

Urinary dysfunction - Clinical diagnosis and Urodynamics, does it correlate?



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Abstract

AIM: To assess whether the clinical diagnosis based on the symptom evaluation in the diagnosis of various types of urinary dysfunction correlates with urodynamic study findings.

Introduction

The arguments for and against routine use of Urodynamic study in the assessment of lower urinary tract dysfunction and urinary incontinence has been a well-known topic of debate among the clinicians for a long time. Many clinicians still feel that routine use of this investigation is not necessary prior to treatment even when they know that, better understanding of the patho-physiology of lower urinary tract dysfunction can be gained by Urodynamic study.

Methods and Materials

100 consecutive patients who attended for urodynamic evaluation of urinary dysfunction were selected for this study. 50 consecutive females and 50 consecutive males were included making a total number of 100. Prior to their urodynamic evaluation an IPSS score for men and symptoms evaluation for women were undertaken by the clinician. Each patient was asked to void in to the overflow meter initially and a flow trace is recorded. The patients were asked whether this free flow was representative of their normal pattern of voiding and if not the procedure was repeated with full bladder. The residual urine within the bladder after micturition was checked using a portable bladder scanner and was recorded. The patient's bladder was filled with normal saline at room temperature at various rates, usually at 50 mls per minute for the non-neuropathic patients and 10 ml per minute for the neuropathic patients. The patients were kept in the supine posture. Method and diagnostic criteria were according to the recommendations published in the report on standardization by the International Continence Society. The data collected from clinical notes and urodynamic study results were analysed using MS Excel spread sheet. Mean, standard deviation (SD), range (minimum to maximum), frequency and percentage were used to summarise the variables as required. Bar-charts, and pie-charts were used for the graphical representation of the data.

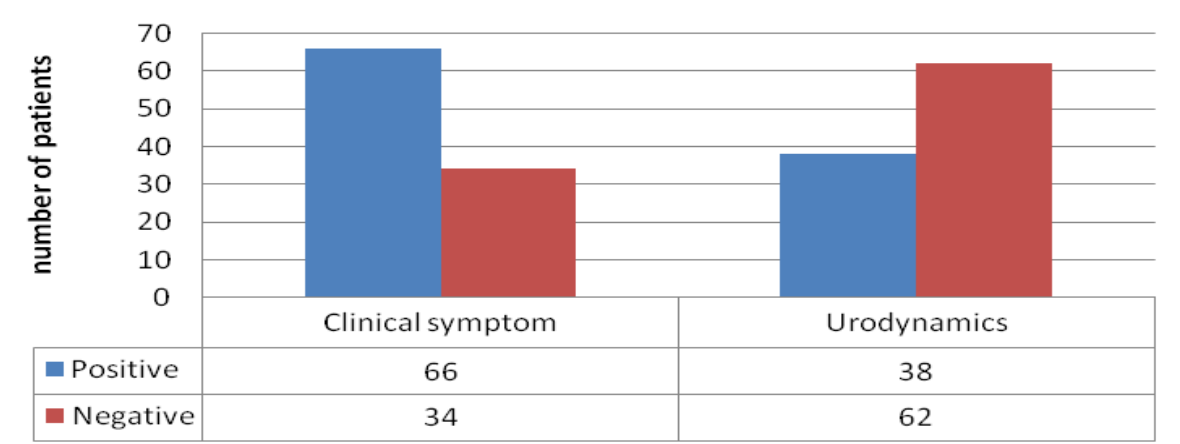
Results

Among the 100 patients, whose symptoms were analysed, it was found that 64 patients had voiding symptoms. Out of 50 men who came for urodynamics, 39 of them had significant obstructive type voiding symptoms (78%) and 49 of them (98%) had associated storage symptoms. Of the 50 women, 25 (50%) had voiding symptoms and 40 (80%) had storage symptoms. The bladder outflow obstruction index which is otherwise called as Abrams-Griffiths number was calculated in men using the formula BOOI = Pdet at Q max - (2x Q max). When the Index value was less than 20 it was considered as no obstruction, the value between 20 to 40 was considered as equivocal and when it was above 40 it was considered as obstruction. In this study it was noted that out of 100 only 26 patients (26%) were actually obstructed. 35 patients were found to have detrusor over activity out of 66 patients who presented with symptoms of urge incontinence. In 31 patients urge incontinence could not be demonstrated Urodynamically. But 4 patients who actually presented with urge incontinence diagnosed to have Urodynamically proven stress urinary incontinence! 33 patients complained of stress urinary incontinence with only 19 having Urodynamically proven stress incontinence. Among the 33 patients who gave symptoms of stress urinary incontinence, 13 had detrusor over activity (39.3%) on urodynamic evaluation. Thus the overall incidence of detrusor over activity was 38% and overall incidence of stress incontinence was 23%.

