Prevalence of metabolic syndrome in patients with psoriasis

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Background

Psoriasis is a chronic and recurrent inflammatory skin disorder affecting 2-3% of the world population. It has been demonstrated that a distinct pattern of metabolic abnormalities, constituting the metabolic syndrome, is associated with psoriasis[1]. This group of abnormalities that occurs in the same individual confers an additional cardiovascular risk. To our knowledge, these associations have not been studied in Sri Lanka.

Objectives

To investigate the prevalence of metabolic syndrome in patients with psoriasis in the central province of Sri Lanka.

Specific objectives

1. To study the association between severity of psoriasis, duration of psoriasis, presence of arthropathy and prevalence of metabolic syndrome.
2. To determine whether treatment of psoriasis with systemic medication influences the prevalence of metabolic syndrome.
3. To determine whether prevalence of metabolic syndrome in patients with psoriasis varies according to demographics and socio-economic status.

Methods

We performed a clinic based cross sectional study involving 203 consecutive patients with chronic plaque psoriasis. Metabolic syndrome was diagnosed according to criteria specified under the National Cholesterol Education Program's Adult Panel III[2]. The data was entered in to the electronic format analyzed using the SPSS statistical package version 13.

Results

Table 1. Characteristics of the study population

	Male Mean (95%CI)	*Female Mean (95% CI)*	*P*
Age	50.7 (48.4-53.1)	48.3 (45.2-51.3)	0.2
Years of education	8.1 (7.7-8.6)	7.9 (7.2-8.6)	0.65
Income (Rs.)	11,913 (10810-13015)	10,646 (9313-11979)	0.18
Duration of psoriasis (years)	10.8 (9.4-12.3)	13.4 (11.1-15.8)	0.05
Waist circumference (cm)	82.6 (81.2-84.0)	85.6 (82.9-88.2)	0.04
Triglyceridaemia (mg/dl)	126.2 (116.8-135.5)	143.3 (125.0-161.7)	0.07
HDL cholesterol (mg/dl)	43.3 (41.8-44.7)	43.6 (41.9-45.3)	0.77

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Table 1. *(Continued)*

	Male Mean (95%CI)	*Female Mean (95% CI)*	*P*
Systolic blood pressure (mmHg)	132.0 (128.3-135.7)	127.4 (121.3-133.6)	0.20
Diastolic blood pressure (mmHg)	84.1 (82.3-85.8)	81.3 (78.6-84.0)	0.09
Fasting plasma glucose (mmol/L)	5.7 (5.6-5.9)	5.7 (5.2-6.1)	0.63
PASI	16.3 (14.3-18.2)	13.6 (10.6-16.7)	0.15
BSA	35.0 (31.8-40.0)	27.9 (23.2-32.5)	0.02
	Prevalence (%)	*Prevalence (%)*	*Chi square (P)*
Occupation			
housewife	0	81.5	
physical work	51.4	6.2	
businessman	12.3	0	
institutional work	15.3	6.1	
unemployed	2.9	3.1	
other	18.1	3.1	
Smoking habit			
Current	18.8	0	
Ex	33.4	0	
Non	47.8	100	
Systemic treatment for psoriasis			1.14 (0.57)
None	54.3	49.2	
MTX only	40.6	47.7	
MTX+other	5.1	3.1	

The prevalence of metabolic syndrome in patients with psoriasis was 38.4%. The prevalence was significantly higher in females than males (chi square 7.8, P = 0.01). Prevalence of metabolic syndrome was not associated with severity of psoriasis but was associated with duration of psoriasis and arthropathy. The metabolic syndrome was more prevalent in those treated previously with systemic treatments for their psoriasis (45.8% vs. 31.8%, chi square = 4.2, P = 0.04) and those with metabolic syndrome had a longer duration of treatment with these systemic medications (mean 3.9 years vs. 1.6 years, P = 0.00). There was an increase in the prevalence of metabolic syndrome with increasing age (chi square = 21.3, P = 0.00) and high income class (chi square = 4.23, P = 0.04). The prevalence of metabolic syndrome shows a statistically significant association with occupation in patients with psoriasis where it was highest in housewives and lowest in institutional workers. There was no association between the prevalence of metabolic syndrome and years of education and smoking habit.

Discussion

The prevalence of metabolic syndrome in patients with psoriasis in the central province of Sri Lanka was higher than the prevalence found in western studies (30.1%)[3]. Furthermore it is much higher than ATP III and IDF[4] values for U.S. and world population respectively.

In contrast to western studies, where the metabolic syndrome has been shown to be more prevalent in

severe psoriasis[5], our study did not show such an association. But psoriatic patients with metabolic syndrome had longer disease duration.

Our findings raise the questions of if and how systemic treatments in psoriasis affect associated metabolic abnormalities. Those patients with the metabolic syndrome may have had severe psoriasis in the past or else it could be an effect independent from severity[6]. It has been previously shown that systemic treatments in psoriasis reduce the cardiovascular risk by diminishing the inflammation, but it should be taken into account that most therapies also have adverse cardiovascular effects like dyslipidaemia, hyperhomocysteinemia and hypertension. As a consequence preventive measures may be indicated at least during long-term treatments.

Conclusion

We found a higher prevalence of metabolic syndrome in patients with psoriasis compared to that found in western studies and the known global prevalence. The association is not limited to severe psoriasis and bears a relationship to duration of psoriasis and arthropathy. Smoking was not associated with prevalence of metabolic syndrome in psoriasis. Systemic treatments for psoriasis and their duration seem to influence the prevalence of metabolic syndrome but more studies are needed to evaluate this further. We recommend that all patients with psoriasis be screened for metabolic syndrome and encouraged to correct their modifiable cardiovascular risk factors.

References

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