

Robotic Surgery for Rectal Cancer: A Single Center Experience of 100 Consecutive Cases

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Abstract

Background: Minimally invasive techniques have revolutionized the field of general surgery over the few last decades. Despite its advantages, in complex procedures such as rectal surgery, laparoscopy has not achieved a high penetration rate because of its steep learning curve, its relatively high conversion rate and technical challenges. The aim of this study was to present a single center experience with robotic surgery for rectal cancer focusing mainly on early and mid-term postoperative outcome.

Methods: A series of 100 consecutive patients who underwent robotic rectal surgery between January 2008 and June 2012 was analyzed retrospectively in terms of demographics, pathological data, surgical and oncological outcomes.

Results: Seventy-seven patients underwent robotic sphincter-saving resection, and 23 patients underwent robotic abdomino-perineal resection. There were 4 conversions. The median operative time for sphincter-saving procedures was 180 min. The median time for robotic abdominoperineal resection was 160 min. The median distal resection margin of the operative specimen was 3 cm. The median number of retrieved lymph nodes was 14. The median hospital stay was 10 days. In-hospital mortality was nil. The overall morbidity was 30%. Four patients presented transitory postoperative urinary dysfunction. Severe erectile dysfunction was reported by 3 patients. The median length of follow-up was 24 months. The 3-year overall survival rate was 90%.

Conclusions: Robotic surgery is advantageous for both surgeons (in that it facilitates dissection in a narrow pelvis) and patients (in that it affords a very good quality of life via the preservation of sexual and urinary function in the vast majority of patients and it has low morbidity and good mid-term oncological outcomes). In rectal cancer surgery, the robotic approach is a promising alternative and is expected to overcome the low penetration rate of laparoscopy in this field.

Key words: robotic approach, rectal cancer, TME, oncological outcomes, sexual function

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