



# Diabetic polyneuropathy as the only diabetes related complication associated with higher likelihood and more severe forms of erectile dysfunction in T2D

Soner Cander, Soner Coban, M.Sakir Altuner, Ozen Oz Gul, Ercan Tuncel

Bursa Sevkett Yilmaz Education and Reserach Hospital,  
Uludag University Medical School, Endocrinology and Metabolism



## Objectives

- Erectile dysfunction (ED) has been reported to occur more commonly in diabetes than general population with the prevalence rate varies widely from 35% to 75%.
- Whilst not yet been fully clarified, the pathophysiology of diabetic ED has been associated with complex and multifactorial processes mediated by vascular and neurogenic factors, endothelial dysfunction, oxidative processes, and changes in the nitric oxide system. Neurogenic and endothelium dependent relaxations was demonstrated in the corpus cavernosum of diabetic patients which is one of the major organic causes of ED.
- We aimed to evaluate association of ED with diabetes related complications in patients with type 2 diabetes in our study.

## Methods

- In a total of 68 type 2 diabetic patients males (mean age: 56.7 (5.8) years), polyneuropathy, nephropathy and retinopathy were assessed based on medical history, physical examination and laboratory findings.
- ED was evaluated via application of the 5 question of International Index of Erectile Function (IIEF-5) Questionnaire via face to face interview method. The severity of sexual dysfunction was classified into five categories (i.e. severe 5–7, moderate 8–11, mild to moderate 12–16, mild 17–21 and no ED 21–25)
- Polyneuropathy (deep tendon reflexes and Prick test), nephropathy (proteinuria of >30mg/day or high levels for creatinine) and retinopathy (ophthalmoscopic examination of retina) were assessed based on medical history, physical examination and laboratory findings.

## Results

• Mean(SD) duration of diabetes mellitus was 7.4(6.9) years and mean HbA1c was 8.6(2.0) in patients. Polyneuropathy was noted in 46.2%, nephropathy in 30.8% and retinopathy in 33.8%.

• ED was determined in 75.0% of diabetic patients and severe ED in 29.4%. Univariate analysis revealed that diabetic polyneuropathy was the only significant factor associated with higher likelihood (93.3% in the presence and 60.0% in the absence of neuropathy) and severity (43.3% in the presence and 14.3% in the absence of neuropathy) of ED (p=0.004).

	Erectile dysfunction categories*					Total	p value <sup>1</sup>
	Severe	Moderate	Mild to moderate	Mild	None		
	n (%)						
Overall	25(21.6)	13(11.2)	14(12.1)	28(24.1)	36(31.0)	116(100.0)	-
Hypertensives	10(24.4)	6(14.6)	8(19.5)	9(22.0)	8(19.5)	41(100.0)	0.076
Hyperlipidemics	11(20.4)	6(11.1)	10(18.5)	16(29.6)	11(20.4)	54(100.0)	0.383
CAD patients	8(23.5)	6(17.6)	4(11.8)	9(26.5)	7(20.6)	34(100.0)	0.193
Polyneuropathy	13(43.3)	3(10.0)	5(16.7)	7(23.3)	2(6.7)	34(100.0)	0.004
Nephropathy	8(40.0)	2(10.0)	2(10.0)	2(10.0)	6(30.0)	20(100.0)	0.465
Retinopathy	9(40.9)	2(9.1)	3(13.6)	6(27.3)	2(9.1)	22(100.0)	0.088

CAD: coronary artery disease \*Severe: Score 5-7; Moderate: Score 8-11; Mild to moderate: Scores 12-16; Mild: Scores 17-21; None: Scores 22-25 <sup>1</sup>Linear-by- Linear Association

## Conclusions

In conclusion, findings from the present cross sectional single centre study revealed diabetic polyneuropathy as the only diabetes related complication associated with higher likelihood and more severe forms of ED. In patients with diabetic polyneuropathy, ED should be evaluated.

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•Ryan JG, Gajraj J. Erectile dysfunction and its association with metabolic syndrome and endothelial function among patients with type 2 diabetes mellitus. *J Diabetes Complications*. 2012; 26:141-7.

