



ANTEGRADE MONOLATERAL NERVE SPARING RADICAL PROSTATECTOMY: A PROSPECTIVE SINGLE CENTER STUDY TO ASSESS FUNCTIONAL OUTCOMES OF OPEN VS. ROBOT ASSISTED APPROACH

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Hypothesis / Aim of the Study

In our tertiary referral center, open antegrade radical prostatectomy (OARP) has been continuously performed during the last decades, either with nerve sparing (NS) or non nerve (non NS) sparing approach. In the last 5 years, we have progressively shifted men suitable for NS prostatectomy to the antegrade robot-assisted approach (RARP). The aim of this prospective single center study is to compare perioperative results and functional outcomes of monolateral nerve sparing OARP vs. RARP.

Study design, Materials and Methods

One-hundred-one patients with PCa were prospectively included in the study: 53 treated with OARP and 48 with RARP. All patients presented PSA ≤ 10 ng/ml, T1c-T2 clinical stage and bioptical Gleason score $\leq 3+4$. All patients were sexually active, with an IIEF-5 ≥ 22 . Due to the high unilateral concentration of several (≥ 3) positive biopsy cores, only a single neurovascular bundle has been preserved for all the enrolled patients. The same drug-assisted protocol of rehabilitation was used for all patients. A comparison of perioperative and follow-up variables was performed with an unpaired samples T-test or a Mann-Whitney Test.

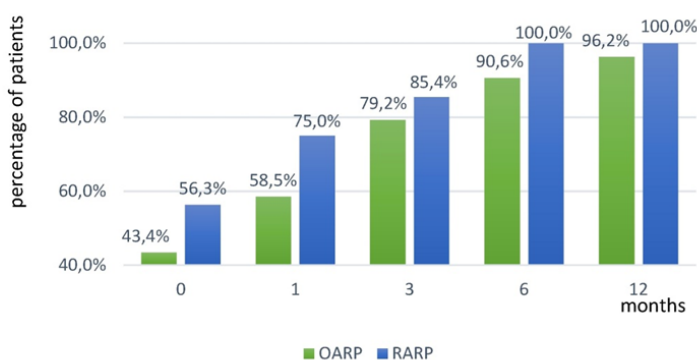
Results

Preoperative characteristics (age, BMI, Charlson and ASA score, preoperative PSA, bioptical Gleason score distribution, positive/overall biopsy cores ratio, prostate volume) of men treated with monolateral OARP were comparable to those treated with RARP.

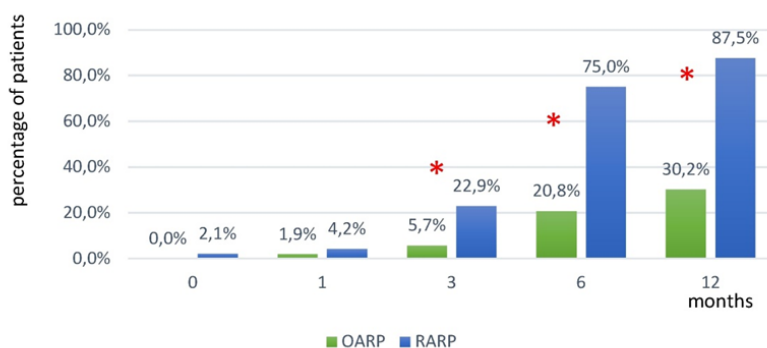
RARP allowed to achieve a significantly lower median estimated blood loss (200 vs. 600 ml, $p < 0,001$), higher median operative time (170 vs. 145 min, $p = 0,01$), lower median length of stay (LOS) (4 vs. 6 days, $p < 0,0001$) and lower length of catheterization (8 vs. 15.5 days) as compared to OARP.

Urinary continence (≤ 1 pad per day) was achieved in 96.2% of OARP and 97.9% of RALP ($p = 0,17$), while erectile function recovery (IIEF-5 ≥ 17) in 30.2% of OARP and 87.5% RALP ($p < 0,001$). From the 3rd to the 12th months the rates of men recovering their sexual function were significantly higher for those treated with RALP as compared to those treated with OARP (see figure, $* = p < 0,05$).

Comparison of cumulative recovery of urinary continence (%)



Comparison of cumulative recovery of erectile function (%)



Interpretation of Results

Monolateral nerve sparing RARP can be performed with better intraoperative and perioperative outcomes as compared with OARP. Moreover, while urinary function recovery was similar in both procedures, RALP seems to provide outstanding sexual recovery since the 3rd postoperative month as compared with OARP.

Concluding Message

In this study we reported for the first time in literature a large single center experience on monolateral nerve sparing antegrade prostatectomy performed with open vs. robotic approach. Monolateral nerve sparing RARP is a safe surgical technique, with an higher rate and earlier erectile function recovery compared to OARP.