Preoperative ultrasound-guided pelvic floor muscle training facilitates continence recovery in the early phase after robot assisted radical prostatectomy.


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INTRODUCTION

- Intraoperative damage to the native urethral sphincteric mechanisms is a cause of urinary incontinence (UI) after robot-assisted radical prostatectomy (RARP).
- Preoperative Ultrasound (US)-guided PFMT rapidly promotes continence recovery compared with patients who received verbal PFMT only after RARP. (Yoshida M, et al, ICS 2017, abstract # 215)

AIM

To determine whether combined preoperative and postoperative (i.e perioperative) US-guided PFMT can lead better continence recovery compared with preoperative US-guided PFMT in patients underwent RARP.

RESULTS

- The perioperative PFMT group had significantly less volume of extirpated specimens (prostate volume) and shorter duration of indwelling catheter [Table 1].
- The continence recovery rate for all observation period was similar between the two groups [Figure 1].

CONCLUSION

Addition of US-guided PFMT immediately after urethral catheter removal to preoperative US-guided PFMT is not superior to preoperative US-guided PFMT alone in promoting continence recovery in the early phase after RARP.

METHOD

- DESIGN: Prospective observational study
- SUBJECTS: Patients who underwent RARP
- OUTCOME: No more than one small pad (20g) use per day by self-report
- PROCEDURE:
  - US- GUIDED PFMT
    A team of a nurse and physiotherapist provided US-guided PFMT for two groups.
    Transperineal US method
    • Anatomical change during PFM contraction
    - At rest
    - During contraction
  - TIME: Before RARP, 7 days after RARP, 1 month after RARP
  - PROCEDURE:
    - US-GUIDED PFMT
      A team of a nurse and physiotherapist provided US-guided PFMT for two groups.
    - US-guided
      Before RARP, 7 days after RARP, 1 month after RARP
    - US-guided
      Before RARP, 7 days after RARP, 1 month after RARP
    - Transperineal US method
    - Nipple stimulation
    - Perioperative data
      - Console time (min)
      - Nerve sparing (palpable)
      - Lymph node dissection (N0-2)
      - Prostate volume (cm³)
      - pT stage (pT3c)
    - Catheter duration (days)
  - SETTING: A university hospital
  - PERIOD: March 2016 to December 2017
  - ETHICS: Approved by the Ethical Committee of the University of Tokyo. Written informed consent was obtained from all patients.

FIGURES

Figure 1. Rate of continence recovery
There are no differences in rate or continence recovery between the two groups (p = 0.235 at 1 month, p = 0.201 at 2 months, p = 0.548 at 3 months, p = 0.103 for all observation period by Student’s t-test).

Figure 2. Rate of continence recovery stratified by nerve sparing

Table 1. Characteristics between the two groups.

<table>
<thead>
<tr>
<th></th>
<th>Peri group (n=35)</th>
<th>Pre group (n=37)</th>
<th>p</th>
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</thead>
<tbody>
<tr>
<td>Demographics</td>
<td></td>
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<tr>
<td>Age (years)</td>
<td>66.4±5.8</td>
<td>66.2±5.8</td>
<td>0.911</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>24.0±3.0</td>
<td>24.3±3.2</td>
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<tr>
<td>PSA level</td>
<td>11.8±11.9</td>
<td>11.1±11.5</td>
<td>0.777</td>
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<tr>
<td>Perioperative data</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Console time (min)</td>
<td>66.4±5.8</td>
<td>66.2±5.8</td>
<td>0.558</td>
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<tr>
<td>Nerve sparing (palp)</td>
<td>13(37.1%)</td>
<td>7(18.9%)</td>
<td>0.084</td>
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<td>Lymph node dissection (N0-2)</td>
<td>14(42.4%)</td>
<td>25(28.6%)</td>
<td>0.232</td>
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<tr>
<td>Prostate volume (cm³)</td>
<td>40.1±13.5</td>
<td>47.5±16.5</td>
<td>0.044</td>
</tr>
<tr>
<td>pT stage (pT3c)</td>
<td>14(40.0%)</td>
<td>10(27.0%)</td>
<td>0.243</td>
</tr>
<tr>
<td>Catheter duration (days)</td>
<td>5.9±0.7</td>
<td>6.9±1.7</td>
<td>0.004</td>
</tr>
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</table>

Mean ± SD (range), n (%). Student’s t-test or Fisher’s exact test.