

## Increased Urinary Excretion of N-acetyl- $\beta$ -D-glucosaminidase in Patients Affected with Psoriasis

Sir,

Urinary excretion of brush-border tubular enzymes as well as of albumin is increased in diabetic patients with nephropathy and in patients with high blood pressure (1–3).

It is a matter of debate whether urinary albumin excretion (UAE) could be augmented in psoriatic patients without diabetes or arterial hypertension (4–6). Moreover, no data exist about renal excretion of brush-border tubular enzymes in patients with psoriasis. To evaluate this latter point we studied the renal excretion of N-acetyl- $\beta$ -D-glucosaminidase (NAG) and albumin, both normalised for urinary creatinine, in a group of 22 non-diabetic patients affected with uncomplicated psoriasis, who were consecutively reported to our out-patient clinic, as compared with sex- and age-matched groups of insulin-dependent diabetic patients ( $n=26$ ) and control subjects ( $n=15$ ). All patients and healthy controls were normotensive and with a normal plasma creatinine. The severity of psoriasis was assessed according to PASI. No patient had been treated with potentially nephrotoxic drugs in the last 6 months. Both albumin and NAG urinary excretions were measured in 24-h urinary samples (mean of 3 previous collections). Urinary NAG was assayed by means of a colorimetric method (7), and albumin by radioimmunoassay (Biodata, Rome, Italy). Differences between means was evaluated by a non-parametric method (two-tailed Wilcoxon rank sum test).

The values of UAE, as well as of urinary NAG, were significantly higher in both diabetic and psoriatic groups than in controls, while no difference was present between psoriatic and diabetic patients (Table I). Both UAE and urinary NAG were unrelated with skin involvement as assessed by PASI.

The present findings seem to confirm our previous observation of a significant increase of UAE in psoriatic patients (5), although we did not find any relation between UAE and PASI, probably due to a relatively mild skin involvement in the present group of patients. Interestingly, we found a relation between the presence of psoriasis and urinary excretion of brush-border tubular enzymes, pointing to the hypothesis that the kidneys might be early involved in this disease.

However, whether early renal tubular involvement in psoriasis, as we observed, could be only functional, as happens in diabetic microalbuminuric patients, remains to be ascertained, by means of a simultaneous histologic examination of the kidneys in these patients.

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Table I. Urinary excretion of N-acetyl- $\beta$ -D-glucosaminidase (NAG) and albumin in psoriatic patients as well as in diabetic patients and healthy controls

	Psoriatic patients	Diabetic patients	Controls
No.	22	26	15
Age (years)	48 $\pm$ 17	44 $\pm$ 10	47 $\pm$ 6
Sex (Male/Female)	13/9	15/11	8/7
Urinary NAG (mU/mg creatinine)*	1.9 $\pm$ 1.7 (a)	1.7 $\pm$ 1.9 (a)	1.2 $\pm$ 1.3 (b)
Urinary albumin ( $\mu$ g/mg creatinine)*	3 $\pm$ 4.2 (c)	5.1 $\pm$ 6 (c)	0.8 $\pm$ 2.4 (d)
PASI	9.5 $\pm$ 5.2	—	—

\* Values expressed as geometric means  $\pm$  SD.

a vs b:  $p < 0.05$ ; c vs d:  $p < 0.001$ .