

## EFFECT OF URINARY INCONTINENCE ON LONG-TERM QUALITY OF LIFE AFTER ROBOT-ASSISTED RADICAL PROSTATECTOMY

### Hypothesis / aims of study

Robot-assisted radical prostatectomy (RARP) is reportedly associated with less incontinence than retropubic radical prostatectomy (RRP) and laparoscopic radical prostatectomy (LRP); however, urinary incontinence continues to occur at a constant rate. There are few reports of the effect of urinary incontinence to perform a detailed examination on postoperative quality of life (QOL) following RARP. Therefore, we examined the association between urinary incontinence following RARP and health-related QOL.

### Study design, materials and methods

From October 2010 to August 2016, 319 patients underwent RARP at our hospital. A Short-Form-8 (SF-8) evaluation was performed in 154 retrospectively selected patients with 24 months of available pre- and postoperative data (postoperative evaluations at 1, 3, 6, 9, 12, and 24 months). Evaluation items included physical function (PF), role limitations because of physical health problems (RP), bodily pain (BP), general health perception (GH), vitality (VT), social functioning (SF), role limitations because of emotional problems (RE), mental health (MH), physical component summary (PCS), and mental component summary (MCS). These items were assessed before and after surgery. "Pad free" was defined as no incontinence, and we examined the relationship between postoperative urinary incontinence and SF-8 data.

### Results

The average age at surgery was 65 (range: 48–76) years and the average prostate volume was 31.6 mL (range: 11–131). Surgery was bilateral in 6.5%, unilateral in 39.6%, and non-nerve-sparing in 53.9%. We observed a significant reduction in all preoperative scores at 1 month postoperatively ( $p < 0.0001$ ); the scores recovered to preoperative levels between 3 and 12 months after surgery. The BP, GH, RE, MH, and MCS scores were significantly higher than the preoperative values. In the no-incontinence group, the GH, VT, SF, and MH scores were significantly higher than those in the incontinence group at 1 month postoperatively. Significant postoperative differences in BP were not observed between the two groups. In the summarized score, PCS showed a significant difference only after 3 postoperative months, whereas MCS showed a significant and persistent difference after 3 postoperative months.

### Interpretation of results

RARP was performed under magnified and fine vision, enabling more delicate and less invasive surgical procedures, in contrast with open prostatectomy. It is anticipated that delicate manipulation will achieve improved continence after prostatectomy. This study evaluated both the recovery of continence and the effect of incontinence on QOL after surgery. The mental QOL score in the no incontinence group was significantly better than the respective in the incontinence group. On the other hand, there was a little difference between the two groups in the physical QOL score. This suggests that urinary incontinence after RARP has a greater effect on mental QOL than on physical QOL.

### Concluding message

Although all scores significantly decreased within 1 month postoperatively, the values recovered to preoperative levels within 12 months. No incontinence after surgery appears to have a favorable effect on patient QOL following RARP, especially for the mental component.

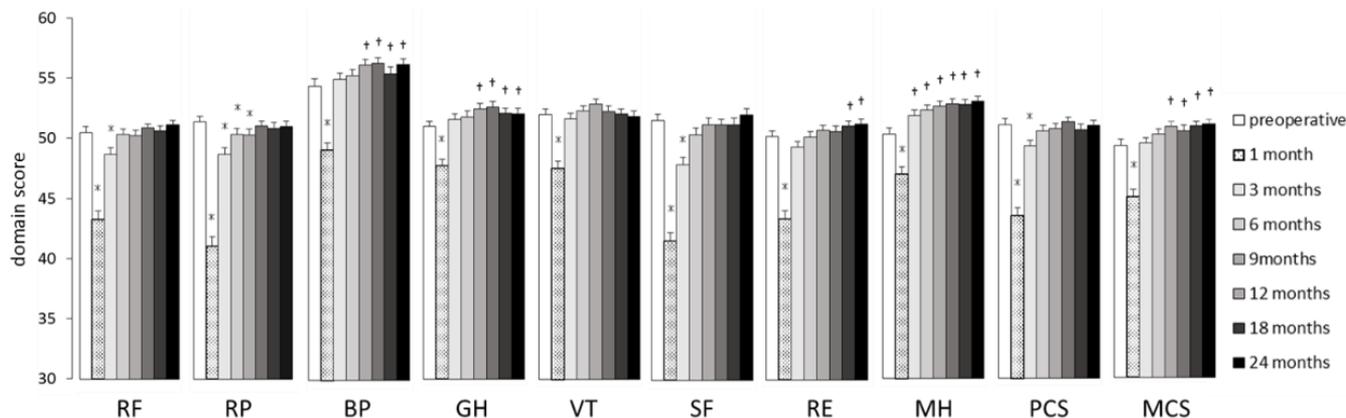


Figure 1: Changes of each SF-8 domain and summarized score before and after robot-assisted radical prostatectomy

