

Discrepancy In Vesicoureteral Reflux (VUR) Diagnosis Between Voiding Cystourethrography (VCUG) And Videourodynamics (VUDS)

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Introduction

- Objectives:
 - To compare the results of VCUG and VUDS in detecting and grading VUR
 - To assess if discrepancy between VCUG and VUDS affects management
- Methods:
 - Patients with VCUG + VUDS **within 1 year without medical / surgical interventions** between the studies (2011 – 2018)
 - Sensitivity/specificity, positive/negative predictive values, agreement (McNemar/Stuart-Maxwell tests)



Results

- Eligible 54 patients:
 - Age: 2.1 years (2 weeks – 6 years)
 - Time window: 4.3 months (2.9 – 8.9)
- Indications:
 - Spina bifida (61.1%)
 - Febrile UTI with BBD (24.1%)
 - Voiding dysfunction in complex patients (14.8%)



Results

- Sensitivity of VUDS:
60.7% (17/28)
- Specificity of VUDS:
92.3% (24/26)
- VUDS and VCUG detect VUR differently:
 - VCUG was likely to detect more VUR regardless grade and laterality

		UDS			<i>p-value</i>
		Patients			
		VUR present		No VUR	
VCUG	VUR:				0.03
	Present	17		11	
	No VUR	2		24	
		High grade	Low grade	No VUR	
	Grade:				0.04
	High	8	0	2	
Low	0	9	8		
No VUR	0	2	25		
	Bilateral	Unilateral	No VUR		
Laterality:				0.04	
Bilateral	6	4	4		
Unilateral	2	5	7		
No VUR	1	1	24		

VUDS changed management in 69% of patients with fUTI and BBD

Group	Neurogenic bladder (N=33)	VD in complex pts. (N=8)	fUTI + BBD (N=13)	p-value
Clinical management				0.049
Same	20 (60.6%)	6 (75.0%)	4 (30.8%)	
Different	13 (39.4%)	2 (25.0%)	9 (69.2%)	
Therapeutic decision				0.04
Follow-up	12 (36.4%)	6 (75.0%)	1 (7.7%)	
Medical	12 (36.4%)	1 (12.5%)	4 (30.7%)	
Surgical	4 (12.1%)	1 (12.5%)	5 (38.5%)	
Med.+Surg.	2 (6.1%)	0 (0.0%)	0 (0.0%)	
No surgery	3 (9.1%)	0 (0.0%)	3 (23.1%)	



Conclusions

- Participate in designing protocols for VCUG performed in radiology
- When a VCUG shows no evidence of VUR, do not obtain VUDS
- For patients with spina bifida, VUDS guided decision-making. Therefore VCUG can be avoided
- Have a low threshold to obtain VUDS in otherwise healthy patients with a febrile UTI and BBD, since it changes management 69% of the time

