



A comparison of Schaefer, International Continence Society and Bladder Contractility Index nomograms in the diagnosis of obstruction and detrusor underactivity in men with lower urinary tract symptoms

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INTRODUCTION, AIM OF THE STUDY

Aim of the study was to evaluate the correspondence between Schaefer nomograms (Sn), and both International Continence Society nomogram (ICSn) and Bladder Contractility Index (BCI).

MATERIALS AND METHODS

From January 2012 to October 2017, we collected data on 458 men underwent Flow-Pressure study for lower urinary tract symptoms. All urodynamics (UD) were performed according to Good Urodynamic Practice[1] and analyzed with Sn, ICSn and BCI. Bladder outlet obstruction (BOO) was defined as Sn obstruction classes ranging from II to VI, and ICSn score <40. Detrusor underactivity (DU) was considered as Sn contractility classes Weak (W)/Very Weak (VW), and BCI score <100.

RESULTS

Among unobstructed patients the concordance between the 2 nomograms was 97.4%. There was a complete concordance of un-obstruction only in Sn class 0, while in class I the concordance reached 70%. Among patients with equivocal diagnosis at ICSn, the Sn class II was the most usual (67.2%). Among patients clearly obstructed at ICSn, there was a complete concordance between the 2 nomograms. Moreover, 74.4% of the patients were in Sn classes III-IV, and 22.4% in classes V-VI. *Table 1* resumes data regarding BOO. We found a high correspondence in patients with normal detrusor contractility between the 2 nomograms (96.7%). In case of DU at BCI we found that 96.2% of males were in classes W/VW of Sn. Among males with normal detrusor contractility at Sn, 11% had a diagnosis of DU at BCI. *Table 2* reports data on DU.

INTERPRETATION OF RESULTS

We found a high concordance between Schaefer and ICS nomograms. Only Sn class 0 was completely associated to diagnosis of un-obstruction at ICSn. Equivocal diagnosis at ICSn corresponded in most of cases at Sn class II. When ICSn documented obstruction, Sn reached a complete correspondence.

Correspondence between Sn and BCI was high (96%), but a relevant number of patients with Sn normal contractility class had a diagnosis of DU at BCI (11%).

CONCLUSIONS

Data showed a high correspondence between Sn and ICSn, and most of the equivocal diagnosis at ICSn corresponded to Sn low obstruction (Class II). Correspondence between Sn and BCI was high but surprisingly with a misleading diagnosis in 1/10 patient.

This study evidences how in the clinical practice to achieve a more precise diagnosis of bladder underactivity and/or bladder outlet obstruction it is useful to use all the nomograms.

REFERENCES

- Schöfer W, Abrams P, Liao L, Mattiasson A, Pesce F, Spangberg A, et al . Good urodynamic practices: Uroflowmetry, filling cystometry, and pressure-flow studies. *Neurourol Urodyn* 2002;21:261-74.

Table 1: correspondence between Schaefer and ICS nomograms

		SCHAEFER NOMOGRAMS OBSTRUCTION CLASSES								Tot.
		0	1	2	3	4	5	6		
ICS NOMOGRAM CLASSES	1	69	81	2	0	0	0	0	0	152
	2	0	33	76	4	0	0	0	0	113
	3	0	0	4	40	56	19	10	10	129
	Tot.	69	114	82	44	56	19	10	10	394

		SCHAEFER NOMOGRAMS CONTRACTILITY CLASSES				Tot.
		STRONG	NORMAL	WEAK	VERY WEAK	
BCI CLASSES	1	15	4	0	0	19
	2	2	85	3	0	90
	3	0	11	228	53	292
	Tot.	17	100	231	53	401

Table 2: correspondence between Schaefer nomograms and Bladder Contractility Index

