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A SHORT TERM COMPARISON OF 3 DIFFERENT TRANSOBTURATOR VAGINAL TAPE PROCEDURES - TVT-O, MONARC, IRIS-TOT - FOR THE TREATMENT OF FEMALE STRESS AND MIXED URINARY INCONTINENCE IN KOREA

Hypothesis / aims of study

Transobturator vaginal tape (TOT) techniques are one of the worldwide surgical procedures for female urinary incontinence and various TOT systems are under the use on surgeon's preference. However, there is no consensus on the best TOT system. We compared the clinical efficacy, safety and satisfaction of patients with the TVT-O (TVT obturator system, Ethicon), MONARC (MONARC subfascial hammock, American Medical System) and Iris-TOT (Iris-tension-free obturator tape, B. Braun Korea & Dow Medics Co., Ltd, Seoul) operation for stress and mixed urinary incontinence in women, retrospectively.

Study design, materials and methods

Between December 2003 and August 2005, a total of 352 women with urinary incontinence, including 203 stress and 149 mixed incontinence, were underwent the TOT procedure - TVT-O (n=159), MONARC (n=85), IRIS-TOT (n=108). The operative techniques complied with the manufacturers instructions. The preoperative patients' characteristics and urodynamic evaluations were similar in all groups. Preoperative evaluation included history taking, physical examination, voiding diary, stress & pad test and conventional urodynamic study. Operative results were evaluated at 1 and 6 month postoperatively using a questionnaire, voiding diary, stress & pad test and uroflowmetry with post void residual.

Results

	TVT-O		MONARC		IRIS-TOT	
No. of patients	159		85		108	
Mean age (range)	49.08 (29-76)		48.68 (36-77)		51.22 (32-73)	
Mean Operative time (min)	21.1		23.7		24.8	
Outcomes	1 mo.	6 mo.	1 mo.	6 mo.	1 mo.	6 mo.
Cure rate (%)	92.5	91.8	91.8	90.5	92.5	92.5
Improvement rate (%)	5.0	5.0	4.7	4.7	5.5	5.5

Table 1. Surgical outcomes of 3 different transobturator sling systems

	TVT-O		MONARC		IRIS-TOT	
No. of patients	65		36		48	
Outcomes	1 mo.	6 mo.	1 mo.	6 mo.	1 mo.	6 mo.
Cure rate (%)	89.2	87.6	88.9	86.0	97.9	97.9
Improvement rate (%)	4.6	4.6	5.5	5.5	2.1	2.1

Table 2. Surgical outcomes of the mixed urinary incontinence patients

	TVT-O	MONARC	IRIS-TOT
Operative complications			
Bladder perforation	0	0	0
Urethral injury	0	0	0
Vascular or bowel injury	0	0	0
Vaginal penetration	0	0	0
Post-operative complications			
Urinary retention	6	0	1
Vaginal erosion	0	1	1

Obturator hematoma	0	0	0
Bladder outlet obstruction	0	0	0
De novo urgency	0	0	0
De novo urge incontinence	0	0	0

Table 3. Operative and postoperative complications

Interpretation of results

The mean operative time of TVT-O, MONARC and IRIS-TOT group were 21.1 minutes, 23.7 minutes and 24.8 minutes, respectively. The overall success rate (cure and improvement) at 1 and 6 months were more than 95% in all three groups. A total of 149 out of 352 patients had mixed type of urinary incontinence. The TVT-O group showed 87.6% (57/65) cure and 4.6% (3/65) improvement rate at 6 month postoperation. Similarly, MONARC group showed 86.0% (31/36) cure and 5.5% (2/36) improvement rate. The IRIS-TOT group showed higher success rate than other 2 groups; 97.9% (47/48) cure and 2.1% (1/48) improvement rate. A temporally urinary retention was developed in 6 patients in the TVT-O group and 1 patient in the IRIS-TOT group. Vaginal mesh erosion was developed in each patient of the MONARC and IRIS-TOT group.

Concluding message

The TVT-O, MONARC and IRIS-TOT procedures appear to be equally efficient for the surgical treatment of stress urinary incontinence in women. Although further studies are needed to establish its long-term efficacy and safety, the IRIS-TOT procedure seems more efficient for the women who had mixed urinary incontinence.

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