

## Risk factors for peri-operative high-grade complications in patients with prostate cancer treated with robotic radical prostatectomy

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**Introduction & Objectives:** Aim of our study was to evaluate the risk factors for high-grade complications (Clavien Classification System  $\geq 3a$ ) in patients treated with with robotic assisted radical prostatectomy (RARP).

**Materials & Methods:** Between 2012 and 2017, a consecutive series of patients with prostate cancer were treated with robotic radical prostatectomy (RRP). Demographic, clinical and histological characteristics of the patients were recorded. Histological specimens were graded according to the new PGG classification. Complications were classified according to the modified Clavien classification system (CCS). Logistic regression analysis was performed to evaluate the risk of high grade complications (CCS $>3a$ ).

**Results:** Overall 9273 patients were enrolled. Median age was 65 (60/70) years, median BMI was 27 (25/29) kg/m<sup>2</sup>, median prostate volume was 38 (29/50) ml and median PSA was 7.4 (5.5/11) ng/ml. Overall 323/9273 (3,5%) presented high grade complications; patients with high grade complications presented a higher BMI, larger prostates, higher ASA score and performed a non-nerve sparing procedure ( $p<0.05$ ). On age-adjusted multivariate analysis BMI (OR: 1,05, 95%CI:1.01-1.07,  $p=0.002$ ), prostate volume OR: 1,05, 95%CI:1,00-1,01,  $p=0.045$ , Nerve Sparing (OR: 0,50, 95%CI:0,35-0,72,  $p=0.001$ ) and ASA score $\geq 3$  (OR: 1,50, 95%CI:1,09-2,06,  $p=0.001$ ) were independent predictors of high grade complications.

**Conclusions:** High grade complications are uncommon events in patients treated with RARP. However, overweight patients with high prostate volume and high ASA score still present a significant risk when a non-nerve sparing procedure is performed. Our results if confirmed could be used to counsel patients before surgery.