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Introduction & Objectives: Radical Cystoprostatectomy (RCP) with Ileal Orthotopic Neobladder (IONB) is a common surgical treatment for men with muscle-invasive bladder cancer. However, limited preoperative risk factors for incidental Prostate Cancer (PCa) after RCP have been identified. Therefore, in this study, we investigated the role of Prostate Imaging Reporting and Data system version 2 (PI-RADSV2) for prediction of incidental PCa after RCP

Materials & Methods: We retrospectively reviewed 127 patients who underwent multiparametric magnetic resonance imaging (mpMRI) and RCP for bladder cancer between November 2016 and January 2018. Incidence of PCa was identified and clinicopathologic characteristics were compared according to the presence of incidental PCa. Clinically significant PCa (CSC) was defined as Gleason score ≥ 7 and/or pathologic tumor stage \geq pT3. All mpMRI findings were assessed with PI-RADSV2.

Results: Of the 127 patients, median prostate specific antigen (PSA) was 1.38ng/ml and PI-RADSV2 score 4-5 was detected in 34 (26.8%) patients. Incidental PCa was identified in 28 (22.0%) patients, of which 12 (42.9%) patients showed CSC. When patients were divided according to incidental PCa, PSA and PI-RADSV2 score were not significantly different ($P = 0.014$ and $P = 0.226$, respectively). However, PSA was not different but PI-RADSV2 score 4-5 was more frequently identified in patients with CSC (80.0% [8/10] vs 12.5% [2/16], $P = 0.005$). In 13 patients with PSA ≥ 2.5 ng/ml and PI-RADSV2 score 4-5, incidental PCa was diagnosed with 5 (38.5%) patients, of which CSC was detected in 4 (80.0%) patients.

Conclusions: After RCP, incidental PCa was found in 22% of patients. PI-RADSV2 score 4-5 was significantly associated with CSC. PI-RADSV2 might be used as a preoperative imaging tool to determine risk classification and to help counsel patients with regard to treatment decision.