

A COMPARISON OF VOIDED VOLUMES BETWEEN VOIDING DIARIES AND UROFLOWMETRY.

Hypothesis / aims of study

Lower Urinary Tract Symptoms (LUTS) in males are a condition with which the urologist has to deal daily. Two simple, useful, and popular diagnostic tools are voiding diaries (VD) and uroflowmetry (UFM).

Voiding diaries are a semi-objective method of quantifying LUTS, and have the great avail to register more physiological voided volumes (VV). Uroflowmetry is a widely used non-invasive urodynamic test whose diagnostic accuracy is substantially influenced by threshold values of voided volume (1).

Aim of the study was to assess the correspondence between the more physiological voided volumes at VD and the voided volumes at the UFM.

Study design, materials and methods

This is a observational prospective multicenter study. We analyzed a cohort of 345 male patients with LUTS. Each patient scheduled for a UFM had a VD to fill at home. The return of VD could have been by mail, email, social network, or during office evaluation. Statistical analysis was performed using T student and Mann-Whitney test.

Results

Currently, only 103 male patients (29.8%) returned the filled VD. Average age was 68.74 (DS 10.36 years). We found a statistical difference between the average voided volumes at UFM and at VD ($p < 0.001$). A statistical difference was assessed also between the median of voided volumes at UFM and VD ($p 0.0018$). Data are reported in Table 1. Data regarding differences in voided volumes between VD and UFM are listed in Table 2.

Table 1. Average and median voided volumes at VD and UFM

	VD	UFM	p
Patients (n.)	103	103	
Average voided volumes	220.9 (86.53)	271.54 (119.19)	<0.001
Median voided volumes	212.5	261	0.0018

Table 2. Differences in voided volumes at VD and UFM

Difference of voided volumes between VD and UFM	Patients	
	%	n.
+/- 50 ml	31.1	32/103
+/- 51 to 100 ml	21.4	22/103
+/- 101 to 150 ml	22.3	23/103
> 150 ml	25.2	26/103

Interpretation of results

Since the most physiological micturition is obtained at own home, we considered the voided volumes recorded in diaries as the most physiological. We found a poor correspondence between the voided volumes reported in voiding diaries and those obtained during UFM. This difference in voided volumes was present in the half of patients when 100 ml was the "threshold difference", and 69% of the patients when the "threshold difference" was 50 ml. This means that a relevant number of the patients had a non-physiological micturition. Moreover, in 25% of patients the difference of voided volumes was >150 ml, meaning that in this group UFM was not a real picture of physiological micturition.

Concluding message

Average and median voided volumes between VD and UFM have a poor correspondence. Only a half of the patients had similar voided volumes at VD and UFM. This data could explain how sometimes UFM results do not correspond to the reported voiding condition. Furthermore, the difference between voided volumes at VD and UFM could explain some unexpected outcomes after therapeutic treatments.

References

1. <https://uroweb.org/guideline/treatment-of-non-neurogenic-male-luts/#4>

Disclosures

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