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VLPP AND SURGICAL OUTCOME: PRELIMINARY DATA

Aims of Study

More than 100 surgical approaches have been attempted to cure stress urinary incontinence (SUI) but despite recent advances in urodynamics assessment, there is still no consensus on the surgical choice. The Valsalva Leak Point Pressure (VLPP) has emerged has a major diagnostic test in evaluating SUI and quantifying incontinence. It is being used to predict outcome after surgery as patients with a low VLPP seem to have an increased risk of developing intrinsic sphincter deficiency post-operatively. This study was designed to relate pre-operative VLPP values to clinical outcome in women who underwent colposuspension and prolapse repair for SUI associated with severe pelvic organ prolapse.

Methods

31 consecutive patients with stress or mixed urinary incontinence associated with severe uro-genital prolapse underwent retropubic colposuspension during sacrocolpopexy. All patients underwent a full urogynaecological work up which included case history, clinical examination with assessment of vaginal profile sec. Baden and Walker, multichannel cystometry with Pressure/Flow study, VLPP, Urethral Pressure Profile with Maximum Urethral Closure Pressure (MUCP). Preoperatively the VLPP was assessed after reducing pelvic prolapse with gauze packing and using the lower half of a vaginal speculum to support the vault and proximal anterior vaginal wall without causing urethral obstruction. The patient was in gynaecological position, the bladder was filled to a volume of 200 cc, a 7 Fr catheter was used. A remote control device recorded the bladder pressure exactly when urine appeared at the external urinary meatus. Positive VLPP was defined as the lowest of three increases in bladder pressure above rest pressure recorded at the time of leakage, in the absence of detrusor contractions. If there was no urinary leakage the VLPP was considered negative and the maximum bladder pressure achieved during the Valsalva maneuver was registered. A value of $\leq$ 60 cm H2O was chosen as cut-off for VLPP as suggested by McGuire. Surgical results were evaluated by a post-surgical stress test and subjective assessment (cured = no incontinence; improved = occasional incontinence or less severe incontinence; failed = no change or worsening of incontinence).

Statistical analysis

Chi square test was used to compare VLPP and MUCP values with surgical outcome. On the basis of clinical outcome patients were divided into two groups: cured/improved or failed.. Failed patients were considered as having disease status = 1, and cured/improved patients disease status = 0. Disease status was considered the dependent variable and was correlated in logistic regression analysis against the independent variables: age, menopause, previous urogynaecological surgery and/or hysterectomy, Body Mass Index, grade of incontinence $\geq$ 2, overactive bladder, VLPP and MUCP.

Results

	Failed
VLPP ≤ 60 cm H2O (9paz.)	4 (44.4%)
VLPP > 60 cm H2O (22 pts)	5 (22.7%)
p	**NS**
MPCU ≤ 30 cm H2O (11pts)	5 (45.4%)
MPCU > 30 cm H2O (20 pts.)	4 (20.0%)
p	**NS**
VLPP<60cm e/o MPCU <30cm (15pts.)	7 (46.6%)
VLPP>60cm e MPCU >30cm (16paz.)	2 (12.5%)
p	**NS**

Tab.1 Chi square test

Mean age of patients was 62 years with 26 (83.8%) in menopause. Mean BMI was 26, mean parity 2 and median daily pads was 1. Seven pts (22.5%) had incontinence ≥ grade 2,. Ten (32.2%) had undergone previous urogynaecological surgery and/or hysterectomy, 25 (80.6%) presented with cystocele ≥ grade 3 or vault prolapse. Six patients with cystocele < grade 3 presented with grade 3 hysterocele or rectocele. Twenty-four (77.4%) had obstructive symptoms. The mean follow up was 36 months (range 9 – 75). Chi square test shows VLPP and MUCP values, whether alone or combined, do not correlated with surgical failure (tab.1). Logistic regression analysis shows surgical failure is correlated with a high BMI (B = -0.363; p = 0.03) and with combined VLPP and/or MUCP low values (B = -3.05; p = 0.01).

Conclusions

Women with SUI and severe uro-genital prolapse have major abnormalities in pelvic statics with multiple defects in anterior, middle and posterior compartments. An accurate diagnosis is hard to achieve and these patients are at high risk of surgical failure. Although all our patients were affected by urinary incontinence, the incidence of obstructive symptoms was high and even with prolapse reduction urinary incontinence may be underestimated when obstruction is present. Even though there were relatively few patients in this series, our results show individual pre-operative VLPP values are not correlated with clinical outcome after colposuspension associated with urogenital prolapse repair. However, logistic regression analysis showed a discreet correlation between combined low VLPP and/or low MUCP and outcome, suggesting the association of the two tests may be integrative in diagnosis.

References

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