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DOES DIABETES MELLITUS EFFECT URODYNAMIC FINDINGS OF DETRUSOR OVERACTIVITY

Hypothesis / aims of study:
To determine whether diabetus mellitus (DM) make differences according to urodynamic charactestics in patients with detrusor overactivity.

Study design, materials and methods :
Between 2010-2012, 112 adult female patients with the ages of 47-86 and initial urodynamic examination with diagnosis as detrusor overactivity were retrospectively evaluated. Patients with severe cystocel and rectocel, and cystometric evidence of infravesical obstruction (defined as maximum flow rate less than 12 mL/min and detrusor pressure at maximum flow of more than 45 cm H2O.) were excluded. After restricted inclusion criteria 60 patients included in to study. Twenty five patients were diabetic and 35 were idiopatic detrusor overactivity (IDO). Nine urodynamic parameters were selected for analysis: functional capacity (FC) , cystometric capacity (CC), detrusor leak point pressure (DLPP), the urine volume of first sensation (FSV), the urine volume of normally sensation (NSV), maximal flow rate(Q_{max}), post mictional residue urine (PVR), detrusor pressure at maximal flow rate ($PdetQ_{max}$), the contraction pressure of overactive detrusor (POAD).

Results:
Each DM and IDO patients were similar ages (60.00 (Interquartile range (IQR) 51.50-68.00), 57.00 (IQR 53.00-64.00) , p=0.589). Symptoms and frequency were nearly same except mixt incontinence in each group of patients. Although DM patients had lower Q_{max}, lower FC, lower DLPP and higher $PdetQ_{max}$, there was no significant difference between DM and IDO patients according to urodynamic parameters.

Interpretation of results
There would be expected higher CC, lower PUD and DLLP as a consequence of afferent neural damage in diabetic patients. However our findings could not supported this. Our study limited with the lower number of patients and the absence of the duration of diabetes disease in each diabetic patients. For this reason, detrusor over activitiy with diabetes would be investigated with further future studies.

Concluding message:
Although there would be expected higher CC, lower PUD and DLLPas a consequence of afferent neural damage in diabetic patients, there was no evidence of diffirence in the case of urodynamic parameters between DM and IOD patients. Studies with increased number of patients will be pronounced the difference.

		DM	IOD
No. Patients		25	35
Age (median (IQR))		60.00 (51.50-68.00)	57.00 (53.00-64.00)
Symptoms	Urgency incontinence n(%)	14 (56.0)	13 (37.1)
	Mixt incontinence n(%)	5 (20.0)	17 (48.6)
	Stress incontinence n(%)	2 (8.0)	3 (8.6)
	Total incontinence n(%)	3 (12.0)	1 (2.9)
	Recurren urinary tract infection n(%)	1 (4.0)	1 (2.9)
Frequency (median (IQR))		8.15 (5.30-10.87)	8 (6.6-9.8)

Table 1. Patients demografics.

	DM		IDO		P
	n	Median (IQR)	n	Median (IQR)	
CC (ml)	24	178.00 (95.00-378.75)	35	268.00(162.00-392.00)	0.200
Q_{max} (cmH_2O)	21	11.00 (5.50-16.00)	31	13.00 (6.00-22.00)	0.291
PVR	25	18.00 (0.0-100.0)	31	5.00(0.00-30.00)	0.132
		Mean±sd		Mean±sd	
FC (ml)	22	303.70 ± 143.25	34	338.73±170.48	0.428
DLPP (cmH_2O)	21	31.57 ± 12.89	31	33.09±11.49	0.657
FSV (ml)	24	75.87 ± 51.45	35	93.65 ± 64.90	0.267
NSV (ml)	19	121.73 ± 63.14	31	150.83 ±89.57	0.222
$PdetQ_{max}$ (cmH_2O)	17	31.17 ± 13.72	31	30.00 ± 8.90	0.720
POAD (cmH_2O)	25	28,56 ± 13,20	35	27.82 ± 13.03	0.832

Table 2. Urodynamic parameters according to comparison of DM and IDO patients.
*IQR: interquartile range

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