

Equivalent short-term outcomes of robotic versus open radical cystectomy for bladder cancer

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Introduction and Objectives

Robotic radical cystectomy (RARC) for bladder cancer was first reported in 2003 and has been gaining popularity. The objective of this study was to compare utilization trends and short-term outcomes of RARC vs. open radical cystectomy (ORC) in New York State since the introduction of the robotic modifier (ICD-9 17.4x) in October 2008.

Methods

Using the Statewide Planning and Research Cooperative System (SPARCS) database, an all-payer administrative system on all hospital discharges in New York State, we identified patients undergoing RC (57.71) with a diagnosis of bladder cancer (188.0-188.9, 233.7, 236.7) from 10/2008 to 12/2012. Primary outcomes of interest were inpatient complications and in-patient deaths. For readmission outcomes, n=24 patients were excluded because lack of an identifier.

Results

Of 2525 total patients, 75.8% (1915/2525) underwent ORC and 24.2% (610/2525) underwent RARC within the study period. The percentage of RCs performed robotically increased from 19.9% (119/597) in 2009 to 28.9% (173/598) in 2012 ($p=0.031$). From 2009 to 2012, the number of surgeons performing ORC decreased from 117 to 109 but those performing RARC increased from 56 to 66, respectively. On univariate analysis, no significant differences were discovered between the two patient groups with regard to age, gender, race, income, comorbidities, and primary payer. There were significant differences between patients receiving ORC and RARC, respectively, in operating surgeon's approach-specific volume (8 vs. 3 RCs/year, $p<0.0005$), rate of pelvic lymph node dissection (70.4% vs. 80%, $p<0.0005$), rate of ileal conduit diversion (76.6% vs. 80.5%, $p=0.05$), and rate of transfusion (47.4% vs. 34.3%, $p<0.0005$). Of note, there were no significant differences in length of stay, complications or hospital charges at index stay, readmission rates, or mortality at index stay, 30 days, and 90 days.

Conclusions

Despite the complexity and more recent experience of RARC, we report similar short-term outcomes between RARC and ORC with evidence of RARC's rapid dissemination.