

WHAT KIND OF UROFLOWMETRY INVESTIGATION CORRELATES TO WHAT KIND OF URINARY SYMPTOMS SCORE? RESULTS OF AN OFFICE vs HOME-BASED UROFLOWMETRY STUDY ACCORDING IPSS vs ICS-BPH

Aims of Study

At present time, many *uroflowmetric parameters*¹ such as maximum flow (Qmax), mean flow (Qave) or time at maximum flow (TQmax) can be considered to evaluate bladder outlet obstruction (BOO) in adult males. A single office uroflowmetry determination is widespread performed to obtain an objective assessment of micturition in BPH patients; however, patients have to void in an uncomfortable environment, with a bladder full enough to perform a significant flow. Therefore, to improve the sensitivity of uroflowmetry, many home-based uroflowmeter were developed².

Likely wise, many *self-administrated questionnaires*³ have been proposed to investigate all urinary symptoms and to assess quality of life of BPH patients; IPSS and ICS-BPH are both widespread used in clinical practice. However, in many studies as in clinical practice, uroflowmetry investigations are not strongly associated to urinary symptoms scores; therefore, several BPH-treatments may improve uroflowmetry parameters without any change in symptoms scores, whereas a complete relief of urinary symptoms may be associated with minimal uroflowmetry alterations.

Aim of the present study is to find the best correlation between uroflowmetry (office VS home) and symptoms score (IPSS VS ICS-BPH).

Methods

Between September and December 2001, twenty patients affected by BPH were selected for the study. Mean age, Body Mass Index (BMI), smoking intake, time from first BPH diagnosis, prostatic diameter and post-void residual volume are reported on Tab.1.

They all underwent digital rectal examination (DRE), transrectal ultrasound (TRUS), total prostatic specific antigen serum level (tPSA) measurement to confirm BPH diagnosis.

For all patients we perform a *double uroflowmetric analysis*: we previously obtain a single office uroflowmetry by using a DANTEC Urodin 1000® uroflowmeter; subsequently, they all performed an over 24 hours home-based uroflowmetry evaluation by using a DANTEC Da Capo® Device. All data are reported on Tab.2.

A complete evaluation of their urinary symptoms and quality of life was also assessed according IPSS (7 items) and ICS-'BPH'(ICS-Male, ICS-QoL, ICS-VS, ICS-IS).

We evaluated office and home-based uroflowmetry data according to IPSS and ICS-BPH overall scores, by using a T test

• Age (Years)		69±5
• BMI (m/kg ²)		26.75±2.75
• Smokers/No smokers	5/15	
• Time from first BPH diagnosis (months)	47±13	
• Prostatic Diameter (mm)		AP 50±10 CC 42±5 LL 44±7
• Post void residual vol. (cc)	35±20	

Tab.1
 Mean age, Body Mass Index (BMI), smoking intake, time from first BPH diagnosis, prostatic diameter and post void residual volume of 20 patients selected for the study.

	Office	Home
• t100	38.9±13.3	11.1±5.3
• TQ	35±14	31±6
• Tqmax	10.2±7.3	7.9±5.0
• Qmax	12.3±4.6	9.6±2.4
• Qave	5.9±1.8	5.7±1.5
• Vcomp	205±89	159±51

Tab.2
 Flow parameter in Office and Home-based uroflowmetry

Results

All patients complied with study design; 287 home uroflowmetry and 20 office uroflowmetry were obtained. As reported on Table 2 all mean flow parameters were lower in home-based uroflowmetry than in office uroflowmetry.

Statistical analysis on IPSS demonstrated that there are significant correlations between TQmax and IPSS-Symptoms and IPSS-QoL, both in office and home uroflowmetry; furthermore, we reported significant correlations between office-TQ and IPSS-Symptoms, and between both home-Qmax and home-T100 and IPSS-Symptoms.

From ICS-BPH data, we reported significant correlations between TQmax and ICS-Male, ICS-QoL and ICS-VS respectively, both with office and home uroflowmetry. Qmax was correlated with ICS-male and ICS-IS, while Qave was correlated with ICS-QoL and ICS-IS both with office and home uroflowmetry.

OFFICE	IPSS Symptoms	IPSS QoL	ICS-Male	ICS-Sex	ICS-QoL	ICS-VS	ICS-IS
T 100	N.S	N.S	N.S	N.S	N.S	N.S	N.S
TQ	0,00023	N.S	N.S	N.S	N.S	N.S	N.S
TQmax	0,01277	0,00835	0,71619	0,00187	0,01379	0,04027	0,88651
Qmax	0,34216	N.S	0,00047	N.S	N.S	0,98578	0,003
Qave	N.S	N.S	0,11967	N.S	0,00036	N.S	0,00748
Vcomp	N.S	N.S	N.S	N.S	N.S	N.S	N.S

HOME	IPSS Symptoms	IPSS QoL	ICS-Male	ICS-Sex	ICS-QoL	ICS-VS	ICS-IS
T 100	0,04696	N.S	0,03739	N.S	N.S	0,1707	0,15172
TQ	N.S	N.S	N.S	N.S	N.S	N.S	N.S
TQmax	0,00154	0,0005	0,90472	N.S	0,00127	0,00339	0,51746
Qmax	0,03233	N.S	0,00675	N.S	N.S	0,12087	0,05544
Qave	N.S	N.S	0,1058	N.S	0,00015	N.S	0,00518
Vcomp	N.S	N.S	N.S	N.S	N.S	N.S	N.S

Conclusions

Many clinical trials¹⁻² on BPH patients are based on symptoms scores or uroflowmetry investigations between different populations or different groups of treatment. However, in many studies is possible to obtain significant modifications in symptoms scores without minimal alterations in uroflowmetry data; furthermore, in clinical practice is not infrequent to obtain significant improvements in Qmax, Qave or TQmax without modifications in urinary symptoms or quality of life.

Our data demonstrated that only *specific* items of symptoms scores correlate to *specific* flow parameters. Furthermore, IPSS seems to be associated with *different* flow parameters, according to *different* uroflowmetry investigations (office vs home), while ICS-BPH provide the same correlations between flow parameters and ICS-BPH items quite apart from the modality of flow registration.

BPH severity may be assessed both with uroflowmetry and symptoms scores; however, if we consider IPSS as symptoms score, we obtain more correlations between symptoms and flow parameters by using home uroflowmetry, while we haven't to choice between office or home uroflowmeter with ICS-BPH symptoms score.

References

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