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Barboglio P[1], Cohen B[1], Gousse A[1]
1. Department of Urology University of Miami Miller School of Medicine

WHAT IS THE PREDICTIVE VALUE OF URODYNAMICS WHEN COMPARED TO CLINICAL HISTORY?

Hypothesis / aims of study: The Urinary Distress Inventory (UDI-6)[1] and other questionnaires have been used to calculate the specificity (SPC) and sensitivity (SENS) of multichannel urodynamics (UD) diagnosis in voiding dysfunction.[2] The results have been quite variable. We sought to correlate urinary signs and symptoms (CLIN) -clinical findings- and UD. The aim of this study is to establish the SENS and SPC of our current UD diagnosis in patients with voiding dysfunction (VD) and urinary incontinence (UI)

Study design, materials and methods: We assess patient's chief voiding complaints and physical findings during the initial clinic visit. These observations were subsequently correlated with a validated questionnaire (UDI-6). We retrospectively review a database of 1003 patients who presented for an initial evaluation with VD or UI from the period June 1998- July 2005. Patients were evaluated by the same clinician who assessed the presence of urinary CLIN by interrogation and pelvic exam (PE). UD were performed according to ICS criteria. Table 1 shows the CLIN correlation with UD. SENS and SPC for UD parameters were calculated (2x2 table) using the CLIN findings by urologist. Statistical significance for these calculations was supported using Pearson Chi-Square.

Table 1.

Clinical Findings (CLIN)	UD Parameters
Urinary Frequency (UF): ≥8/24h	Max Cyst. Cap. (MCC): <200ml
Urge UI (UUI): at least 1 UUI episode/24h	Detrusor Overactivity (DO)
Stress UI (SUI): at least 1 episode/24h or Positive PE	SUI detected by UDUrodynamic (UD-SUI)
UI: at least 1 episode/24h or Positive PE	Urinary Leakage detected by UD (UD-UI)

Results: A total of 537 patients, 366 (68%) females and 171 (32%) males met the criteria. These had a mean age of 57 years old (range: 93-16). Graphic illustrates the clinical findings according to their CLIN evaluated. SENS and SPC of the UD are shown in Table 2.

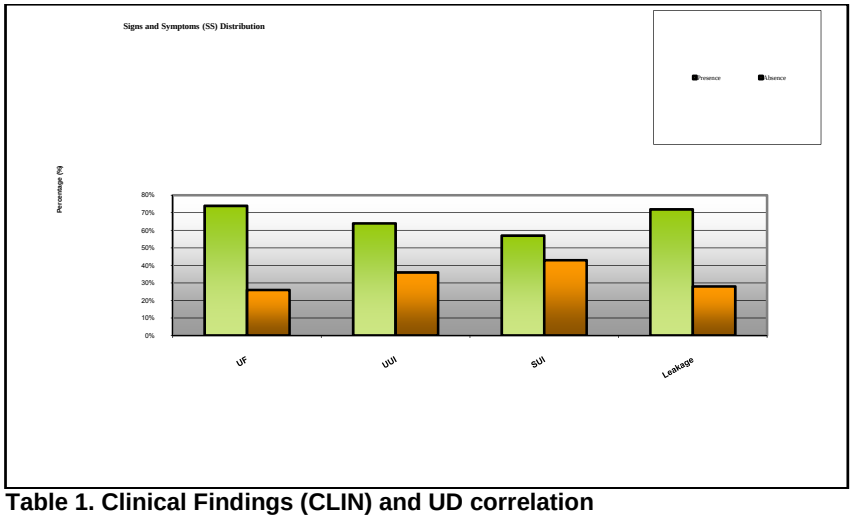

Table 1. Clinical Findings (CLIN) and UD correlation

CLIN	CLIN / UD-Parameter	N=	%	SENS	SPC	Pearson Chi^2
UF	UF+/MCC<200ml	78	15%	0.196	0.835	< 1
	UF+/MCC>200ml	320	60%			
	UF-/MCC<200ml	23	4%			
	UF-/MCC>200ml	116	22%			
UUI	UUI+/DO+	163	30%	0.586	**0.884**	**< 0.001**
	UUI+/DO-	115	21%			
	UUI-/DO+	30	6%			
	UUI-/DO-	229	43%			

SUI	SUI+/UD-SUI+	140	26%	0.455	**0.991**	**< 0.001**
	SUI+/UD-SUI-	168	31%			
	SUI-/UD-SUI+	2	0%			
	SUI-/UD-SUI-	227	42%			
UI	UI+/UD-UI+	200	37%	0.519	**0.842**	**< 0.001**
	UI+/UD-UI-	185	34%			
	UI-/UD-UI+	24	4%			
	UI-/UD-UI-	128	24%			

Interpretation of results: MCC showed very low SPC and SENS when assessing urinary frequency. Only 6% of the patients without UUI showed DO, however not all of those with UUI had DO. Although Urodynamic-SUI showed an excellent SPC (0.99) in patients with clinical SUI, not all of these had SUI on UD. There were 24 patients without a urinary leakage history which showed leakage on UD and 22/24 (91%) was due to detrusor overactivity.

Concluding message: Although Urodynamic testing is not always reliable in evaluating voiding dysfunction, it is a very specific test for diagnosing DO in overactive bladder-wet patients, UD-SUI in patients with clinical stress incontinence, UD-UI in patients with urinary incontinence, when these urinary symptoms are evaluated by a voiding dysfunction specialist

References:

1. Uebersax JS, Wyman JF et al. *Neurourol Urodyn* 1995. 14:131-9
2. Lemack GE, Zimmern PE *Urology* 1999. 54:461-6

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HUMAN SUBJECTS: This study did not need ethical approval because Is a Clinical Retrospective review-analysis of patient's data. but followed the Declaration of Helsinki Informed consent was not obtained from the patients.