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**Introduction & Objectives:** Controversy exists about what treatment is most suitable for high-risk or locally advanced prostate cancer. In this study we assess the rate of urinary incontinence and erectile dysfunction presented in patients with locally advanced prostate cancer (pT3a or pT3b) after undergoing open retropubic radical prostatectomy.

**Materials & Methods:** In a retrospective review we identified 56 patients that underwent radical prostatectomy at Prof. Dr. Theodor Burghel Hospital in 2016-2017. These patients were confirmed with pathological T3a stage or greater. This study determines positive surgical marginal rates, the rate of urinary continence and the recovery of erectile function in patients who had some degree of neurovascular bundle preservation. None of the patients received penile rehabilitation therapy with PDE5 inhibitors. All patients declared they were urinary continent and had sexual function prior to surgery (IIEF-5 score of at least 17).

**Results:** 47 patients had pT3a staging and 9 of them were diagnosed with pT3b. In the first 3 months after surgery 26.7% of patients experienced urinary stress/urge incontinence that required no more than 1 pad/24h. Total incontinence was not present. One year after surgery 80.3% of patients declared they had complete urinary control. Preservation of sexual function, one year after surgery, in patients who underwent bilateral nerve sparing operation was achieved in 13 patients (23.2%). 23% of patients with neurovascular bundle preservation had a positive surgical margin compared 18% positive surgical margins present at the rest of the patients included in the study.

**Conclusions:** Although independent factors such as patient age, weight or obstructive voiding symptoms influence incontinence and impotence rate, both continence and potency were preserved in a significant number of patients. Radical prostatectomy for locally advanced prostate cancer should be taken into consideration as it offers complication rate and quality of life similar to radical prostatectomy for localized disease. Some degree of neurovascular bundle preservation can be done in selected patients with an acceptable rate of positive surgical margins.