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97

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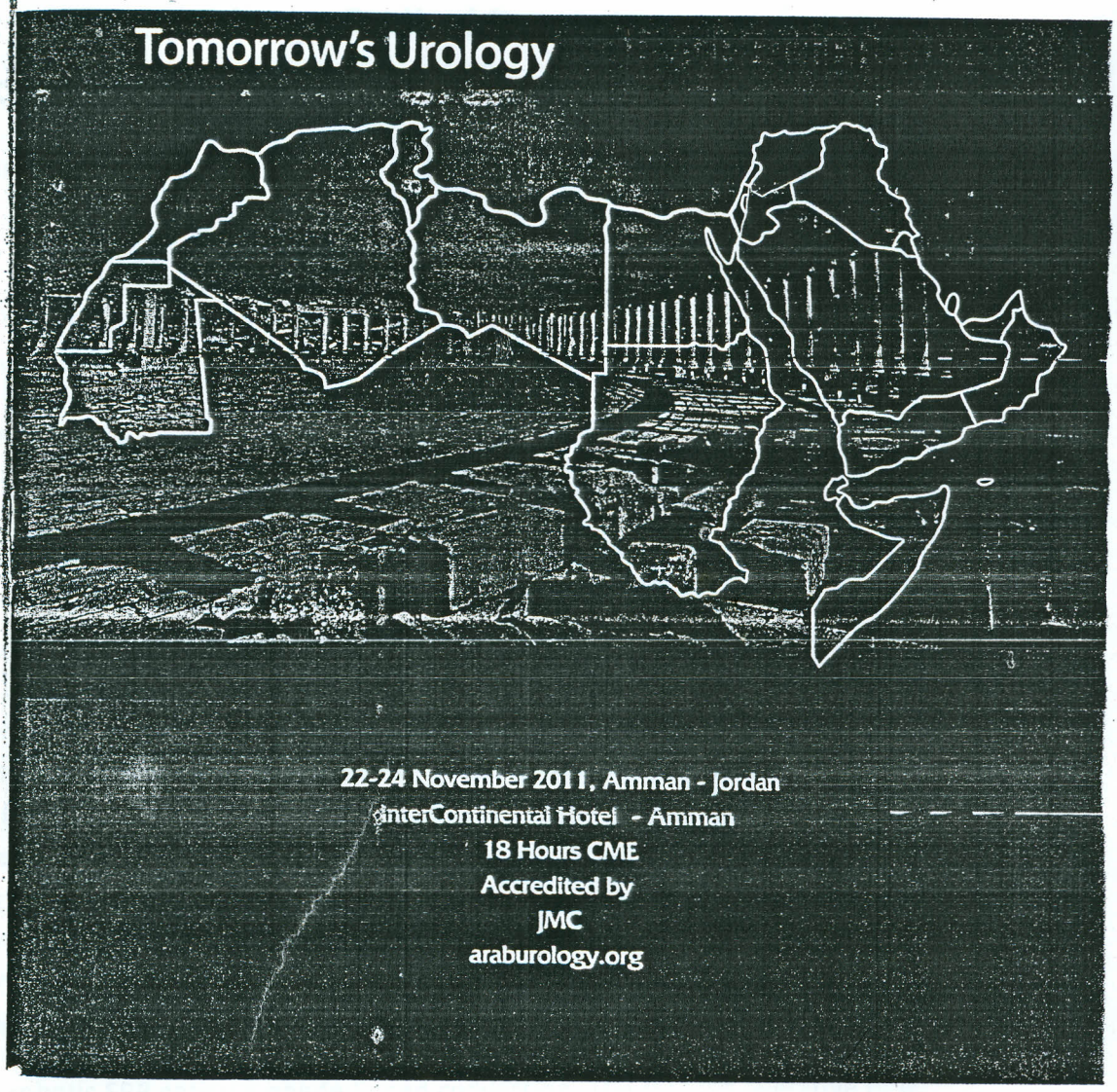

Robotic vs. Open Salvage Radical Prostatectomy for Localized Radio-recurrent Prostate Cancer

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Purpose: To evaluate and compare the feasibility and safety of robotic or open SRP for localized radio recurrent prostate cancer.

Materials and Methods: Total of 62 patients who underwent SRP due to biopsy proven prostate cancer from January 2007 to June 2011 were included. Forty-three patients with median age 67(48-76) underwent open SRP between January 2007-October 2010(group I) and 19 patients with median age 66(51-76) underwent robotic assisted SRP (group II) between September 2009-June 2011. The median values of PSA for group I and group II were 6.65 and 6.3 ng/ml respectively. The pre salvage median prostate specific antigens (PSA) were 3.6ng/ml (range, 0.2-13.7) and 1.8ng/ml (0-0.95) for group I and group II respectively. The Gleason score at initial diagnosis was identical for both groups 7(6-9). Urinary diversion was done in 11 patients in group I and no diversion was performed in group II. Pelvic lymph node dissection was done 41 patients (97.76%) in group I and in 17 patients (89.47%) in group II. Pre, peri and postoperative parameters as well as oncological and functional outcomes were evaluated and compared for both groups. Biochemical recurrence (BCR) after surgery was defined as detectable measurement of PSA after surgery. Continence was defined as being pad free and potency as enough erection for penetration with or without medication. The median follow up periods were 14 months (range, 1-66) and 6 months (range, 1-20) for both groups respectively.

Results: None of the robotic SRP patients needed open conversion. The median operative time and blood loss in group I were 291 minutes (range,123-852) and 900 cc (range,150-8000) respectively, however the median vales for the same parameters in group II were 295 minutes (range, 234-536) and 275 cc(range, 100-1200) respectively. Blood transfusion was done for 12 patients (27.9%) and 2 patients (10.52%) in group I and group II respectively. Hospitalization for both groups were 4 day (range, 1-16) and 3 day(range, 1-7) respectively. Surgical margins were positive in 12 patients (27.9%) in group I and in 2 patients (10.52%) in group II. Seminal vesicle involvements were found in 18 patients (41.8%) in group I and in 9 patients (47.36%) in group II.

Numbers of lymph nodes dissected were 10.5(4-30) and 10(2-22) for group I and group II respectively. Rectal injury occurred in 3 patients (6.97%) in group I and in 1 patient (5.2%) in group II. Clinically significant post-operative complications which mandated surgical intervention occurred in 10 patients (23.25%) in group I and in 3 patients in group II (15.78%). Thirty-four patients (80.95%) have undetectable PSA after surgery in group I and 12 patients (75%) in group II. Fifteen patients (37.71%) had BCR in group I and in 4 patients (23.52%) in group II. The continence rates were 42.3% and 53.84% for group I and group II respectively. Potency rate was 33.33% in group I and only three patients had follow up more than 6 months in group II; 2 were satisfied with penile prosthesis and 1 had erection with medication. Five patients (16.66%) had stricture in group I and no stricture was observed in group II. The median values of the last PSA were 0.7ng/ml (range,0.4-65.2) and 1.1ng/ml(range, 0.19-18.7) in group I and group II respectively.

Conclusion: Open or robotic SRP are effective and safe options for the treatment of radio recurrent prostate cancer with modest complication rates. The oncological and functional outcomes of robotic SRP are comparable to open SRP, with added advantage of less blood loss and shorter hospitalization period. Robotic SRP may also have a lower rate of anastomotic stricture. Further studies with larger number of patients and longer follow up are necessary before definite conclusion can be drawn.