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Title (type in CAPITAL LETTERS, leave one blank line before the text)

TENSION FREE VAGINAL TAPE (TVT): CORRELATION BETWEEN MECHANICAL FUNCTION OF URETHRA AND DETRUSOR, URODYNAMIC TESTS AND PATIENTS SATISFACTION AFTER ONE YEAR FOLLOW UP.

Aims of Study: To assess the effect on the urethral mechanics and on the detrusor efficiency of the ambulatory surgical method (TVT) of management of urinary incontinence by means of a mathematical micturition model [1] and to compare the results with those of urodynamic tests.

Methods: Seventeen female patients (mean age: 54.0 years, range: 33-73 years) with stress urinary incontinence complaint underwent a TVT operation. They had urogynaecological examination and urodynamic tests before and after (1, 2, 6, 9 and 12 months) surgery. No patient had previous surgery of incontinence. They succeeded in successive micturitions of volume  $\geq 100$  mL with uninterrupted flow.

Modelized analysis of the free uroflow curves allowed first to estimate an obstruction coefficient (g) and second to calculate a characteristic parameter of the detrusor efficiency (F40). The g value is 1 for a normal urethra,  $< 1$  for a constrictive obstruction and  $> 1$  for a gaping urethra. The F40 value was normalized, i.e. equal 1 for a normal detrusor function.

Results: An increase of the urethral constrictive obstruction was observed for 9 patients (52.9%) of whom 3 had a gaping urethra before surgery. This status remained unchanged after one year follow up. Only 5 patients (29.4%) became greatly obstructed ( $g \leq 0.3$ ). The parameter of detrusor efficiency was found normal for 42% of the subjects before TVT and at one month follow up, a mediocre or very low detrusor efficiency was found for 92% of the subjects; this status improved significantly after 9 months or more follow up. Urodynamics pointed out no change of maximum urethral closure pressure (MUCP) but an increase of the transmission ratio (cough).

Patients satisfaction (75%) was very closely correlated with dryness (75%) but not with the absence of dysuria (<20%).

Conclusion: That retrospective study shows that TVT may be an interesting procedure for treatment of stress urinary incontinence as the constrictive incidence on the mechanics of the urethra seems weak and steady. The great incidence on detrusor efficiency immediately after surgery needs several months to decrease. Further studies would precise the impact of TVT on mechanics and neural control of micturition.

[1] Neurourol. Urodyn. 2000, 19(2): 153-176.