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Hypothesis / aims of study

Urinary incontinence is involuntary loss of urine, which is objectively demonstrable and a social or hygienic problem. This study purpose is to compare the effectiveness of transobturator mesh tape (TOT) and open Burch colposuspension in the treatment of stress urinary incontinence (SUI).

Study design, materials and methods

This study is prospective and clinical. The subjects of this study were female patients diagnosed with stress urinary incontinence at the Department of Urology at the Clinical Centre University of Sarajevo from (2014-2020). Gynecological examination, Q-tip test, urine culture, abdominal and translabial ultrasound were performed on all patients. All patients were interviewed on the International consultation on incontinence questionnaire female lower urinary tract symptoms (ICIQ-FLUTS). Parametric data (numerical values) is tested by Student's t-test, while non-parametric (respondents' answers with "yes" and "no") data is processed by chi-squared test (χ^2) test and proportions, regressive analysis, and multivariate analysis. Multivariate statistical methods involved in the study are the following analyses: discriminant function, cluster, and binary logistic regression.

Results and interpretation

A total of 212 women were selected to participate in the survey, in TOT group 81 and Burch group 131 respectively. The mean duration of follow-up was 21 months (15 - 25) for TOT and 47 months (40 - 55) for the Burch group. The mean hospital stay in the TOT and Burch groups was approximately 2 days and 14 hours and 8 days and 6 hours respectively. Considering the above data, we can conclude that the hospital stay is significantly longer with the Burch group compared to the TOT group. Intraoperative and postoperative complications were 13.9% in the TOT group and 26.8% in the Burch group. There was no signicant difference. Vaginal erosion occurred in one patient (1.24%) in the TOT group. In TOT group 92.8% patients declared themselves as very satisfied, 7.2% as moderately satisfied, 2.9% less satisfied and not a single patient declared himself unsatisfied. On the other hand, in Burch group 80.3% declared themselves as very statisfied, 13.1% as moderately statisfied, 9.9% less statisfied and 6.6% patient declared themselves unsatisfied.

Interpretation of results
According to its advantages, such as minimal surgical trauma, a shorter hospital stays and a long-term high cure rate of the transobturator tape technique has been the most widely used surgical treatment for stress urinary incontinence.

Figures: Fig 1 Table 1. Demographic characteristics of the study population in both TOT and Burch groups

Fig 2 Table 2. Complications of surgical procedure in both the TOT and Burch groups

Conclusions

Both techniques (Burch and TOT) appear to be frequently used in the surgical treatment of SUI. In the era of non mesh surgery for SUI open Burch colposuspension can be offered to female patient with great satisfactory results. However, TOT had a shorter operative time and lower overall perioperative complication rate.

Variable	TOT (n = 81)	Burch (n = 131)	p-value
Age (years) (mean ± SD)	47.39 ± 12.39	44.94 ± 7.98	0.39
Parity (mean ± SD)	6.9 ± 3.11	6.35 ± 2.74	0.46
BMI	28.8 ± 6.3	29.3 ± 6.1	0.28
Postmenopausal (%)	36.5	17.1	0.05
Cystocele (%)	60.3	38.7	0.06
Rectocele (%)	58.1	35.5	0.08
Cystocele and Rectocele (%)	49.33	26.55	0.04
NVD (%)	100	100	NS
Duration of incontinence (years) (mean ± SD)	3.62 ± 3.53	5.40 ± 3.43	0.05
Diabetes mellitus	2	3	1.0
Chronic cough	11	6	0.21
COPD	3	1	1.0
Smoker	8	22	0.70
Hypertension	16%	18%	0.878
Prior hysterectomy	9%	12%	0.068
Prior incontinence surgery	0	2	NS
Preoperative SUI, patient reported	92.8%	78.3%	<0.0001
Preoperative SUI, positive cough stress test	93.7%	82.5%	0.007
Preoperative SUI, MUDES	87.5%	64.7%	0.001
Anticholinergic therapy	3	10	0.62
Percentage using pads preoperatively	88	80	0.47
Pelvic floor muscle training	4	6	NS

Variable	TOT (n = 81)	Burch (n = 131)	p-value
Hospital stay (mean ± SD)	2.06 ± 1.03	8.23 ± 3.98	0.001
Duration of procedure	21 (15 - 25)	47 (40 - 55)	0.001
Operative complication	13.9%	26.8%	0.189
Bladder injury	0%	0%	NS
Bleeding exceeding (300 cc)	0.2%	3.2%	NS
Percentage using pads postoperatively	8%	14%	0.47
Postoperative urine Retention (>100 cc)	2.8%	9.4%	0.3
Postoperative urinary infection	0%	0%	NS
DVT	0%	3.4%	0.32
Wound infection	0%	9.4%	0.07
Severe pain	1	0	NS
Tape erosion	0	0	NS
Bladder and urethral injury	0%	0%	NS