

# Plasma visfatin concentration in patients with diabetic nephropathy

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## INTRODUCTION AND AIMS

Diabetic nephropathy (DN) is one of the most common microvascular complications of diabetes mellitus and the leading cause of end-stage renal disease. Visfatin (also known as pre-B cell colony-enhancing factor) is a newly discovered adipocytokine that is preferentially produced by visceral fat and regulated by cytokines promoting insulin resistance. Recent studies have shown that visfatin increases the synthesis of profibrotic molecules in mesangial cells (MCs) and thus may play an important role in kidney injury. The aim of the present study was to examine plasma visfatin level in peripheral blood of type 2 diabetic patients with nephropathy.

## DESIGN AND METHODS

Plasma visfatin was measured after overnight fasting in 15 healthy control subjects and 82 type 2 diabetic patients with microalbuminuria and macroalbuminuria. Concentrations of plasma visfatin were determined by enzyme-linked immunosorbent assay. The relationships between the levels of urinary albumin, serum creatinine and visfatin concentration were analyzed.

Fig.1. Visfatin levels in blood plasma of patients with diabetic nephropathy and healthy controls

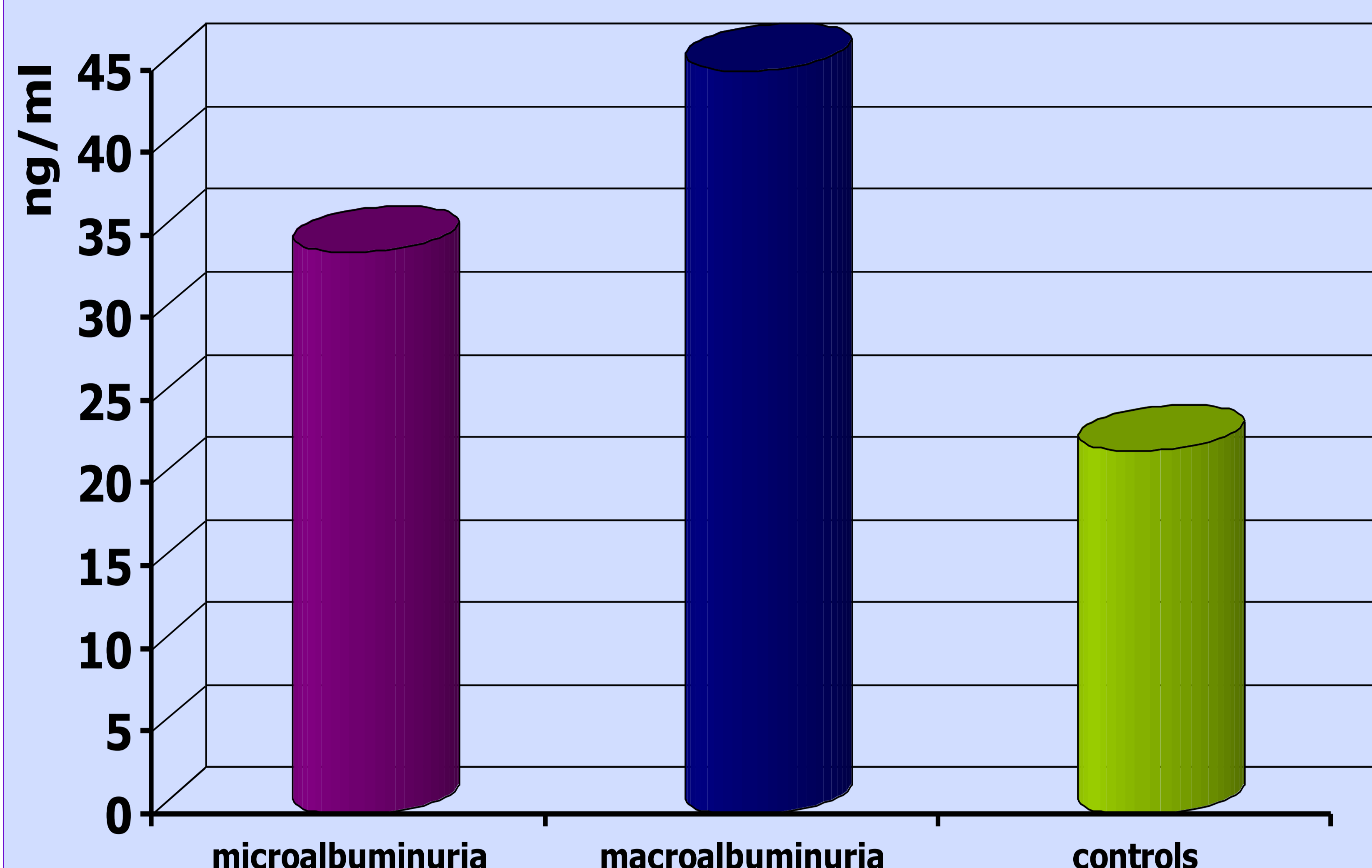


Table 2. Correlation coefficients (r) of visfatin with urinary albumin, serum creatinine and glomerular filtration rate (GFR)

	visfatin, pg/ml
urinary albumin	0,63*
serum creatinine	0,67*
GFR	- 0,58*

\* Significant at P < 0,05.

## RESULTS

Our results showed that the development of DN is accompanied by significant growth of visfatin in blood plasma when compared with healthy control subjects (p=0.002). Levels of visfatin in macroalbuminuria group (n=38) were significantly higher than those in microalbuminuria group (n=44). The mean plasma visfatin level in patients with macro- and microalbuminuria was (44.9±5.2) ng/ml and (32.4±3.8) ng/ml respectively, controls – (22.5±1.9) ng/ml. In all patients, there were significant correlations between the urinary levels of albumin, serum creatinine, glomerular filtration rate and plasma visfatin.

## CONCLUSION

These findings suggest that DN progression is closely associated with plasma visfatin elevation. Determination of visfatin level in blood plasma in type 2 diabetic patients with nephropathy may have important diagnostic implications.

