PE05 Oncological safety of nerve-sparing robotic radical prostatectomy

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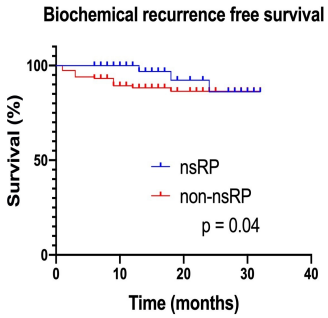
Introduction & Objectives: There are different types of nerve-sparing radical prostatectomy (nsRP) techniques described, but any periprostatic tissue sparing option may potentially increase the risk of positive surgical margins (PSM) and biochemical recurrence (BCR). Thus, the decision of neurovascular bundle (NVB) sparing is always a compromise between maximal oncological efficacy and function preservation. Despite the number of features and algorithms suggested for patients' selection for nsRP (multiparametric MRI, nomograms, etc.), significant number of NVB sparing cases may still be accompanied by unfavorable histopathological findings that may cause negative influence on oncologic results. The aim of this research is definition and comparative evaluation of oncological risks in large modern series of nsRP.

Materials & Methods: Prospective study group comprised 313 patients who underwent uni- or bilateral nsRP (234 - robotic-assisted; 79 - retropubic) from 2014 to 2018; control group included 592 patients with clinically localized prostate cancer who underwent non-nsRP from 2014 to 2018. Mann-Whitney U-test was performed to assess continuous variables; chi-squared test was used for comparative analysis of categorical data. BCR free survival was evaluated with Kaplan-Meier method, log-rank test was used to compare survival outcomes.

Results: Adverse histopathological findings were lower in the study group: extracapsular extension was found in 9,4% and 18,75% (p<0,001), grade group upgrade in 23% and 29,3% (p=0,04), PSM in 15% and 22,1% (p=0,01). Subanalysis according to cancer risk groups showed lower PSM rates in high-risk patients (15,6% and 30,3%, p=0,017) and tendency for higher PSM rates in low-risk patients in the study group with no significant difference (12,6% and 7%, p=0,16). BCR free survival after 12 months was 100% and 88,2%, after 20 months – 92,3% and 86,4%, p=0,04. PSM rates in the study group were not significantly different depending on the type of surgery: 13,9% in robotic-assisted approach and 15,4% in retropubic approach, p = 0,75.



Conclusions: Relatively favorable histopathological outcomes and BCR free survival can be achieved after nsRP. However, obtained results could not be considered optimal and clearly indicate the need for further improvement of preoperative planning and intraoperative quality control of surgical treatment.