

A COMPARISON OF CONSECUTIVE FLOW RATES AND VOIDING FUNCTIONS BETWEEN THREE DIFFERENT MIDURETHRAL SLINGS IN ELDERLY WOMEN

Hypothesis / aims of study

Surgical treatment of stress urinary incontinence (SUI) has substantially changed and midurethral slings (MUS) has progressively become gold standard for the cure of SUI. Many products have been developed using various materials for sling surgery. The Monarc subfascial Hammock system, the TOT (Tension Free Obturator Tape) system and the Align trans-obturator urethral support system are outside-to-in trans-obturator approach type and consists of polypropylene monofilament mesh. The main difference with these products is that Monarc contains an absorbable tensioning suture threaded into the length of the mesh. It allows for tensioning adjustment of the mesh after placement. TOT system is same outside-in type but has a closed edge polypropylene mesh without absorbable tensioning suture. Align has a halo needle with a larger radius arc without absorbable tensioning suture. However, there have been no previous studies to compare the outcomes of the MUS surgeries with regard to this, especially elderly women. In particular, post-operative temporary or persistent voiding dysfunction and storage symptoms are more prevalent among elderly women than among younger women after MUS surgery.

The aim of this study was to compare consecutive changes of postoperative flow rates and voiding functions among three types of MUS procedure in elderly SUI women.

Study design, materials and methods

Forty seven women with SUI undergoing MUS procedure were prospectively enrolled in this study. All enrolled patients aged 65 years or more underwent Monarc, TOT or Align procedure by one experienced surgeon under general anaesthesia. Preoperative evaluation included medical history, physical examination, a frequency–volume chart, urinalysis and complete urodynamic testing. They were evaluated postoperatively at 1 day, 1 week, 1 month, 3 months and 12 months. The voiding function was evaluated with uroflowmetry and postvoid residual urine (PVR) measurement. Patients asked if voiding had changed after surgery at every visit and completed i-QoL questionnaire at 12 months. Surgical outcomes were evaluated by the cough stress test with full bladder. In addition, perioperative complications were collected and compared.

Results

The mean age of the patients was 68.9 years (65-80). The Monarc group (n=18), the TOT group (n=15) and the Align group (n=14) had similar demographic characteristics and preoperative urodynamic parameters, including free Qmax, PdetQmax, and VLPP. The Qmax was significantly decreased on the first day after MUS surgery and gradually increased during the following weeks. There were no significant differences in the postop Qmax and PVR on the first day after surgery among three groups. However, the TOT and Align group had a significantly decreased Qmax than the Monarc group (16.4±2.8, 17.3±4.6 vs. 20.6±4.4, p=0.013) at post-op 1 week. No significant difference was found among three groups in terms of PVR. At 1, 3 and 12 months, there were no significant differences of Qmax and PVR among groups. There were also no differences among groups in terms of subjective voiding difficulty (27.8% vs 33.3% vs 35.7%, p=0.26) and cure rate (77.8% vs. 73.3% vs. 71.4%, p=0.91). Pre- and postoperative iQoL questionnaires scores showed a significant improvement, however, no significant difference among groups. One patients of the Align group developed vaginal tape erosion, but the differences did not demonstrate to be significant.

Interpretation of results

MUS appears to be a safe and effective procedure for the management of SUI in elderly women. Of the three types, an absorbable tensioning suture in the Monarc mesh could increase Qmax compared to the others at one week after MUS procedure.

Concluding message

We propose that an absorbable tensioning suture may reduce the risk of early postoperative voiding dysfunction compared to other mesh without this.

Disclosures

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