

Scoring of Skin Lesions with the Perioral Dermatitis Severity Index (PODSI)

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Sir,

Perioral dermatitis (POD) is a clinically distinctive reaction pattern of the human skin, which is predominantly diagnosed in younger women. Overuse of cosmetic products and intermittent use of glucocorticosteroid ointments are frequently reported by affected patients (1). Although POD affects predominantly women with constitutionally dry skin or a history of mild atopic dermatitis, improper use of topical corticosteroids and intolerance of cosmetics may be involved in the pathogenesis of the disease (2).

Subjective complaints include burning sensations and a certain "tense feeling" of the skin, but not itching. Objective symptoms frequently include erythema, papulation and scaling. Pustulation and oedema is present in severe cases only. Many affected patients complain of discomfort (2). The term POD was introduced by Mihan & Ayres in 1964 (3), when they described 21 patients with this disease. Other authors refer to it as rosacea-like dermatitis or rosacea-like perioral dermatitis (4).

The standard therapeutic approach is to discontinue any application of topical corticosteroids or cosmetics. Topical metronidazole or oral tetracyclines have been recommended, but there is no evidence from controlled clinical trials to support this (5). Furthermore, there is no such instrument for grading of POD severity, as there is for atopic dermatitis (6) or psoriasis (7).

To collect clinical trial data for evidence-based treatment recommendations for POD, we designed a clinical scoring index to quantify the objective symptoms of POD. This paper describes our rationale, definitions and first experience with this novel Perioral Dermatitis Severity Index (PODSI).

Definition of PODSI

Key features of the facial eruption of POD are erythema, papules and scaling, all of which are objective symptoms of mild as well as severe disease. They were all included in our proposed scoring system to reflect minor differences in mild and severe forms of the disease.

The erythema component is assessed for colour (e.g. pink red vs. blue red), intensity (pale red vs. dark red) and for the area affected by the erythema with a balanced score of 0–3. The papules are scored for their number, size and discoloration with a balanced score of 0–3. The scaling component is scored for intensity, size and spread of the scales with a balanced score of

0–3. To minimize variability between different readings, especially of the scaling component, the PODSI must be performed from skin lesions untreated for at least 6 h.

Whereas erythema and papulation are the most important symptoms of POD, scaling was included in the PODSI to better assess minor variants of the disease. Vesicular and pustular lesions, as well as facial oedema were not included in the PODSI. These may be a feature of severe POD, but are seen only in very few patients. Those patients who have very severe POD with pustules and oedema were in any case expected to show high scores in erythema, papulation and scaling.

Common subjective parameters such as a "tense feeling" were not included because we intended the PODSI as a tool for purely objective disease parameters of POD. Subjective complaints will show up in subjective measurements and quality of life indices, which should be assessed by an additional collection of subjective data and quality of life with tools such as the Dermatology Life Quality Index (8).

The PODSI represents the sum of individual scores for erythema, papules and scaling (Table I). Each of these key features is graded on a scale from 0 to 3 including intermediate values (0.5, 1.5 and 2.5). The PODSI is defined as the sum score of the 3 features, and may range from 0 to 9.

All patients with a PODSI from 0.5 to 2.5 were regarded as mild, whereas severe cases scored with a PODSI from 6.0 to 9.0. All remaining patients with a PODSI from 3.0 to 5.5 were classified as moderate POD (Fig. 1).

Clinical application of the PODSI

In applying the PODSI to a series of patients seeking treatment for their POD in our department, an av-

Table I. The Perioral Dermatitis Severity Index (PODSI) is the sum of the following scores, where Grade 0 is "none". PODSI score: 0.5–2.5 (=mild); 3.0–5.5 (=moderate); 6.0–9.0 (=severe)

| | Grade 1 | Grade 2 | Grade 3 |
|----------|----------------------------|---------------------------------|--|
| Erythema | Mild, pink, pale, discrete | Moderate, reddish, patchy | Severe, dark red, diffuse, confluent |
| Papules | Few, tiny, flesh coloured | Moderate, several, disseminated | Severe, numerous, erythematous, aggregated |
| Scaling | Mild, fine, barely visible | Moderate, marked | Severe, large, extensive |

Intermediate grades of 0.5, 1.5 and 2.5 may be used.

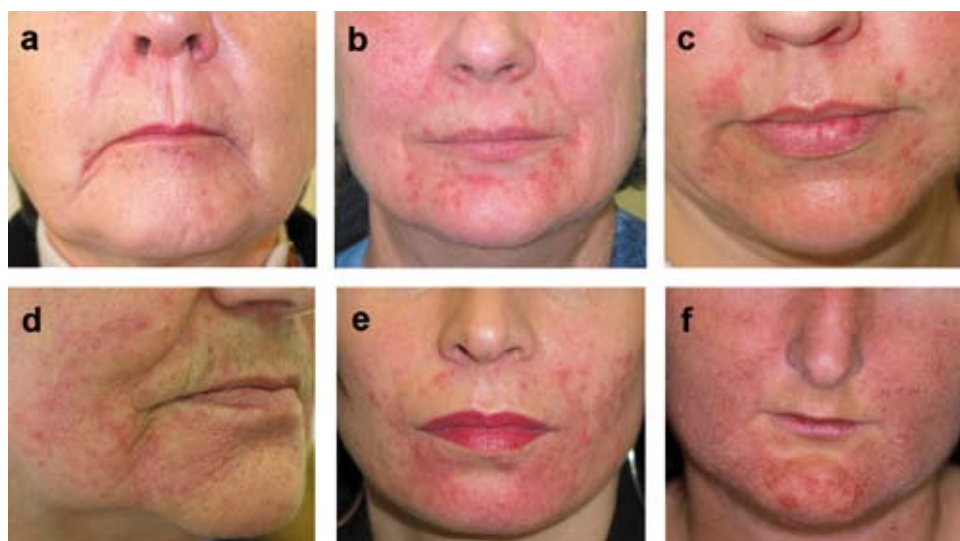


Fig. 1. Clinical examples of PODSI scoring of perioral dermatitis

- (a) Erythema 0.5, papules 1.0, scaling 0; PODSI 1.5 (=mild POD);
 (b) erythema 1.5, papules 1.5, scaling 0; PODSI 3.0 (=moderate POD);
 (c) erythema 1.5, papules 2.0, scaling 0.5; PODSI 4.0 (=moderate POD);
 (d) erythema 2.0, papules 1.5, scaling 2.0; PODSI 5.5 (=moderate POD);
 (e) erythema 2.5, papules 3.0, scaling 1.5; PODSI 7.0 (=severe POD);
 (f) erythema 3.0, papules 3.0, scaling 3.0; PODSI 9.0 (=severe POD).

erage score of 4.6 ± 1.2 (SD) was seen in a total of 40 patients.

Calculation of the PODSI is the easiest way to follow-up the clinical course of an individual patient. As this is a fast and easy sum score not requiring any multiplication or division, it may be done in everyday clinical practice.

To compare POD severity within patient groups, reductions in PODSI should be calculated as percentage from baseline. This normalization to a common baseline of 100% requires some calculation for each patient, but this is needed to assess the 50% reduction in the PODSI. The latter is, in our experience, the most suitable primary objective parameter for a clinical trial, as it is the key value for a median time until success analysis.

A third recommended PODSI parameter is the calculation of the 50% response rate, which is defined as the percentage of patients attaining at least 50% reduction of PODSI from baseline using a specific treatment for a given time.

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