



Abstract #343 A PROSPECTIVE OBSERVATIONAL STUDY TO FIND OUT THE PREVALENCE OF LOWER URINARY TRACT SYMPTOMS IN ELDERLY MALE PATIENTS WITH TYPE 2 DIABETES MELLITUS AND TO ASSESS CORRELATION BETWEEN DURATION AND CONTROL OF DM WITH LUTS SEVERITY.

Author- Amrut Phonde, Co-Authors- Sonu Kumar Plash, Devashish Kaushal, Kumar Madhavan
Department of Urology, All India Institute of Medical Sciences Bhopal (AIIMS Bhopal)

Introduction

- The age adjusted prevalence of people with diabetes (20-79 years) in India in 2021 is 9.6% (1).
- Lower urinary tract symptoms (LUTS) prevalence globally among adults is estimated to be 50%.(2)(3).
- The negative impact of diabetes on the bladder and its manifestation in later stages as diabetic cystopathy is a well-known fact. (4)(5).
- Further data to characterize the epidemiology and effects of LUTS would be beneficial to improve understanding and ensure that efforts to improve diagnosis and treatment are correctly targeted.
- The data from central India will be described here, with the aim of providing greater insight into the prevalence of LUTS in central India.

Hypothesis:

Lower Urinary Tract Symptoms (LUTS) is more in type two Diabetes Mellitus patients as compared to non-diabetics.

Aim:

To compare the prevalence of lower urinary tract symptoms in type two diabetic mellitus patients versus non-diabetic male patients of more than 60 years of age in central India.

Objectives -

Primary objective - To assess the prevalence of LUTS in diabetic and non-diabetic male patients above 60 years of age.

Secondary objective - To assess correlation between duration of DM and control of DM (HbA1C) with severity of LUTS.

Study design, materials and methods

- **Design** – Prospective observational study
- **Institute-** Department of Urology, AIIMS Bhopal
- Study Population – All consenting male patients more than 60 years of age fulfilling the inclusion and exclusion criteria presenting with lower urinary tract symptoms in Urology OPD of AIIMS Bhopal.
- **Inclusion criteria-**
 - Lower urinary tract symptoms defined by international prostate symptom score (IPSS).
 - Male, age > 60 years .
- **Exclusion criteria-**
 - Patients with prostate cancer and other urological malignancies.
 - Patients who have undergone prostate biopsy within last 4weeks.
 - Patients having history of catheterization in the last 4 weeks.
 - Patients who are diagnosed case of lower urinary tract infection during their presentation to urology clinic. (presenting with fever or dysuria, increased leucocytes or bacilli on urine routine microscopy, or positive urine culture sensitivity report, ultrasound of urinary bladder suggestive of cystitis changes, prostatitis, prostatic abscess).
 - Patients who underwent Lower urinary tract surgery in last 2 years.
 - Patients who are cognitively impaired.
 - Patients with known history of urethral stricture disease.
 - Patients who are known case of urolithiasis.
 - Patients who are already on Alpha blocker pharmacotherapy (example- Tamsulosin, Silodosin, Alfuzosin), or 5-alpha reductase inhibitors (Dutasteride, Finasteride).
 - Patients who refuse to give informed consent to participate in the study

Materials and Methods

- Males above 60 year of age visiting urology OPD from September 2022 to July 2023 satisfying the inclusion criteria were included
- Prevalence of LUTS among diabetic and non-diabetic patients were assessed after dividing them in 2 cohorts based on their HbA1C levels and history of known DM-2.
- Severity of LUTS was assessed using Hindi IPSS questionnaire.
- Duration and control of diabetes (HbA1C) and its correlation with LUTS severity were assessed.

Statistical analysis:

- The data was entered in MS Excel spreadsheet.
- Numerical data was presented as mean + standard deviation and median + interquartile range depending on distribution.
- Nominal data was presented as count and percentage.
- Prevalence of diabetes mellitus type 2 was presented as proportion and confidence interval.
- Distribution of numerical outcomes such as IPSS was compared by using unpaired t-test. Categorical variable association was tested by Chi-square test.

