Classification of facial psoriasis based on the distributions of facial lesions

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Background: Psoriasis is a common chronic inflammatory skin disease that may involve any skin site. In particular, psoriasis on the face gives rise to considerable concern because of associated cosmetic problems and psychosocial distress. Some authors have reported that a significant proportion of patients with psoriasis have facial involvement, and several reports have suggested that facial involvement is a marker of severe psoriasis. However, patients with facial psoriasis seem to have clinical characteristics that depend on the distributions of their facial lesions.

Objective: We sought to classify facial psoriasis and evaluate clinical characteristics according to the distribution of facial psoriatic lesions, and to compare the severities of body and scalp psoriasis in patients with central or peripheral facial lesions.

Methods: A total of 194 patients with psoriasis with facial involvement who presented at our psoriasis clinic were enrolled in this study. Onset of psoriasis, family history, history of phototherapy or systemic therapy, and admission history were recorded. Severity of psoriasis on whole body, face, and scalp were rated using Psoriasis Area and Severity Index (PASI) scores. Patients were categorized into 3 types according to facial lesion distribution: peripherofacial type (PF) (upper forehead and/or periauricular lesions), centrofacial type, and mixed type.

Results: The PF and mixed type were more common than the centrofacial type. Peripherofacial involvement was related to a high scalp PASI score, whereas centrofacial involvement was associated with a high whole body PASI score. Disease duration before facial lesion development was less for the PF. Early onset of disease and extensive treatment were more frequent for centrofacial type than PF. The relationship between facial and body psoriasis progression was less strong for PF.

Limitations: This was a retrospective study conducted at a single location, and the severity and extent of psoriasis were evaluated only once, at first visits.

Conclusion: Facial psoriasis can be categorized into 3 different types. Peripherofacial involvement might be a consequence of severe scalp psoriasis, whereas centrofacial involvement might be a marker of severe body psoriasis. Thus, it would help during the treatment of patients with psoriasis to consider that different lesion distributions may reflect different clinical characteristics. (J Am Acad Dermatol 2008;58:959-63.)

The most bothersome symptom for patients with psoriasis is visibility.[1] Facial involvement in psoriasis is more common than generally believed.[2] A small number of reports have suggested that facial involvement might be a marker of severe psoriasis, and that it might be associated with early disease onset and nail or joint involvement.[2-4] The purpose of this study was to classify facial psoriasis according to distribution and to correlate the clinical characteristics of these patients with the severity of body and scalp psoriasis according to types of facial involvement.

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Abbreviations used:

CF: centrofacial type
MF: mixed type
PASI: Psoriasis Area and Severity Index
PF: peripherofacial type
UV: ultraviolet

METHODS

Patients

A total of 194 consecutive patients with psoriasis and facial involvement were enrolled in this retrospective study between May 2006 and March 2007 (117 male and 77 female, mean age 37.7 ± 13.4 years, range 7-79 years; mean duration of psoriasis 12.4 ± 9.4 years) (Table I). This study was approved by the hospital institutional review board.

Methods

All medical information was recorded at the time of presentation using a specialized facial psoriasis chart and questionnaire. Psoriasis and facial involvement onset, family history, history of phototherapy or systemic therapy, and admission history were documented. To evaluate the relationship between facial and body psoriasis, the following question was asked: "How often does your facial psoriasis improve or worsen at the same time with your body psoriasis?" (Table II). Involved facial areas were defined as follows: upper forehead (adjacent to the hair line), lower forehead (separate from the hair line), eyelid, cheek, nasolabial fold, perioral area, nose, and periauricular area. Severity of psoriasis on total body, face, and scalp was rated separately by a single dermatologist using Psoriasis Area and Severity Index (PASI) scores. Patients were categorized into 3 types according to facial lesion distribution: peripherofacial type (PF) (with upper forehead and/or periauricular lesions), centrofacial type (CF) (without upper forehead and periauricular lesions), and mixed type (MF). Representative photographs of each type are shown in Fig 1.

Patient history of systemic therapy (eg, retinoids, cyclosporine, methotrexate), phototherapy (eg, psoralen and ultraviolet [UV]-A, broadband UVB, narrowband UVB), and hospital admission were recorded (Table II).

Statistical analysis

Pearson's chi-square test was used to analyze categorical variables, and one-way analysis of variance and the independent-samples *t* test were used to compare continuous variables. All significance tests were two-tailed. For all analyses, probability values of 5% or less were regarded as being statistically significant. Statistical analysis was performed using software (SPSS package for Windows, Release 12.0.1, SPSS Inc, Chicago, Ill).

Table I. Demographic data of enrolled patients with facial psoriasis

	PF	CF	MF
No.	72 (37.1%)	46 (23.7%)	76 (39.1%)
M/F	38/34	25/21	54/22
Age, y	38.5 ± 14.1	41.5 ± 14.7	34.6 ± 13.4
Family history			
Positive	21 (31.3%)	16 (36.4%)	19 (26.4%)
Negative	46 (68.7%)	28 (63.6%)	53 (73.6%)

CF, Centrofacial type; *F*, female; *M*, male; *MF*, mixed type; *PF*, peripherofacial type.

RESULTS

Demographic data

The demographic data of the 3 study groups (PF, CF, and MF) are summarized in Table I. The PF (37.1%) and MF (39.1%) types were more common than the CF (23.9%) type. The MF type showed significant male predominance. However, no sex predominance was observed in the PF and CF types. No significant difference was found among the 3 groups in terms of patient age and family history.

Scalp and facial involvements

The most frequently involved areas of the face were the upper forehead (75.5%) and lower forehead (51.8%). The periauricular area (45.5%), ears (39.1%), and cheeks (39.1%) were also frequently involved, significantly more than the nasolabial fold (19.1%), perioral area (11.8%), and eyelids (5.5%). Most of the 194 study patients (96.4%) had scalp involvement. A total of 19% reported that they had facial lesions at the time of psoriasis onset.

Clinical characteristics according to facial lesion type

Patients with central facial lesions, ie, the CF and MF types, had an earlier age of onset than the PF type (Fig 2, *A*). Both mean disease duration and mean time before the development of facial psoriasis after psoriasis onset were longer in the CF type than the PF and MF types (Fig 2, *B* and *C*).

Fig 3 contains details of the mean PASI scores on face, scalp, and total body for each type. The mean facial, scalp, and total body PASI scores for the MF type were significantly higher than those of the other two types. Specifically relating to scalp involvement, the mean scalp PASI score of the PF