

A SHORT- AND LONG-TERM COMPARISON OF VOIDING FUNCTION MEASURED BY UROFLOWMETRY BETWEEN TWO DIFFERENT TRANSOBTURATOR SLING PROCEDURES

Hypothesis / aims of study

Midurethral sling has been used for treating female stress urinary incontinence. In addition, a great number of products have been developed using various techniques and materials to perform sling surgery. The Monarc® subfascial Hammock system and 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 an absorbable tensioning suture is threaded into the length of the mesh. It allows for tensioning adjustment of the mesh after placement. Monarc has this, however, Align has no absorbable tensioning suture. In addition, there have been no previous studies to compare the outcomes of the Monarc and Align procedures with regard to this.

The purpose of present study is to compare the short- and long-term postoperative voiding function measured by uroflowmetry in two types of sling procedure: Monarc® subfascial Hammock system and Align® trans-obturator urethral support system.

Study design, materials and methods

From April 2010 to January 2012, 91 women diagnosed with stress urinary incontinence were prospectively, randomly assigned to the study. Informed consent was obtained and ethical approval was obtained by the ethics committees. All enrolled patients underwent Monarc or Align procedure by the same operator under general anesthesia. Preoperative work-up included a medical history, physical examination, Q-tip testing and urodynamic evaluation. They were evaluated postoperatively at 1 day, 1 week, 1 month, 3 months and 12 months. The patients were followed postoperatively for up to 24 months. The voiding function was evaluated with uroflowmetry and postvoid residual urine (PVR) measurement and frequency volume chart. 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. Cure of incontinence was defined as an absence of any episodes of involuntary urine leakage during physical activities and a stress cough test. Improvement was defined as a significant reduction of urine leakage, and so the patient didn't require further treatment. Failure was defined as unchanged or exacerbated urine leakage. In addition, perioperative and long-term complications were collected and compared.

Results

The Monarc group (n=47) and the Align group (n=44) had similar demographic characteristics and preoperative urodynamic parameters, including free Qmax, PdetQmax, and VLPP. The maximal flow rate was significantly decreased on the first day after 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 between the two groups. Compared two groups at 1 week, the Align group had a significantly decreased Qmax than the Monarc group (17.6±5.2 vs. 20.7±5.0, p=0.004). However, there was no significant difference of PVR between two groups. At 1, 3, 12 and 24 months, there were no significant differences of Qmax and PVR between two groups. No significant differences have been found in subjective voiding difficulty (31.9% vs 43.2%, p=0.267) and cure rate (80.9% vs. 88.6%, p=0.304) between the groups at 12 months after surgery. Pre- and postoperative iQoL questionnaires scores showed a significant improvement, however, no significant difference between the groups. One patients of the Align group developed vaginal tape erosion, but the differences did not demonstrate to be significant. No patient had significant postoperative perioperative or long-term complications.

Interpretation of results

Our study demonstrated that an absorbable tensioning suture in the Monarc mesh could increase Qmax compared to Align at one week after midurethral sling procedure.

Concluding message

An absorbable tensioning suture may reduce the risk of early postoperative voiding dysfunction compared to other mesh without this.

Disclosures

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