Oncological and functional outcomes of 722 robot-assisted radical prostatectomy (RARP) cases: The largest Canadian 5-year experience.


Abstract

INTRODUCTION: While RARP (robotic-assisted radical prostatectomy) has become the predominant surgical approach to treat localized prostate cancer, there is little Canadian data on its oncological and functional outcomes. We describe the largest RARP experience in Canada.

METHODS: Data from 722 patients who underwent RARP performed by 7 surgeons (AEH performed 288, TH 69, JBL 23, SB 17, HW 15, QT 7, and KCZ 303 patients) were collected prospectively from October 2006 to December 2013. Preoperative characteristics, as well as postoperative surgical and pathological outcomes, were collected. Functional and oncological outcomes were also assessed up to 72 months postoperative.

RESULTS: The median follow-up (Q1-Q3) was 18 months (9-36). The D'Amico risk stratification distribution was 31% low, 58% intermediate and 11% high-risk. The median operative time was 178 minutes (142-205), blood loss was 200 mL (150-300) and the postoperative hospital stay was 1 day (1-23). The transfusion rate was only 1.0%. There were 0.7% major (Clavien III-IV) and 10.1% minor (Clavien I-II) postoperative complications, with no mortality. Pathologically, 445 men (70%) were stage pT2, of which 81 (18%) had a positive surgical margin (PSM). In addition, 189 patients (30%) were stage pT3 and 87 (46%) with PSM. Urinary continence (0-pads/day) returned at 3, 6, and 12 months for 68%, 80%, and 90% of patients, respectively. Overall, the potency rates (successful penetration) for all men at 6, 12, and 24 months were 37%, 52%, and 59%, respectively. Biochemical recurrence was observed in 28 patients (4.9%), and 14 patients (2.4%) were referred for early salvage radiotherapy. In total, 49 patients (8.4%) underwent radio-therapy and/or hormonal therapy.

CONCLUSIONS: This study shows similar results compared to other high-volume RARP programs. Being the largest RARP experience in Canada, we report that RARP is safe with acceptable oncologic outcomes in a Canadian setting.