Prevalence of metabolic syndrome in patients with psoriasis

Sir,

Associations between psoriasis and metabolic diseases, such as obesity, diabetes, dyslipidaemia, and cardiovascular disease have been recognized. Metabolic syndrome (MetS) is a cluster of risk factors, including central obesity, atherogenic dyslipidaemia, hypertension, and glucose intolerance.[1]

Combining the age of onset with the HLA pattern, psoriasis can be identified two subtypes. Type I (early onset) has an onset <40 years of age, and HLA-Cw6, -B13, -Bw57, and -DR7 are over-represented; inheritance is familial. Type II (late onset) has an onset >40 years of age, and the HLA associations are weaker; there is no familial risk and the likelihood of joint and nail involvement is greater. The most common association is HLA-Cw6.[2]

The aim of this study was to investigate the prevalence of MetS in patients with psoriasis.

Two hundred fifty psoriatic patients admitted to the dermatology clinic during 2007–2009 were included. Patients receiving any systemic treatment for psoriasis, patients in whom the duration of psoriasis was <6 months, patients <18 years of age were excluded from the study. Psoriasis was diagnosed based on clinical and/or histopathologic criteria. The data collected included age, gender, waist circumference, blood pressure, duration of psoriasis, age of onset of psoriasis, and severity of psoriasis. Psoriasis was classified as type I and II. Measurement of psoriasis severity was performed using the psoriasis area and severity index (PASI).

MetS was diagnosed based on waist circumference and two or more criteria of the International Diabetes Federation (IDF), as follows: waist circumference >94 cm in males or >80 cm in females; triglycerides ≥150 mg/dl; high-density lipoprotein cholesterol <40 mg/dl in males or <50 mg/dl in females; blood pressure ≥130/85 mmHg (or the use of antihypertensive drugs); and fasting plasma glucose ≥100 mg/dl (or previously diagnosed type 2 diabetes).

Venous samples were obtained at the enrollment visit after the subjects had fasted overnight. Serum lipids and blood glucose were measured using the end-point colorimetric method.

The study was approved by the ethics committee of Sisli Etfal Research and Training Hospital. Data analysis was performed using SPSS 11.5(SPSS Inc., Chicago, IL, USA). The results are expressed as the mean ± SD. Differences were considered statistically significant at a *P*-value <0.05. Student's *t*-test, Mann–Whitney *U*-test, chi-square test, and Fisher's exact test were performed.

The study included 250 psoriatic patients (131 females, 119 males; age range: 18–85; mean age: 41.39 ± 14.7). In psoriatic patients, the PASI score ranged from 0.3 to 36.6 (median: 7.93 ± 6.87). Fifty-nine patients (23.6%) had a PASI score >10. Type I psoriasis (188 patients, 75.2%) was more common than type II psoriasis (62 patients, 24.8%).

Seventy-seven psoriatic patients (30.8%) had MetS. When comparing psoriatic patients with MetS to psoriatic patients without MetS, there was no statistically significant difference in the two groups with respect to the severity of psoriasis. Type 2 psoriasis was more common in psoriatic patients with MetS. In addition, although there was statistically significant difference in the two groups with respect to age, as late onset psoriasis was more common in the first group and early onset psoriasis was more common in the second group, there was no statistically significant difference between the two groups with respect to the duration of psoriasis [Table 1].

The prevalence of MetS varies among populations because of differences in genetic background, diet, levels of physical activity, levels of over- and under-nutrition, and body habits.[1] In one study using IDF, the prevalence of MetS in Turkey was 34.6%.[3] We found that the prevalence of MetS in psoriatic patients was 30.8%.

The relationship between MetS and the severity of psoriasis is controversial. Sommer *et al.*,[4] reported an increased prevalence of MetS in patients with moderate-to-severe psoriasis. In contrast, Gisondi *et al.*,[1] and Takahashi *et al.*,[5] detected no correlation between the severity of psoriasis and MetS. Again, it was demonstrated that the duration and severity of psoriasis had no effect on insulin resistance.[6] We did not find a link between the duration of psoriasis and MetS or the severity of psoriasis and MetS.

Table 1: Comparing psoriatic patients without MetS to with MetS to all patients with both psoriasis and MetS in both study groups with respect to the demographic features and the characteristics of psoriasis

	Psoriatic patients without MetS (*n* = 173)	Psoriatic patients with MetS (*n* = 77)	*P*-value, comparing column II to III
Sex M/F	82/91	37/40	*P* = 0.924
Age at enrolment (years), mean ± S.D.	38.44 ± 14.56	48.01 ± 12.79	0.000
Age of onset of psoriasis (years), mean ± S.D.	27.24 ± 15.5	35.06 ± 13.53	0.000
Duration of psoriasis (months), mean ± S.D.	133.99 ± 131.6	156.27 ± 130.29	0.216
Type of psoriasis, n (%)			
Type I	138 (79.8)	50 (64.9)	
Type II	35 (20.2)	27 (35.1)	0.012
PASI, mean ± S.D.	7.68 ± 6.61	8.55 ± 7.46	0.367
PASI > 10, *n* (%)	40 (23.1)	19 (24.6)	0.653

Gisondi *et al.*,[1] observed that patients with MetS had an earlier age of onset of psoriasis and a longer disease of duration. Conversely, in our study the link between late onset psoriasis and MetS was detected. Again, Ucak *et al.*,[6] also observed that impaired glucose tolerance was more common in type II psoriatic patients. Moreover, Takahashi *et al.*,[5] found a positive correlation between the severity of psoriasis and obesity and diabetes. Although we cannot determine whether or not psoriasis or MetS comes first by our patients' histories, the absence of the association between the severity and the duration of psoriasis and MetS and the close relationship between type II psoriasis and MetS led us to reason that obesity itself could predispose an individual to developing psoriasis, as previously suggested.[5]

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Access this article online

Quick Response Code:

Website: www.ijdvl.com

DOI: 10.4103/0378-6323.77464

PMID: 21393953

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