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**Title:** URODINAMIC CHARACTERISTICS OF FEMALE PATIENTS WITH VOIDING DYSFUNCTION - COMPARISON BETWEEN DIABETICS AND NON-DIABETICS

### **Aim of Study:**

The median ranging prevalence of lower urinary tract symptoms (LUTS) in women is estimated between 14 % and 40,5 % according to the definition applied, the country of survey and the method of survey (1). Because of the possible onset of neuropathy in diabetic patients (2), earlier and more frequent changes in urodynamic parameters could be expected. Obstruction in females has been estimated low compared with males, and incidence is around 5% to 10% (3).

The aim of the study was to compare cystometric data in diabetic and non-diabetic women with LUTS.

### **Methods:**

31 women with LUTS according to anamnestic data were included in our investigation. All patients were divided into three groups: Group A (n=11): diabetic patients with diabetic peripheral neuropathy (DPN), Group B (n=10): diabetic patients with no proven DPN, Group C (n=10): patients without diabetes. The volume of eventually residual urine after voiding was measured. Next, capacity, sensation, and compliance were observed. All urodynamic investigations were done on the same Dantec Duett equipment with fluid-filled catheters. Bladder filling rate was 50 ml/min. Because of relatively disperse data we used following statistical methods: descriptive statistics: mean value, with 95% confidence interval for mean (lower bound to upper bound), and non-parametric tests (Kruskal-Wallis H test).

### **Results:**

The mean patients age was 66,4 (63,8-69,0) years. There was no statistically significant differences between the groups regarding the age. All patient had postvoiding residual urine less then 20 ml. First desire to void (FDV) was in Group A. 184,8 (125,9-243,7) ml, Group B 215,4 (160,7-270,1) ml, Group C 104,7 (80,1-129,3) ml. Normal desire to void (NDV) was in in Group A 262,7 (191,8-333,6) ml, Group B 300,8 (221,9-379,7) ml, Group C 184,4 (140,6-228,2) ml. Strong desire to void (SDV) was in Group A 350,7 (268,0-433,5) ml, Group B 358,8 (278,8-438,8) ml, Group C 275,6 (204,0-347,2) ml. Maximum cystometric capacity (MCC) was in Group A 407,8 (311,8-503,8) ml, Group B 396,4 (329,8-463,0) ml, Group C 350,8 (278,1-423,5) ml. Compliance was in Group A 91,1 (37,4-144,7) ml/cmH<sub>2</sub>O, Group B 72,4 (56,1-88,8) ml/cmH<sub>2</sub>O, Group C 51,1 (25,8-76,4) ml/cmH<sub>2</sub>O. There was no statistically significant difference of any parameter between groups A and B, but there was statistically significant difference in FDV between the groups A and C, as well as in FDV and NDV between the groups B and C.

### **Conclusions:**

Our study showed no statistically significant differences in any of the measured parameters between women with LUTS and DPN and women with diabetes without proven DPN. Proven DPN in female diabetic patients with LUTS seems to have no additional impact on bladder urodynamic characteristics. On the other hand diabetes itself has some influence on the bladder sensations. All parameters regarding sensation as well as cystometric capacity were higher in diabetic patients although some differences are not statistically significant. Our results showed no significant postvoiding residual urine what might support the data of low incidence of obstruction in

females reported in literature. It is surprising that we didn't find any patient with involuntary contractions although according to the literature incidence of detrusor instability is estimated in 25% in asymptomatic volunteers (4).

#### Literature

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