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Letter to the editor

Robotic inguinal hernia repair is not superior to laparoscopic or open repair

We write in response to Janjua et al. "The paradox of the robotic approach to inguinal hernia repair in the inpatient setting".[1] This study utilized a 36,396-patient dataset from the Healthcare Cost and Utilization Project-State Inpatient Databases and the American Hospital Association Annual Health Survey Databases. Of particular value is the large cohort and information regarding the cost of each operation. Despite shorter hospital stays with robotic surgery compared to laparoscopic and open, the cost was significantly higher. This study is important in establishing the role of robotic surgery for inguinal hernia repairs. This study analyzed eight states over seven years. Notably, minimally invasive approach constituted less than a quarter of the cases presented in the analysis over this time period (Open 76.3%, Laparoscopic 19.5%, Robotic 4.2%).

We found it astonishing that a high percentage of patients underwent robotic approach for emergent cases (22%). This manuscript appropriately focused on the cost, but outcomes of all of these patients with the various approaches would be interesting. However, as they have stated in the discussion, granular data is difficult with such database analysis. We have found that even in the expert hands by each approach, the robotic technique encounteres more complications than the laparoscopic and open approach.[2] Our analysis was performed on veteran patients such that indirect cost is difficult to measure. Thus, the paper presented by Janjua et al. continues to add evidence of the drastic limitations of a robotic technique to inguinal hernia repair. Their analysis found that for all patients there was a different in cost of about $5000 between the robotic and open approach. If all the hernias in the study that were done open had been performed via the robotic approach that would have amounted to a cost exceeding 138 million dollars over the seven years, which is more than 19 million dollars per year. This is a monumental increase for one of the most common operations performed by general surgeon in the United States and around the world.

A further limitation of the robotic approach other than cost is the ability to perform an open inguinal hernia repair via local anesthesia, which also permits an operation in older patients with a higher burden of comorbid conditions.[3]

A study reviewed the National Surgical Quality Improvement Program (NSQIP) data and found that outcomes were similar among robotic, laparoscopic, and robotic repair however robotic repair had an increased risk of infection and longer operative times.[4] Another study noted that open repair was associated with shorter operative times, decreased inguinodynia, and decreased complications when compared to robotic and laparoscopic repair. Recurrence was more common with robotic repair than open repair. Hospital length of stay was similar in all groups, which is contrary to Janjua's report. Other than the length of stay, these studies are similar to Janjua's report in that they all highlight the apparent lack of benefit with robotic surgery as compared to open and laparoscopic surgery. Given the increased cost associated with robotic surgery and lack of improved outcomes, it is important to continue investigating this evolving surgical technique. However, as of today, the gold standard for an inguinal hernia remains the open approach.[5]

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