

A SEQUENTIAL COMPARISON OF POSTOPERATIVE VOIDING PATTERN AND UROFLOWMETRY BETWEEN TWO TRANSOBTURATOR MIDURETHRAL TAPE PROCEDURES (MONARC® AND TOT®)

Hypothesis / aims of study

Transobturator suburethral sling has been performed for treating women with stress urinary incontinence (SUI). The technique of their application and the materials used have varied. The Monarc® Subfascial Hammock system is outside-to-in transobturator approach type and consists of an open edge polypropylene mesh which contains an absorbable tensioning suture threaded into the length of the mesh. Tension Free Obturator Tape TOT® system is same outside-in type but has a closed edge polypropylene mesh without absorbable tensioning suture. There have been no previous studies to compare the outcomes of these two products. The aim of this study is to compare postoperative voiding pattern and uroflowmetry of Monarc® and TOT® procedures with a sequential follow-up for 1 year.

Study design, materials and methods

From September 2007 to August 2008, 93 female patients were prospectively, randomly assigned to the study. The Monarc® system and TOT® system sling surgeries were performed by a single surgeon under general anesthesia. Preoperative work-up included a medical history, physical examination, Q-tip testing and urodynamic evaluation including free maximal flow rates (Qmax), filling cystometry, valsalva leak point pressure (VLPP), detrusor pressure at maximal flow (PdetQmax) and maximal urethral closing pressure (MUCP).

To assess the voiding functions associated with surgery, the patients were asked if voiding had changed after surgery and uroflowmetry and postvoid residual urine (PVR) measurement were compared preoperatively, one day, one week, 1, 3 and 12 months postoperatively. At 1-year follow-up, the patients were evaluated for surgical results, patient satisfaction and long-term complications.

Results

The group A (Monarc® system, n=48) and the group B (TOT® system, n=45) had similar characteristics and preoperative parameters, including Q-tip angle degree, free Qmax, VLPP, PdetQmax and MUCP. The voiding subscores on POD#1 in group B and group C were lower than that in group A. The group B had a significantly decreased Qmax (18.1±5.2 vs. 21.2±4.9, p=0.004) and significantly increase PVR (25.7±16.7 vs. 19.0±11.0, p=0.025) at 1 and 4 weeks (17.6±5.1 vs. 21.4±7.6, p=0.005) (29.1±20.0 vs. 21.2±14.1, p=0.031) after surgery compared to the group A. There were no significant differences in the postoperative changes of Qmax, voided volume, PVR at one day, 1, 3, and 12 months after surgery between these two groups. There were also no significant differences in subjective voiding difficulty (33.3% vs 40.0%, p=0.505) and cure rate (85.4% vs. 82.2%, P=0.676) between the groups at 12 months after surgery. There was no permanent urinary retention between the groups. One patients of group A and two patients of group B had voiding difficulty requiring intermittent catheterization for less than one day respectively. Three patients of group B developed vaginal tape erosion, but the differences did not demonstrate to be significant (6.67% vs. 0%, p=0.069).

Interpretation of results

This study showed that an absorbable tensioning suture in the Monarc® mesh showed increased Qmax and decreased PVR compared to other types of mesh until one month.

The vaginal tape erosion was found to be lower in the tensioning suture group than the other group, but the differences did not demonstrate to be significant.

Concluding message

An absorbable tensioning suture may reduce the risk of clinical complications such as early urinary retention and erosion compared to other types of mesh.

Specify source of funding or grant	No
Is this a clinical trial?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	Yes
Specify Name of Ethics Committee	Ethics Committee of Hallym University Kangnam Sacred Heart Hospital
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes