

***Genitourinary dysfunction is predicted by diabetic polyneuropathy in type 1 diabetes, but only in men: results from DCCT/EDIC study until EDIC year 17***

*Aim:* To assess the possible association between diabetic peripheral neuropathy (DPN) and urological complications in patients with long standing type 1 diabetes (T1D) previously enrolled in DCCT/EDIC study.

*Methods:* Population was selected from the original 761 men and 680 women enrolled in DCCT. At EDIC year 17, among those who agreed to participate to UroEDIC II study, 635 men (mean age 51.6 years, diabetes duration 29.5 years) had valid information on erectile dysfunction (ED) and low urinary tract symptoms (LUTS) and 371 women (mean age 50.6 years, diabetes duration 29.8 years) on female sexual dysfunction (FSD) and urinary incontinence (UI). DPN was assessed at DCCT baseline, at DCCT closeout and at EDIC year 13/14 based on symptoms, signs and abnormal electrophysiology or abnormal Michigan Neuropathy Screening Instrument examination or questionnaire. Urological complications were assessed at EDIC year 17 using the International Index of Erectile Function, the short version of the Female Sexual Function Index, the American Urological Association Symptoms Index for LUTS, and the Sandvik Severity Index for UI in women.

*Results:* At EDIC year 17, 30% of men reported ED only, 10% LUTS only, and 15% both ED and LUTS, while 25% of women reported FSD only, 18% LUTS/UI only, and 16% both FSD and LUTS/UI. After adjustment for age, drinking status, BMI, depression, DCCT/EDIC time-weighted mean HbA1c, microalbuminuria, hypertension, triglycerides, and statin use, the odds of combined LUTS and ED were 3.52 (95% CI 1.69, 7.31) times greater in men with confirmed DPN at EDIC year 13/14 Vs. men without DPN. On the contrary, the presence of both FSD and UI was not independently associated with DPN in women.

*Conclusions:* In men with long-standing T1D, DPN is associated with the later development of ED and LUTS.

**Comments:** This study has the merit of evaluating the association between DPN and genitourinary complications in a large and well-defined population with long-standing T1D. The influence of DPN on genitourinary complications was also found in previous studies but with less consistent results. This study enlarges the knowledge about the factors involved in diabetic urological complications that were traditionally considered as mainly related to cardiovascular autonomic neuropathy and vascular complications and supports different scenarios for men and women. The factors responsible for the different patterns observed in men and women deserve to be addressed in future studies.

**Ilenia D'Ippolito**

**Reference:** Pop-Busui R, Braffett BH, Wessells H, Herman WH, Martin CL, Jacobson AM, Sarma AV. Diabetic peripheral neuropathy and urological complications in type 1 diabetes: findings from the Epidemiology of Diabetes Interventions and Complications Study. *Diabetes Care*. 2022 Jan 1;45(1):119-126. doi: 10.2337/dc21-1276.

<https://diabetesjournals.org/care/article/45/1/119/138978/Diabetic-Peripheral-Neuropathy-and-Urological>