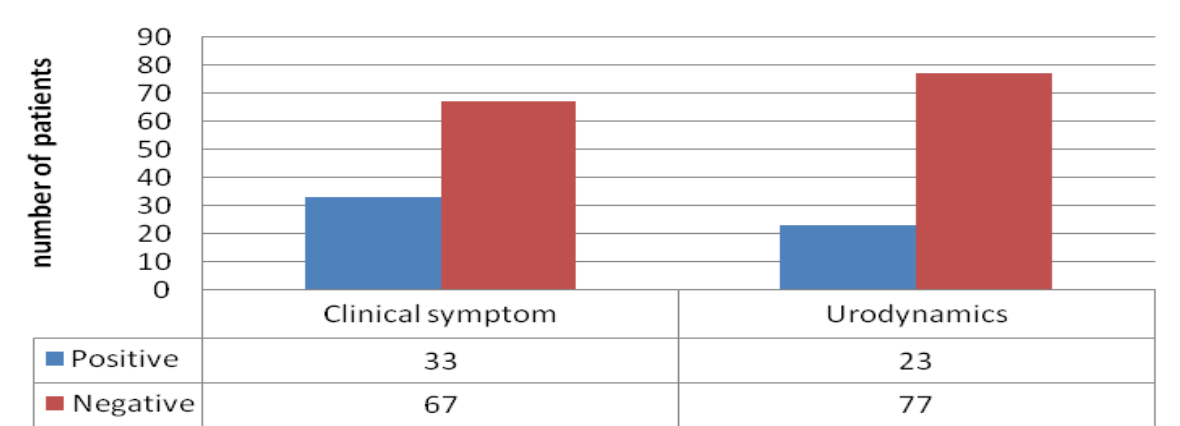
Discussion

Among these 100 patients then comparison was made between the clinical diagnoses based purely on the clinical symptoms made by the referring clinician to the final diagnoses after Urodynamic study, it was found that only for 53 patients (53%) there was similarity between the two and for 47 patients (47%) the clinical diagnosis purely based on symptoms were not keeping in with the final diagnosis after urodynamic evaluation. When the final outcome of the urodynamic study was compared to the initial plan made at the out patient clinic for each patient, it was found that for 34 (34%) patients the findings of Urodynamics had a significant impact in their treatment as the management plan was subsequently changed depending upon the urodynamic diagnosis. In 54 (54%) patients the urodynamic findings confirmed the clinical diagnosis and thereby helped significantly in subjecting the patient for invasive treatment options. In rest of the small group of 12 (12%) patients, urodynamic study did not have significant influence in their management plan.

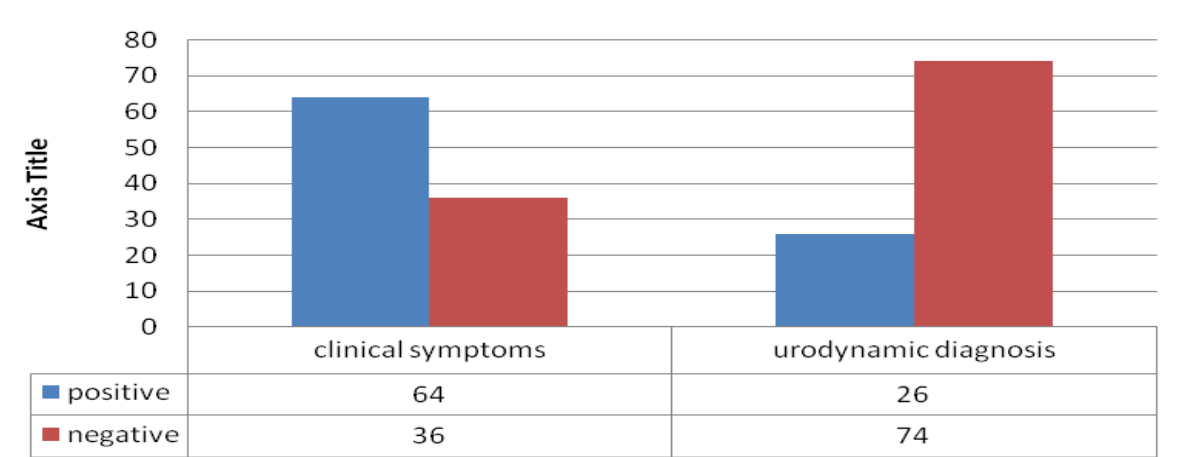
Clinical symptoms vs Urodynamics - Urgency UI



