The urinary albumin excretion in patients with psoriasis

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The urinary excretion rates of albumin (UAE) were determined in 25 patients with psoriasis vulgaris. Twenty-five age and sex matched healthy subjects and 25 patients with type-2 diabetes mellitus were taken to be the control groups. We found no differences in systolic and diastolic blood pressure and UAE between the psoriatic patients and healthy controls (p<0.05). In diabetic patients there was a significant correlation between UAE and diastolic blood pressure (p>0.05) and the UAE, systolic and diastolic blood pressure were significantly higher than psoriatic patients and healthy controls (p<0.05). There was no significant correlation between UAE and psoriasis area and severity index (PASI) scores and the duration of the disease (p>0.05). We conclude that the UAE is within normal limits in psoriasis vulgaris. [Turk J Med Res 1994; 12(2): 91-93]

Key Words: Albumin, Psoriasis.

Microalbuminuria is a reliable marker of early diabetic and hypertensive nephropathy and predicts clinical nephropathy (1,2). The increase in urinary excretion rates of albumin (UAE) so-called microalbuminuria (20-200 ug/min), is detectable only by the use of sensitive assays for albumin(1). In patients with psoriasis the high prevalence of microalbuminuria have been demonstrated in two studies (3,4). The high frequency of diabetes mellitus and hypertension in psoriatic patients is reported (5), but clinical nephropathy is unlikely in psoriatic patients without diabetes mellitus and hypertension (6). So it is difficult to explain the increased UAE in psoriasis. It is not clear that if the increase in UAE is a consequence of exercise, urinary infection, coexistence of any renal disease, hypertension or diabetes mellitus in the these previous studies.

The aim of this study is to investigate the prevalence of microalbuminuria in patients with psoriasis and the relation with the duration and severity of psoriasis.

MATERIALS AND METHODS

Twenty-five patients with psoriasis vulgaris were hospitalised and studied. Patients with psoriatic arthritis, pustular psoriasis, erythrodermic psoriasis and evidence of any systemic disease were excluded. None of the patients were on any systemic drug therapy in the last six months. Twenty-five age and sex matched healthy subjects and 25 patients with type-2 diabetes mellitus were taken to be control groups. The psoriatic patients and healthy subjects with normal values of fasting blood glucose .levels, total lipid, cholesterol, trigliserid, uric aci, blood urea nitrogen, creatinine, creatinine clearance, liver function tests were included into the study. The serum markers for hepatitis B and C, standart oral glucose tolerance test with 75 g glucose and ophthalmologic investigation for diabetic or hypertensive retinopathy were negative.

The albustix (Ames) tests of urine were negative for protein and urinary infection was excluded. UAE was measured in three consecutive 24-hour urine samples with radioimmunoassay (7) using commercial kits (Diagnostic products co., California). The subjects of the study groups were instructed to avoid strenous exercise at the time of the urine collection period. According to the definition agreed upon at a recent conference the values below 20 ug/min was accepted as normoalbuminuria and persistent microalbuminuria was diagnosed for the values between 20-200 ug/min in at least 2 out of 3 consecutive urine collections (8). The blood pressure was measured auscultatorily after at least 10 minutes of rest, three times at 5 minutes interval in the sitting position employing a standart clini-

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Table 1. Characteristics of the psoriatic patients healthy and type-2 diabetic controls.

	Psoriatic patients n:25	Healthy controls n:25	Diabetic kontrols n:25
Age (years)	42±3	42±3	42±3
Sex(F/M)	13/12	13/12	13/12
UAE(nm/min)	7.9+2.6	8.8±2.9	42.4±6.3
(range)	(1.8-22)	(1.7-17.3)	(1.8-200)
Systolic BP (mmHg)	114±3	123+3	138±4
(range)	(100-130)	(110-130)	(100-210)
Diastolic BP (mmHg)	75±2	82±3	90±3
(range)	(60-80)	(75-85)	(70-120)

cal manometer (Erka Perfect) and the mean values were calcuated. Phase V used for diastolic blood pressure. The psoriasis area and severity index (PASI) was calculated (9) for each psoriatic patient at the time of hospitalisation.

