378

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ANALYSIS OF SYMPTOMS AND VIDEOURODYNAMIC RESULTS IN WOMEN WITH STRESS URINARY INCONTINENCE

Hypothesis / aims of study
The prevalence of urgency symptoms in women with stress incontinence (SUI) is variable [1]. In order to ascertain the prevalence of associated symptoms in women with the primary complaint of SUI we analysed data from questionnaires obtained from a large cohort of women undergoing videourodynamic testing (VUDS) for non-neurogenic SUI. We also aimed to correlate the urodynamic findings with symptoms. The reported values Abdominal Leak Point Pressures (LPP) associated with intrinsic sphincter deficiency (ISD) have also been variable [2]. We aimed to determine the best cutoff value of LPP that predicts for the presence of Type III incontinence.

Study design, materials and methods
Nineteen hundred and forty-eight women had 2259 video-urodynamic studies (VUDS) over a 17-year period. Each patient underwent a standardized history. VUDS was carried out with subtracted detrusor pressure, filling and voiding studies, and upright SUI testing with LPP measurements. Intravesical (Pves) valsalva or cough LPP was measured with a bladder volume of at least 200 ml. The measured value was the baseline pressure plus the increase in intravesical pressure. Upright radiographic SUI testing was classified according to Blaivas (Types I, IIA, IIB, III and 0). Data analyzed included symptoms, presence of detrusor overactivity (DO), and radiographic type of SUI. LPP was analyzed by type and a receiver-operator characteristics (ROC) curve was constructed to determine the cutoff values for Type III.

Results
Mean age was 58.3 years (range 17-93) and 45% had previous surgery. In addition to SUI, 89% of patients had irritative symptoms, and 79% had urgency incontinence (UUI). DO was demonstrated in 24.5% of those with irritative symptoms and only 6.5% of those without irritative symptoms ($P<0.05$). Overall SUI was not demonstrated in 461 studies (26.2% Type 0). There were 410 patients with Type I, 549 with IIA, 384 with IIB, and 258 with III. Mean ages of patients with Types IIB (64.5 years) and III (62.5 years) were higher than those with Types I (57.8 years) and IIA (56.3 years) ($P<0.05$). They also had a higher frequency of previous surgery, irritative symptoms, and UUI ($P<0.05$). Mean LPP was lowest for Type III (72 cm water) highest for Type IIA (98 cm water) ($P<0.05$), whereas Types I and IIA had similar LPP results (~86 cm water) (Figure 1). The area of the ROC curve of LPP was 0.6774 indicating a significant difference between the LPP of Type III and the other categories (Figure 2). A cutoff value of LPP of <81.5 cm water yielded a sensitivity (true positive) of 63% and a specificity (true negative) of 62%. The 85%, 90%, and 95% sensitivity cutoffs were <103, <107, and <122 cm water with specificities of 27%, 21%, and 12% respectively. The positive predictive value of the LPP of ≤60 cm water [3] for Type III was 35%.

Figure 1.

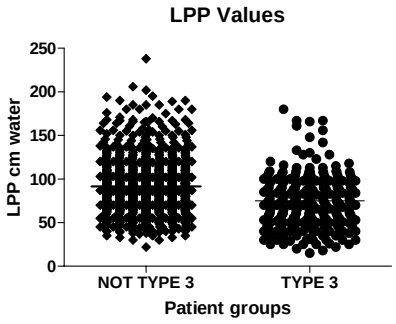
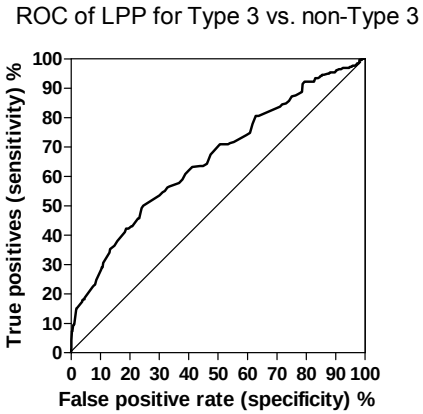


Figure 2.



Interpretation of results

Irritative symptoms were present in the majority of patients. DO was demonstrated on VUDS in a minority but primarily in those with irritative symptoms. Most patients had some degree of hypermobility. Older patients with previous surgery were more likely to have either Type IIB or III. Although the mean LPP in patients with Type III was significantly lower than that of other types there was considerable overlap in the values. The area under the curve on the ROC graph (.6774) indicates that LPP distinguishes only moderately between those patients with Type III and those without. Furthermore the positive predictive value of the previously reported standard for Type III (≤60 cm water) was relatively low.

Concluding message

Most women with SUI also have irritative symptoms. LPP as a diagnostic test is not very accurate in predicting for the presence of Type III incontinence.

References

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2. Intrinsic urethral sphincter deficiency: critical analysis of various diagnostic modalities. Curr Opin Obstet Gynecol 2003; 15:411.
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