# IS AN IMMEDIATE PAD USAGE AFTER RADICAL PROSTATECTOMY (RP) STILL AN USUAL CONDITION EVEN IN THIS ERA?; A COHORT ANALYSIS OF THE CONTINENCE OUTCOME AFTER ROBOT-ASSISTED RP WITH MODERN ANTI-INCONTINENCE TECHNIQUE


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## Introduction

Historically, urinary incontinence after RP has been considered the major factor for the decision of the non-surgical therapeutic option for a prostate cancer patient, although our group published that most of the temporary incontinence is recovered within 3 months and permanent incontinence is about 1% after robot-assisted RP (RARP) more than a decade ago. We have actively adopted the various anti-incontinence techniques and analyzed the urinary functional outcome of our recent surgical cohort.

## Methods

A recent 200 cases among the prospectively collected surgical cohorts of 832 robot-assisted RP (RARP) performed in a single tertiary center since 2011 were analyzed. All RARPs were performed after bladder take-down and most of the published modern surgical techniques including hammock-shaping Denonvilliers' fascia reconstruction, PPI reconstruction, anterior reconstruction, and Burch suture. The structure of the urethra and bladder neck was preserved as much as possible during, if not violate the oncological principle. The bladder neck was reconstructed if the size of the opened bladder neck does not match the urethra. Before the anastomosis, the bladder neck was approximated to the urethra enough to tension-free reconstruction is available. The foley catheter was removed on the postoperative 6th day. The primary endpoint is the usage of a pad due to incontinence. The secondary endpoint is International Prostate Symptom Score & Quality of Life (IPSS/QoL), 72-hour voiding-diary, and uroflowmetry after surgery. The healing status of the anastomosed urethra was evaluated a month after surgery by flexible urethroscopy. The factors affecting the functional outcome were analyzed.

## Results

Among the 200 cases from Oct 2020 to Mar 2022, 163 (81.5%) did not report any pad use after RARP. The median age and initial serum prostate-specific antigen level were 68 (28-80) and 11.4 (2.4-85.2) ng/dl. The 126 (63%) cases were pT3. 2 cases (1%) required a foley catheter reinsertion less than an additional 1 week due to high residual volume (>100cc) immediately after removal. Among 163 immediately pad-free patients, 53 (32.5%) and 23 (14.1%) demonstrated nocturnal frequency (>2/night) and day-time frequency (>8/day) at postoperative 1-month voiding diary. Only 5 (3.1%) reported unfavorable uroflowmetry (MFR<10ml/sec or RU>100cc) during follow-up. Among 37 non-immediate pad-free patients, the median required time to pad-free was 1 month. At the multivariate logistic regression analysis, the pre-operative unfavorable uroflowmetry and pre-operative urinary incontinence are the two independent factors that predict the immediate pad usage after RARP. The healing status was better within the continent group, however, most of the delayed healing patients were initially pad-free.

**Table 1.**

**Clinicopathological features of patients who underwent RARP**

| **N=200** | |
|---|---|
| **Age, mean, years, (SD)** | **68 (28–80)** |
| Hypertension (%) | 91 (45.5) |
| Diabetes (%) | 38 (19) |
| Cardiovascular disease (%) | 30 (15) |
| BMI mean (SD) | 27.9 (20.1 - 45.2) |
| Initial PSA (ng/ml) mean (SD) | 11.4 (2.4-85.2) |
| Prostate weight, grams, mean (SD) | 43.3 (11–155) |
| Previous BPH surgery (%) | 23 (11.5) |
| Pathologic Gleason score (%) | |
| 3 + 3 | 23 (11.5) |
| 3 + 4 | 63 (31.5) |
| 4 + 3 | 56 (28) |
| 4 + 4 | 36 (18) |
| 4 + 5 | 14 (7) |
| 5 + 4 | 4 (2) |
| 5 + 5 | 4 (2) |
| Pathologic Stage (%) | |
| T2 | 36 (72) |
| T3 | 63 (126) |
| T4 | 1 (2) |
| Positive Surgical Margins (%) | 43 (21.5) |

**Table 2.**

**Urinary continence recovery timeline after RARP**

| | **Immediate (<1wk)** | **3 month** | **12 month** |
|---|---|---|---|
| **Continent (%) (No Pads)** | **81.5 (163)** | **91 (182)** | **98.5 (197)** |
| **Mild UI (1–2 pads) (%)** | **11 (22)** | **6.5 (13)** | **2 (1)** |
| **Moderate UI (3–4 pads) (%)** | **5.5 (11)** | **2.5 (5)** | **0.5 (1)** |
| **Severe UI (≥5 pads)(%)** | **2 (4)** | **0 (0)** | **0 (0)** |

**Table 3.**

**Multivariate Analyses of the Variables Associated with Immediate Continence Recovery**

| | | **95% CI** | | |
|---|---|---|---|---|
| | **Odds ratio** | **Lower** | **Upper** | **P value** |
| **Age≥70 (years)** | **0.281** | **0.109** | **0.729** | **0.102** |
| **BMI (kg/m2)** | **0.947** | **0.899** | **0.998** | **0.072** |
| **Clinical stage≥T2** | **0.483** | **0.264** | **0.886** | **0.121** |
| **preoperative incontinence (yes/no)** | **1.402** | **1.293** | **1.503** | **0.012** |
| **preoperative worse uroflowmetry* (yes/no)** | **1.213** | **1.055** | **1.351** | **0.023** |

## Conclusions

The recent anti-incontinence technique made an immediate pad-usage is not a usual condition after RP anymore, and it also did not deteriorate the other urinary function. Our study implies that the global efforts of the last few decades to overcome the representative complication of RP started to come to fruition and the conquest may not be far away. This continent outcome improvement will change the decision flow-chart for prostate cancer patients.