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LONG-TERM OUTCOMES OF LOWER URINARY TRACT SYMPTOMS AFTER ROBOTIC-ASSISTED RADICAL PROSTATECTOMY

Hypothesis / aims of study

Robotic-assisted radical prostatectomy (RARP) is performed widely and reduces several complications compared to the open or laparoscopic prostatectomy. However, RARP also causes some changes in the lower urinary tract functions. There are few reports on the long-term outcome of lower urinary tract symptoms (LUTS) after RARP. We evaluated the LUTS after RARP with International Prostate Symptom Score (IPSS) and Overactive Bladder Symptom Score (OABSS).

Study design, materials and methods

We enrolled patients undergoing RARP at our institution from October 2010 to August 2015. We gave all the patients a questionnaire several times, i.e., before RARP and at 1, 3, 6, 9, 12, and 24 months after the RARP. Nerve-sparing is divided into 4 grades as below: I: intrafascial dissection, II: interfascial dissection, III: extrafascial dissection, and IV: wide dissection (non-nerve-sparing). Grade I and II were defined as nerve-sparing procedure. We evaluated the effect of nerve-sparing and divided it into 3 groups as follows: bilateral, unilateral, and non-sparing. We evaluated the relationship based on the questionnaire score into 5 scores: IPSS total score, IPSS quality of life (QOL) score, IPSS voiding score, IPSS storage score, and OABSS; and into nerve sparing procedure and pre-operative IPSS severity. The health-related quality of life scale was evaluated before and at 1, 3, and 6 months after the operation.

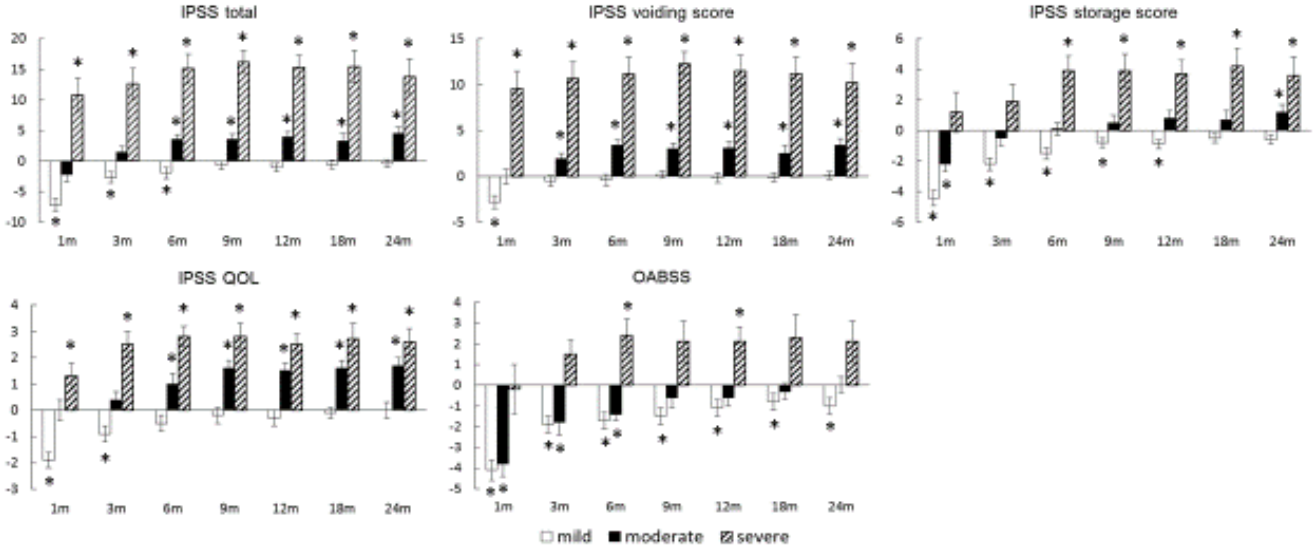

Figure 1. Improvement of IPSS total and sub scores and OABSS
These showed improvements of some scores compared to the preoperative scores.
IPSS: International prostate symptom score, OABSS: overactive bladder symptom score
* : p <0.05 significantly different compared to pre-operative scores

Results

A total of 264 patients receiving RARP were identified, of which 80 were eligible for this study. The mean age, mean body mass index, mean prostatic volume, and mean prostate-specific antigen were 64 years, 23.9 kg/m^2, 36 mL, and 7.85 ng/mL, respectively. Nerve-sparing was performed bilaterally in 8 patients and unilaterally in 34 patients. It was not performed in 38 patients. IPSS was mild in 43, moderate in 26, and severe in 11 patients before RARP. In the IPSS high score group, the IPSS total, QOL, and voiding scores improved significantly after the RARP (Figure 1). Bilateral nerve-sparing tends to decrease the IPSS total, QOL, and voiding scores compared to no sparing; however, there were no significant differences.

Interpretation of results

In this study, we found that RARP improved LUTS for a long time in preoperative severe LUTS patients; especially, the voiding symptoms improved in the early phase and a good voiding scores was maintained for a long period of at least 2 years. The storage symptom and OABSS improved after 6 months. There are no reports of the storage symptoms after RARP; however, some reports suggested that Holmium laser enucleation of the prostate improved storage symptoms[1)]. We thought that RARP also reduced bladder outlet obstruction, which gradually reduced detrusor overactivity. When we performed the unilateral or non-sparing, storage score and OABSS were getting worse temporarily just after the RARP; however, there was no significant differentiation in LUTS whether the bilateral nerve sparing was performed then or at a later period.

Concluding message

We assume that RARP improved LUTS, especially for the preoperative IPSS high score group. Furthermore, bilateral nerve-sparing seems to create a good voiding condition rather than no-nerve sparing.

References

1. PLos One. 2015 Jun 19; 10(6): e0129111

Disclosures

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