All data are presented as mean values ± SD. Two-tailed t test, simple regression and correlation analysis were used (10).

RESULTS

Table 1 shows the characteristics of the psoriatic patients and healthy and diabetic controls. There was no statistically significant difference between the ages of the three groups ($p>0.05$). There were no differences in systolic and diastolic blood pressure and UAE between the psoriatic patients and healthy controls ($p>0.05$). The mean PASI scores were 10±3 (range 2.4-29.1) in patients with psoriasis vulgaris. In diabetic patients there was a significant correlation between UAE and diastolic blood pressure ($p<0.05$) and the UAE, systolic and diastolic blood pressure were significantly higher than psoriatic patients and healthy controls ($p<0.05$). There was no significant relationship between UAE and PASI scores and the duration of the disease ($p>0.05$). The mean of UAE of 3 consecutive urine collections was 22 in a patient with psoriasis in whom the UAE in three specimens were 13.2, 36.3, 16.6 ug/min respectively.

DISCUSSION

An increased UAE is found in most of the patients especially with untreated or poorly controlled essential hypertension and pre-proteinuric phase of diabetic nephropathy (11,12). Microalbuminuria is also associated with an increased risk of cardiovascular morbidity in diabetic and hypertensive patients (13-15). There could also be a possibility that microalbuminuria is a manifestation of widespread atherosclerosis (15), Recently, two studies have been apperared in the literature with an observation of high prevalence of microalbuminuria in psoriatic patients even in the absence of coexisting diabetes and hypertension (3,4). The standing point of these studies depends on the finding of the similarity between the damage of dermal microvessels in diabetic and psoriatic subjects (16) which has not been confirmed by any other study to date. In these studies latent diabetes and atherosclerosis which might be associated with microalbuminuria, were not excluded as it was suggested that some patients with psoriasis have disorders of lipid metabbolism (17). The patients with normal oral glucose tolerance and total lipid, cholesterol and triglycerid levels were included in our study. Madeddu et al. (3) found a significant relation between UAE and diastolic blood pressure in psoriatic patients similar to our diabetic control group. The mean age, systolic and diastolic blood pressure of our patients were lower than the patients of these two studies.

Our observation indicates that the prevalence of UAE was not high in selected patients with psoriasis vulgaris. The high prevalence of microalbuminuria in the other studies might be due to the other factors than the psoriasis itself. However, long-term follow-up of patients with psoriasis with functional and structural evaluations of the kidneys will provide further information.

Psöriazisli hastalarda üriner albumin ıtrahı

Psöriazis vulgaris tanısı konulan 25 hastada üriner albümin itrahı saptandı. Kontrol grubu olarak yaş ve cins uygunluğu olan 25 sağlıklı kişi ve 25 tip-2 diabetli hasta alındı. Psöriazisli hastalar ve sağlıklı kontrol grubu arasında yaş, sistolik ve diastolik kan basıncı, üriner albümin itrahı arasında fark yoktu (p>0.05). Diabetli hastalarda, üriner albümin itrahı ile diastoik kan basıncı arasında anlamlı bir ilişki vardı (p<0.05) ve üriner albümin itrahı, sistolik ve diastolik kan basıncı, sağlıklı kontrol grubundan ve psöriazisli hastalardan anlamlı olarak yüksekti (p<0.05). Üriner albümin itrahı ile PASI skorları ve hastalık süresi arasında anlamlı bir ilişki saptanmadı (p>0.05). Sonuç olarak üriner albümin itrahı psöriazis vulgarisli hastalarda normal sınırlarda bulundu. TurkJMedP.es 1994; 12(2):91-93]

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