

REAL-WORLD IMPACT OF LAPAROSCOPIC SURGERY FOR RECTAL CANCER ON SHORT-TERM OUTCOMES: A POPULATION-BASED ANALYSIS

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GENERAL SURGERY

BACKGROUND:

Randomized controlled trials have demonstrated equivalent oncologic results but decreased morbidity in rectal cancer patients undergoing laparoscopic surgery (LS) compared to open surgery (OS). The objective of this study was to compare short-term outcomes following LS and OS for rectal cancer in a real-world, population-based setting.

METHODS:

A national discharge database was used to identify all patients undergoing rectal cancer resection (LS or OS) in Canada (excluding Quebec) from 2004 to 2014. Short-term outcomes examined included same-admission death and length of stay (LOS) after surgery.

RESULTS:

Among the 27,521 patients, 23,501 (85.4%) underwent OS and 4,020 (14.6%) underwent LS. Use of LS was associated with female gender, younger age, less comorbidity, and higher surgeon/hospital volume. Overall, same-admission mortality was lower after LS (0.87% LS and 1.95% OS $p < 0.0001$). On multivariate analysis (Table 1) controlling demographic, patient and system factors, the odds of in-hospital mortality with LS was approximately half of that with OS (OR 0.52; $p < 0.0001$). Median LOS was shorter in patients who underwent LS compared to OS (5 days and 8 days, respectively; $p = 0.0001$) This strong association of LS with shorter LOS was maintained on multivariable analysis ($p < 0.0001$), where high surgeon volume ($p = 0.002$), female ($p < 0.0001$), sphincter-preserving surgery ($p < 0.0001$), year ($p < 0.0001$) and specific province ($p < 0.0001$) were also associated with reduced LOS.

CONCLUSION:

This study suggests that the short-term outcome benefits of LS demonstrated in randomized controlled trials have been realized, or perhaps exceeded, in a real-world setting. Although some differences in patient selection for LS exist, these do not completely explain short-term outcome differences between LS and OS.