

Effects of PDE5i administration immediately after nerve-sparing radical prostatectomy on postoperative recovery of urinary continence

Hypothesis / aims of study

Urinary incontinence and erectile dysfunction are major complications after radical prostatectomy (RP). To promote recovery of postoperative erectile function, penile rehabilitation has recently attracted attention. There have been some reports describing the efficacy of oral phosphodiesterase type-5 inhibitors (PDE5i) on penile rehabilitation in patients with postoperative erectile dysfunction. On the other hand, the efficacy of PDE5i on recovery of urinary continence after RP has not been well elucidated. At the last ICS meeting, a retrospective study of the effects of PDE5i (sildenafil, vardenafil, or tadalafil) administration on recovery of urinary continence for 36 months after nerve-sparing retropubic RP was reported (abstract no. 20). Results showed that patients who started PDE5i therapy within 3 months (from postoperative day 28 to 90) after RP (early-PDE5i group) had a tendency to have better recovery of urinary continence than those who started PDE5i after 3 months (late-PDE5i group) or who did not take a PDE5i (non-PDE5i group).

We have recently started to advise patients to start PDE5i the day after RP (immediate-PDE5i group). To elucidate the effects of immediate-use therapy on recovery of urinary continence, we investigated changes in pad-free rates in patients who took PDE5i the next day after RP and compared the effects of immediate-use therapy with retrospectively studied data.

Study design, materials and methods

Thirty-four of 38 patients who underwent nerve-sparing retropubic RP in our institute from July 2008 to July 2009 (mean age of time of surgery, 63.0 years) started PDE5i (tadalafil 20 mg) twice a week from the day after surgery for first four weeks and continued therapy once a week. Recovery of urinary continence in the immediate-PDE5i group was compared with that in the early, late, and non-PDE5i groups from another study. Urinary continence was estimated using the pad-free rate obtained from the urinary function domain of the Extended Prostate Cancer Index Composite (EPIC) questionnaire preoperatively and at 1, 3, 6, 12, 18, and 24 months after RP. Pad-free was defined as response of "no pads" to item 5 of EPIC (how many pads or adult diapers per day did you usually use to control leakage during the last 4 weeks?).

Results

Of the 34 patients, 31 (91.2%) returned the questionnaire, and the collection rate was 88.7%. Mean follow-up period was 14.2 months. Pad-free rates in the immediate-PDE5i group, as well as the early, late, and non-PDE5i groups, initially worsened to the lowest score 1 month after RP and then gradually improved. Deterioration of urinary incontinence just after RP was worse in the immediate-PDE5i group. At 1 month after RP, the immediate-PDE5i group had significantly lower pad-free rates than the other groups. Notably, the rate was lower than that of the non-PDE5i group (23.5% in immediate-PDE5i group vs. 31.3% in non-PDE5i group (Figure).

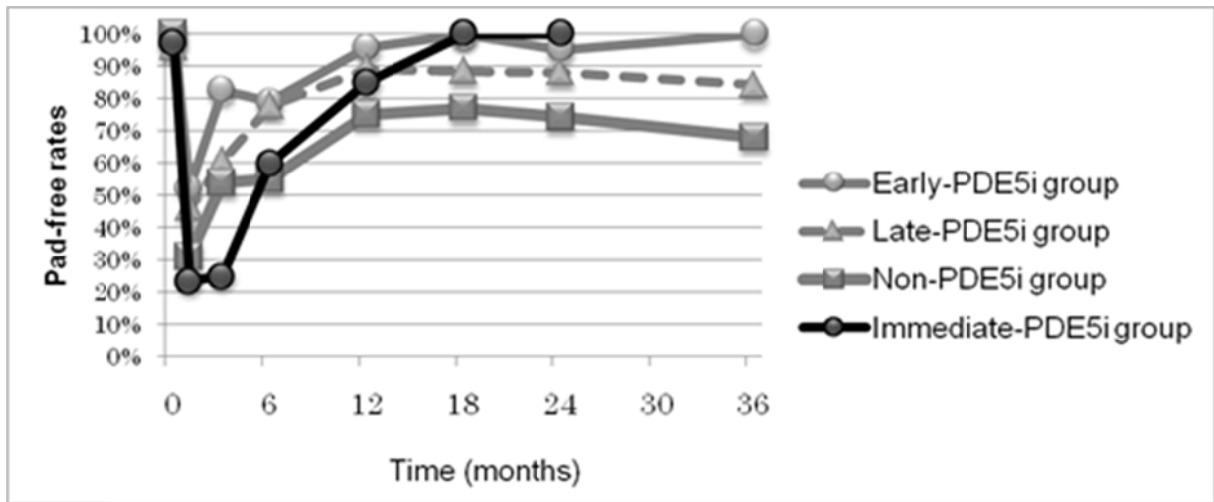
However, pad-free rates in the immediate-PDE5i group showed good recovery and returned to the preoperative level about 1 year after RP (85%, 100% and 100% at 12, 18, and 24 months after RP, respectively). At 18 months after RP, the pad-free rates in the immediate-PDE5i group returned to the same level as that seen in the early-PDE5i group, which showed the best recovery in the previous data groups.

Interpretation of results

PDE5i promote the recovery of postoperative urinary continence, although immediate use of PDE5i is associated with a transient deterioration of urinary incontinence after RP.

Concluding message

Our data indicate that administration of PDE5i can improve urinary continence after RP. Oral administration of PDE5i is recommended to improve postoperative urinary continence recovery. However, there appears to be a temporary deterioration of urinary incontinence when the PDE5i is used immediately after RP. As far as urinary continence is concerned, immediate-use therapy does not appear to be better than early-use therapy. Administration of PDE5i at the first visit after surgery (about 4 to 12 weeks after RP) may be sufficient to promote postoperative urinary continence.



<i>Specify source of funding or grant</i>	Non
<i>Is this a clinical trial?</i>	No
<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	Yes
<i>Specify Name of Ethics Committee</i>	the Ethics Committee of Tohoku University
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes