

## URINARY STRAINING LEADS TO INGUINAL HERNIA AFTER RADICAL RETROPUBIC PROSTATECTOMY.

### Hypothesis / aims of study

Inguinal hernia (IH) is seen with high frequency after radical prostatectomy (RP), reportedly occurring in 12-24% of patients who undergo RP. A prophylactic method to prevent IH during RP was recently proposed<sup>1)</sup>, involving transection of the processus vaginalis, where the contents of the abdominal cavity are pushed into the inguinal canal under abdominal pressure. On the other hand, postoperative detrusor underactivity has recently been observed in as much as 30% of patients after RP<sup>2)</sup>, requiring high abdominal pressures to void urine. We speculated that abdominal pressure when urinating is an important factor in postoperative IH. The present study therefore examined whether straining on urination leads to IH after RP.

### Study design, materials and methods

A total of 427 patients who underwent radical retropubic prostatectomy in our institution between 2002 and 2011 were examined. Since 2007, we have implemented a prophylactic method to prevent postoperative IH. Development of IH was assessed from clinical records. Straining was estimated using the 'Straining' question from the International Prostate System Score (IPSS) questionnaire ("Over the past month, how often have you had to push or strain to begin urination?") preoperatively and at 1, 3, 6, 12, 18, 24, 36 and 48 months after RP. Straining was rated on a 6-point scale according to the frequency of straining using answers to the question (straining score: 5, almost always; 4, more than half; 3, about half the time; 2, less than half; 1, less than one time in 5; or 0, not at all). Straining scores were compared between patients with postoperative IH (IH group) and without postoperative IH (non-IH group).

### Results

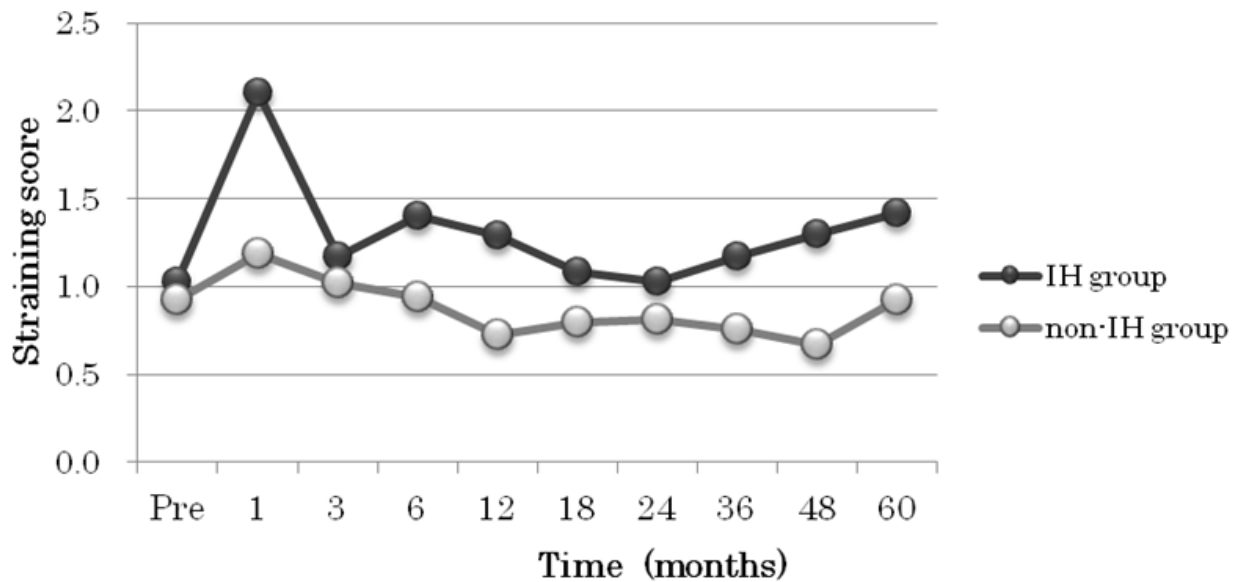
IH after RP developed in 45 of the 427 patients. Incidence of IH decreased from 19.2% (41/214) to 1.9% (4/213) after adoption of the prophylactic method. No significant difference in preoperative straining score was seen between groups. Straining scores in both groups showed significant decreases at 1 month after RP. This decrease was more distinct in the IH group than in the non-IH group. Straining scores in the non-IH group returned to preoperative levels by 3 months postoperatively, while scores in the IH group had not fully recovered to preoperative levels by 48 months after RP.

### Interpretation of results

Straining on urination after RP was more distinct in the IH group than in the non-IH group, and had not resolved by 48 months after RP in the IH group.

### Concluding message

Straining on urination was highly recognizable in patients with IH after RP. Straining may be an important factor associated with IH after RP. Transecting the processus vaginalis that leads to IH under repeated abdominal pressure such as straining on urination offers an effective technique to prevent IH after RP.



#### References

1. Fujii et al. A novel technique to prevent postradical retropubic prostatectomy inguinal hernia: the processus vaginalis transection method. Urology 2010.
2. Matsukawa et al. De novo detrusor underactivity after laparoscopic radical prostatectomy. Int J Urol. 2010.

#### Disclosures

**Funding:** non **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics Committee:** The ethics committee at Tohoku University **Helsinki:** Yes **Informed Consent:** No