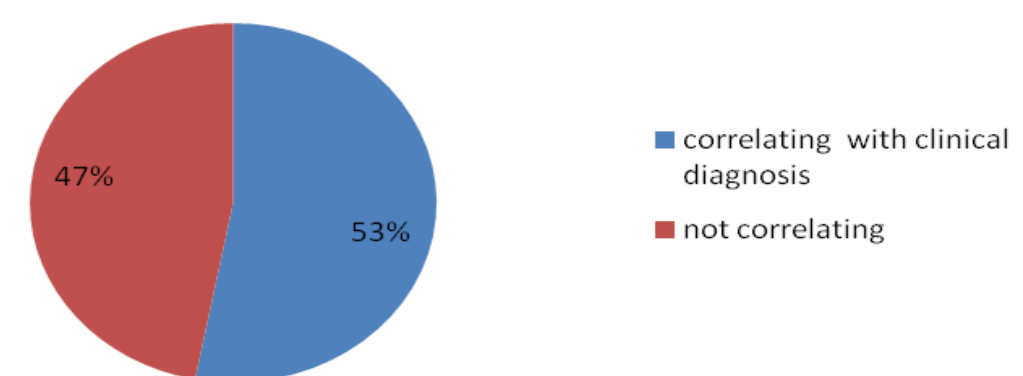
Clinical symptoms vs Urodynamics - Stress UI



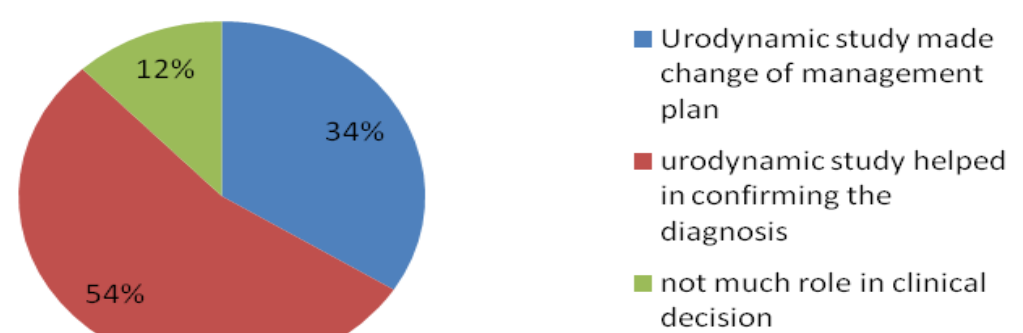
Clinical symptoms vs Urodynamics - Obstruction



Correlation of Urodynamic diagnosis with Clinical diagnosis



Outcome of Urodynamic study in 100 patients



Conclusions

The present diversity in the success rates after urinary incontinence and bladder neck surgeries denotes the difficulty in arriving at an accurate diagnosis purely based on clinical symptoms. Patients with lower urinary tract dysfunction including stress or urgency urinary incontinence should have a urodynamic evaluation since the detrusor overactivity rate is known to be high. (38% in this study). We noted that more than half of the patients who presented with symptoms of bladder out flow obstruction did not have urodynamically proven diagnosis of obstruction but had other conditions of poor bladder emptying and urodynamic study resulted in changing the management plans. Nearly half of the patients in this study (47%) did not have correlation between the initial clinical diagnosis and plan made based purely on the clinical symptoms by the referring clinician when compared to the final diagnosis after urodynamic evaluation. In majority (88%), the outcome of urodynamic evaluation influenced the treatment. In 34% patients the treatment plan had altered altogether after urodynamic evaluation. 'Bladder is an unreliable witness', the well known statement of Blaivas JG in 1996 still holds true as the urodynamics has a major role in the assessment of lower urinary tract dysfunction prior to proceeding with any bladder neck surgeries.

References

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