

LOWER URINARY TRACT COMPLICATION OF THE DIABETES MELLITUS IN ADULT POPULATION. A CROSS-SECTIONAL STUDY

Aims of Study

To assess the cross-sectional prevalence of lower urinary tract (LUT) complications of diabetes mellitus (DM) in ambulatory adult population who are seen for their routine follow up care at the diabetic clinic of the Cleveland Clinic Foundation (CCF); and to investigate the associations between poor diabetic control as assessed by HbA1c, and LUT complications.

Methods

After approval of the study by CCF IRB, adult patients were offered to participate in the study by signing an informed consent. The patients responded to two self-administered questionnaires (Diabetes Lower Urinary Tract Screening Questionnaire and Pelvic Floor Disorder Screening Questionnaire). Patients were screened to exclude other cause of LUT symptoms such as acute infectious illness, active malignancy, pelvic organ prolapse and Benign Prostatic Hyperplasia. Further, patients underwent uroflowmetry, determination of post-void residual, A1c hemoglobin (HgA1c), urinalysis and urine culture. Data on sex, age, race, type and number of years of DM, previous values of HgA1c, other medical and diabetic complications were collected. Chi-Square and t-test were used for analysis of dichotomous and continuous variables; with 95% confidence intervals reported for all estimates; and 80% power at the 0.05 significance.

Results

Fifty-six patients (27 male, 29 female mean age of 56.7) were recruited into the study to satisfy the estimated power required for test of statistical significance. Table below shows the results of initial analysis of the collected data.

Sex	Race	Age	Number of years DM	LUT complications	Type of DM	Uroflowmetry	HgA1c Ratio	PVR mL
Male 27 (48%)	White 34 (61%)	Lowest 24 years	Lowest-6 moths	Yes 25 (45%)	Type I 10 (18%)	Normal 32 (57%)	Lowest 6%	Lowest value 0
Female 29 (52%)	African American 29 (34%)	Highest 85 years	Highest 43 years	No 30 (54%)	Type II 46 (82%)	Abnormal 24 (43%)	Highest 16%	Highest value 320
	Other 3 (5%)	Mean 56.7	Average 15 years	Unknown 1 (1%)			Median 8.9%	Median 85

Conclusions

LUT complications of the DM are commonly prevalent among adult diabetic patients, regardless of sex, and race. Elevated levels of HbA1c appear to suggest the presence of LUT complications. The results of this study suggest that more vigorous screening for LUT complications is warranted given the 30% estimated incidence of undiagnosed DM and escalating incidence of diabetes in the U.S.