

## Cardiovascular risk factors in patients with psoriasis: A case-control study

### Dear Editor,

Recent studies suggest that psoriasis may be an independent risk factor for the development of cardiovascular diseases. Myocardial infarction, pulmonary embolism, diabetes mellitus, hypertension, and dyslipidemia have been reported in patients with psoriasis<sup>1,2</sup>. Certain risk factors for cardiovascular diseases may be more prevalent among patients with psoriasis<sup>3,4</sup>. The aim of this study was to define the risk factors of cardiovascular diseases in patients with psoriasis in Iran. Twenty-five patients (13 female and 12 male) over 18 years old with active plaque psoriasis regardless of its severity who were treated with psoralen-ultraviolet A (PUVA) in Imam Reza Dermatology Clinic were enrolled in this study. After obtaining medical history taking and performing full physical examination, blood pressure, weight, and height of three participants were measured. Then, their body mass index (BMI) was calculated and recorded. The control group consisted of 25 healthy individuals who were age and sex matched. The patients who were pregnant, and those with a history of any systemic disease or under systemic medications were excluded from the study.

Blood samples were taken for triglyceride, total

cholesterol, fasting blood sugar (FBS), high density lipoprotein (HDL), low density lipoprotein (LDL), white blood cell (WBC) count, platelet count, and highly sensitive C reactive protein (hs-CRP).

The mean age of the psoriasis patients was 37±11 years old (range: 18-64 years). Comparison of cardiovascular risk factors between psoriasis patients and the control group is summarized in Table 1.

The study results demonstrated no statistically significant differences in the serum LDL level, serum cholesterol level, systolic and diastolic blood pressure, WBC count, platelet count, and hs-CRP level between patients with psoriasis and healthy individuals. However, there were higher levels of waist/hip ratio, total cholesterol/HDL ratio, triglyceride, BMI, and FBS, and a lower HDL level among the patients with psoriasis as compared with the healthy control subjects, which is in accordance with similar studies in other populations<sup>5</sup>.

This study had certain limitations; our sample size was small and all the patients were receiving PUVA therapy. This is not clear whether PUVA therapy affects the results. Further investigations with larger sample sizes may reveal the association between psoriasis and cardiovascular diseases more clearly.

**Table 1.** Cardiovascular risk factors in psoriasis patients and healthy individuals\*.

	Case (N=25)	Control (N=25)	P
Systolic blood pressure (mmHg)	113±4.62	110.56±1.94	0.39
Diastolic blood pressure (mmHg)	68±10	71±7	0.16
BMI <sup>a</sup> (kg/m <sup>2</sup> )	27.66±4.62	22.72±1.94	<0.001
Triglyceride (mg/dL)	142.76±73.31	92.72±36.89	0.04
Total Cholesterol (mg/dL)	38±188.32	29.9±182.5	0.55
FBS <sup>b</sup> ((mg/dL)	107±33.47	81.9±10.4	<0.001
HDL <sup>c</sup> Cholesterol (mg/dL)	42.8±8	48.9±10	0.03
LDL <sup>d</sup> Cholesterol (mg/dL)	118.75±31	107.83±32	0.24
WBC <sup>e</sup> 10 <sup>9</sup> /L	6.3±1.44	5.52±1.41	0.06
Platelet count 10 <sup>9</sup> /L	256.6±65	231.04±59	0.16
hs-CRP <sup>f</sup> (mg/L)	3.22±2.06	2.08±1.54	0.12
Chol/HDLratio	4.58±1.17	3.81±0.71	0.01
Waist/hip ratio	1.02±0.20	0.83±0.11	<0.001

\*Data are presented as mean ± standard deviation (SD)

a. BMI: body mass index, b. FBS: fasting blood sugar (was not normally distributed variable), c. HDL: high density lipoprotein, d. LDL: low density lipoprotein, e. WBC: white blood cells, f. hs-CRP: high-sensitivity C-reactive protein

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