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INTRAOPERATIVE MEASUREMENT OF MAXIMAL URETHRAL CLOSING PRESSURE: A NEW TECHNIQUE FOR TAPE TENSION ADJUSTMENT DURING TOT SURGERY

Hypothesis / aims of study

Adjustment of tape tension is an essential component of mid-urethral sling surgery; however, no standard methods for adjustment of tape tension exist. We attempted to determine if an intraoperative elevation in the maximal urethral closing pressure (MUCP) can be used as a reference value for adequate tape tension and a prognostic factor for transobturator tape (TOT) surgery.

Study design, materials and methods

We conducted a prospective study measuring MUCP prior to tape insertion and after adjustment of tension adjustment during TOT surgery in operating room. All surgeries were performed by a single surgeon under spinal anesthesia between January 2007 and December 2008. Clinical data including age, Q tip test results, and preoperative urodynamic results were collected. The cure rate was determined by administering a questionnaire via the telephone. Cure of incontinence was defined as the absolute absence of subjective complaints of leakage in any situation. Patients were divided into two groups: 1) the MUCP elevation group included patients with an elevation in the MUCP of more than 10 cm H_2O before tape insertion and 2) the MUCP non-elevation group. We compared the cure rate and the pre- and post-operative clinical variables between the two groups.

Results

Forty-eight patients had undergone TOT surgery. The MUCP elevation group (N=19) and the MUCP non-elevation group (N=29) were similar in characteristics and preoperative parameters, including age, mixed incontinence prevalence, Q-tip angle, peak flow rate, MUCP, and the Valsalva leak point pressure. The mean follow-up period was 9 months (range, 3-15 months). The cure rate was significantly higher in the MUCP elevation group than the MUCP non-elevation group (84% vs. 52%, p=0.02). There was no significant difference in the mean postoperative peak flow rate between the two groups and there were no episodes of urinary retention in the either group.

	MUCP elevation group	MUCP non-elevation group	P value
Mean age	50±9	51±10	0.74
Prevalence of mixed incontinence (%)	32	36	0.78
Prevalence of urethral hypermobility (%)	69	52	0.33
MUCP (cmH2O)	60±24	66±32	0.43
VLPP (cmH2O)	100±15	91±24	0.17
Preop. Peak flow rate (ml/sec)	25±10	26±12	0.81
Postop. Peak flow rate (ml/sec)	23±11	24±9	0.70
Cure rate (%)	84	52	0.02

Interpretation of results

An elevation in MUCP > 10 cm H_2O just after tape insertion is a prognostic factor for high success rate.

Concluding message

The measurement of MUCP during TOT surgery appears to be useful in the adjustment of tape tension.

Specify source of funding or grant	**none**
Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require eithics committee approval because	**This study was conducted as a part of surgery. this study did not do any additional harm to the patients**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**