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Schmidt F, Munch Jørgensen T, Djurhuus J. C.
Aarhus University Hospital

THE MICTURITION IN HEALTHY YOUNG MEN DESCRIBED WITH AMBULATORY URODYNAMICS AND CONVENTIONAL URODYNAMIC INVESTIGATIONS.

Aims of Study

To evaluate the differences in urodynamic parameters recorded during ambulatory urodynamics (AU) and conventional urodynamics (CUI) with a suprapubic catheter in healthy, normal young men.

Methods

28 young normal men, age 24.7 yrs. (range 20-32 yrs.) underwent to conventional urodynamic investigations through a suprapubic catheter in the same session. Filling rate was 60 mL/sec. First a supine cystometry, second a sitting cystometry.
The CUI was followed by a 24 hours AU investigation (MMS 2020) with a standard fluid regimen.
Recorded parameters were:
AU: Voided volume (VV), Qmax, Flowtime, PdetQmax, and MaxPdet.
CUI: 1st desire to void, normal desire to void, Max cystometric capacity, Qmax, Flowtime, PdetQmax, and MaxPdet.
The data for AU (voided volume) were compared with the three CUI volume parameters. The other values were simultaneously compared.

Results

Results are show in the table below. The values are mean values with standard deviation.

	Ambu	supine	Amb vs supine	sitting	Amb vs sitting	Supine vs sitting
VV (mL)	311 + 68					
1st desire (mL)		208 ± 132	p<0.001	279 ± 105	**p = 0.2**	p=0.03
Norm. desire (mL)		379 ± 143	**p=0.09**	434 ± 119	p<0.001	**p=0.12**
Max cyst. Cap. (mL)		653 ± 166	p<0.001	675 ± 134	p<0.001	**p=0.58**
Qmax (ml/sec)	27.7 ± 6.4	24.6 ± 8.7	**p=0.13**	24.4 ± 8.0	**p= 0.1**	**p=0.95**
Flowtime (sec)	18.0 ± 4.5	56.7 ± 30.4	p<0.001	52.9 ± 24.3	p<0.001	**p=0.57**
PdetQmax (cm H_2O)	66 ± 13	39 ± 9.4	p<0.001	42 ± 10	p<0.001	**p=0.31**
MaxPdet (H_2O)	82 ± 27	49 ± 16	p<0.001	49 ± 14	p<0.001	**p=0.92**

When comparing the sitting and the supine cystometry/ pressure flow measurements, only the first desire to void was significant different, with a lower value in the supine position. For all other measured parameters no significant differences were seen.
When comparing the values from AU and CUI there was no significant difference in Qmax, but a trend towards a lower Qmax during CUI was seen. When comparing VV during AU with the volume parameters during CUI only the value for normal desire to void during supine filling and 1st desire to void during sitting filling do not differ significantly from the VV. All other measured parameters during CUI differed highly significant from the values obtained during AU.

Conclusions

When comparing two CUI's in the same session no significant differences are seen. The healthy bladder is not "fatigued" from one filling with a filling rate of 60 mL/sec.
In our group of young normal men the values recorded during CUI and AU differs widely and significant. The average VV during AU is smaller than max. cystometric capacity. VV is nearer related to the values for 1st

desire to void, or normal desire to void.
Qmax seems to be very constant during the different circumstances. Whereas the pressure values and flowtime differs highly significant. Since our data correlates well with data formerly obtained in women, older men and children we suggest that we have reached the point where we can say, that micturition, and by that, the parameters recorded during AU are closer to the normal physiological micturition. Whereas CUI should be suggested as a stress test of the lower urinary tract, which can give us interesting urodynamic information, but the micturitions seen during CUI are not close to the normal physiological voids a person would produce under normal circumstances.