

## **Post-Operative Pain and Neuromuscular Complications Associated with Patient Positioning After Robot-Assisted Radical Prostatectomy**

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**Objective:** Robot assisted radical prostatectomy (RARP) has been used in a growing number for organ confined prostate cancer as a surgical therapeutic option due to various benefits. Although, RARP has positive effects on patients' outcomes and surgeons' comfort, low-lithotomy and steep Trendelenburg position during RARP can cause discomfort in patients after operation. In this study, we aimed to evaluate postoperative neuromuscular complications and pain related to the position.

**Material and methods:** It was a prospective study with data of 534 patients who underwent RARP between September 2010 and June 2014. Patients were positioned in the operating room by the operating room staff and postoperative follow-up were performed by other independent two urologists. Patient's age, body mass index (BMI), comorbidities, previous operative and medical history, presence of implants, operation time, American Society of Anaesthesiologists (ASA) scores, postoperative complications associated with positioning, pain score according to Visual Analogue Scale (VAS) consultations, and hospital stay were recorded. The SPSS V.15 was used for statistical analyses. Significant p value was accepted when  $p < 0.05$ .

**Results:** A total of 71 (13.3%) postoperative complications which were associated with positioning were determined. Postoperative pain and neuromuscular injuries were observed in 54 (10.1%) and 27 (5%) patients, respectively.

We found that ASA, BMI, and comorbidities were significant associated with postoperative pain levels in univariate analyses ( $p=0.015$ ,  $p=0.013$ ,  $p=0.014$ ; respectively). Additionally, ASA, previous operations, and comorbidities were significant associated with postoperative complications ( $p=0.047$ ,  $p=0.015$ ,  $p=0.022$ ; respectively). According to our statistical analyses, when  $BMI < 30$  and presence of

any implant were significantly associated with postoperative pain in multivariate logistic regression analyses ( $p=0.010$ ,  $p=0.033$ ; respectively). Furthermore, having comorbidities was significantly associated with postoperative complications in multivariate analyses ( $p=0.046$ ).

**Conclusions:** Patient positioning during RARP can cause patient discomfort and postoperative neuromuscular complications after operation. Patients with comorbidities and implant history can have a high risk for neuromuscular injuries and postoperative increased pain. Increased level of ASA may be more related with positioning complications. Operating room staff and also anaesthesia team should be very careful with the patients undergoing RARP in steep Trendelenburg and low-lithotomy position.