included conversion rate to open cases, operative time, and length of stay. We assessed for significant differences in mean outcomes measured between the two groups by using paired t-tests to generate a two-tailed p-value. A p-value less than 0.05 were considered statistically significant.

Results: A total of 120 patients underwent cholecystectomies during the study period, of which 19 (15.8%) were robotic and 101 (84.2%) were laparoscopic cases. Nineteen (15.8%) were male and 101 (84.2%) were female. Mean $\pm$ standard deviation body mass index for the robotic and laparoscopic groups were 35.5 ± 13.2 and 31.9 ± 8.3 , respectively – with no significant difference observed. The patients self-reported their ethnicity: 67 (55.8%) Hispanic; 30 (25.0%) black; 21 (17.5%) other; and 2 (1.7%) white or Asian. There were 0 robotic cases that required conversions while 3 (2.9%) laparoscopic cases converted to an open case. Mean $\pm$ standard deviation operative times (minutes) were 122.3 ± 68.2 and 105.7 ± 47.6 for robotic and laparoscopic cases, respectively – with no significant difference observed. Lastly, the mean $\pm$ standard deviation length of stay (days) was 2.1 ± 3.6 and 3.6 ± 4.2 for robotic and laparoscopic cases, respectively – with no significant difference observed.

Conclusion: No clinical or statistically significant difference in operative time or length of stay was appreciated when comparing these two surgical approaches. We observed 0 conversion from the robotic cases, with the caveat being that only 15.8% of the cases were robotic. The greater costs involved with robotic surgery are well known, and our study showed that these robotic cases did not provide any cost savings with potential decrease in length of stay.