PF: physical function, RP: role limitations because of physical health problems, BP: bodily pain, GH: general health perception, VT: vitality, SF: social functioning, RE: role limitations because of emotional problems, MH: mental health, PCS: physical component summary, MCS: mental component summary

\*, significantly decrease from preoperative value,  $p < 0.05$

†, significantly increase from preoperative value,  $p < 0.05$

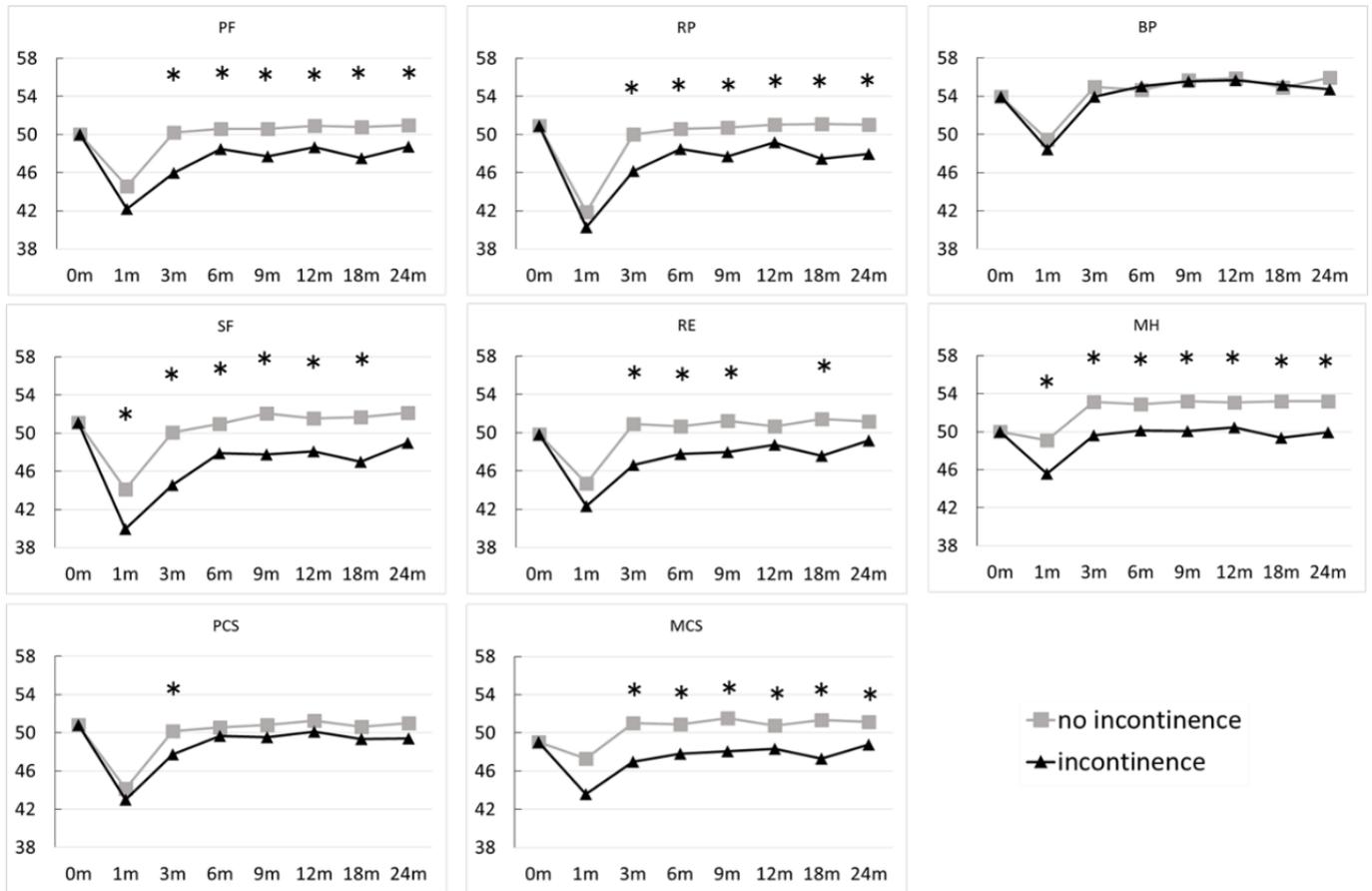


Figure 2: Comparison of each SF-8 domain and summarized score for urinary incontinence before and after robot-assisted radical prostatectomy

PF: physical function, RP: role limitations because of physical health problems, BP: bodily pain, SF: social functioning, RE: role limitations because of emotional problems, MH: mental health, PCS: physical component summary, MCS: mental component summary

\*, significantly different,  $p < 0.05$

#### Disclosures

**Funding:** no funding or grant **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Tottori University Ethics Committee **Helsinki:** Yes **Informed Consent:** Yes