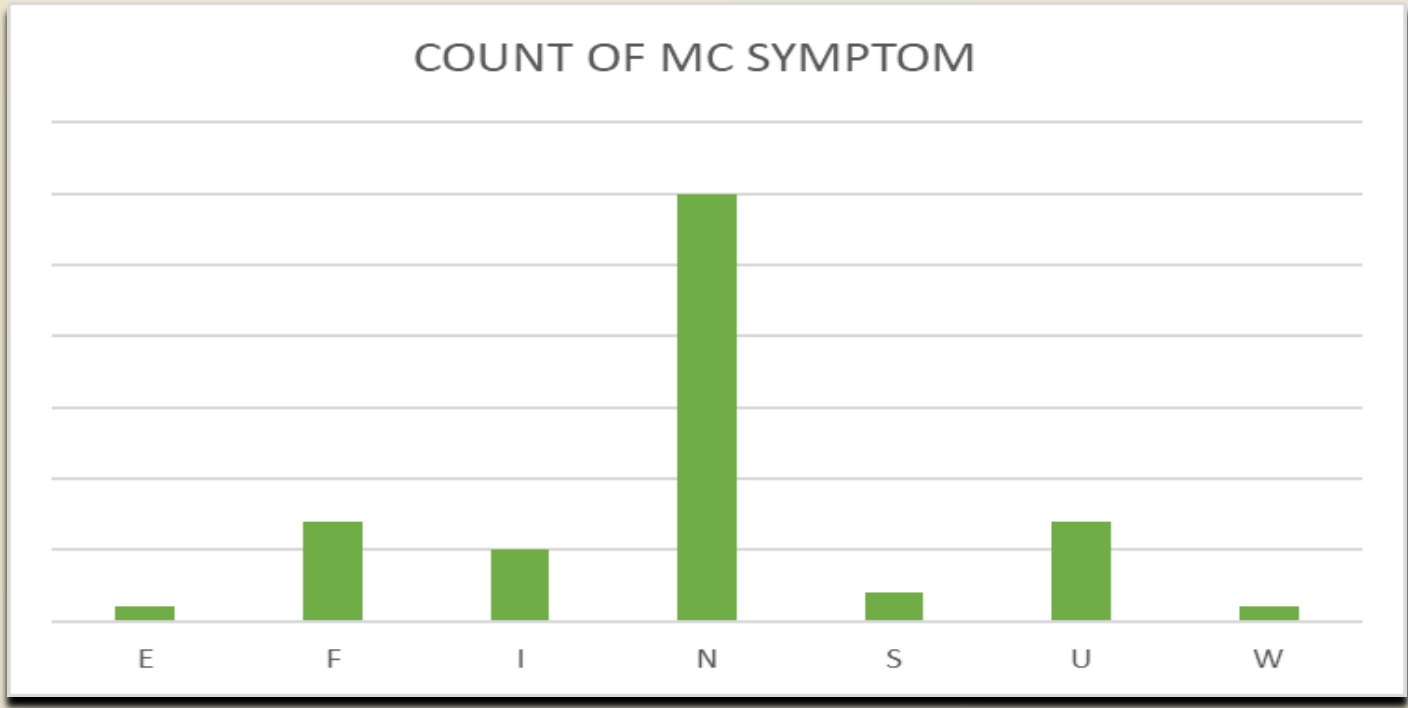
Results and interpretation

Results

- Total Males above 60 years of age in the study period were 1388 out of which 209 (15%) were diabetics and 1179 (85%) were non-diabetic.
- LUTS prevalence in diabetic and non-diabetic patients were 64.6 % and 42.2 % respectively.
- IPSS of diabetics were found to be in the moderate to severe category as compared to non-diabetics.
- Nocturia was the most common symptom among diabetic patients (80%).
- Longer duration of DM2 was associated with increased severity of LUTS.(p value 0.010, CI 95%).
- Higher HbA1c (uncontrolled DM-2) was associated with increased severity of LUTS. (p value <.001, CI 95%).

Interpretation

- In a study by Kant et al at Bangalore, the prevalence of LUTS was 85%. It was higher among people with DM-2 (32.0%). The most common symptom among participants was nocturia (85.4%), followed by weak stream (35.0%). (6)
- Van Den Eeden et al. in his study found that Longer duration of type 2 diabetes was associated with an increased odds of LUTS. Men with type 2 diabetes reported higher AUASI scores.
- In a study conducted in Brazil by Ferreira et al on 62 male subjects. DM was positively associated with increasing LUTS. They demonstrated a statistically significant association (p<0.05) between DM and LUTS on Elder men. (7)



Conclusions

- Understanding the prevalence of LUTS will help estimate the associated workload and expense needed to take care of this group of patients.
- Being a well defined disease and not easy to diagnose, diabetic cystopathy often develops insidiously and patients do not show symptoms until the disease is in advanced stage. Usually patients do not show symptoms until questioned. Therefore Physicians treating DM patients should elicit questions (IPSS) related to LUTS so that these subset of patients can be identified early and appropriate preventive steps can be taken to avoid progression into diabetic cystopathy and its secondary complications like recurrent UTI, Upper tract changes, CKD, and urosepsis.
- There is also a need for health education among physicians and patients regarding this entity.

Limitations.

- It should have been a community based study, since it was conducted in urology OPD therefore the prevalence of LUTS seems to be slightly higher.

References.

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