

ORIGINAL ARTICLE

Asian consensus on assessment and management of mild to moderate plaque psoriasis with topical therapy

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ABSTRACT

A working group of dermatologists in Asian countries assessed the current status of psoriatic management in the region to prepare a consensus report on topical treatment in mild to moderate plaque psoriasis. Even though the association of psoriasis with systemic comorbidities is increasingly acknowledged, psoriasis is still lower in health-care priority lists in the region. The psychosocial impact of psoriasis may be greater in Asian countries due to cultural norms and social discrimination. Non-adherence to treatment is also common among Asians. The current care given to patients with mild to moderate psoriasis needs to be streamlined, enhanced and organized with a patient-centered care approach to achieve better outcomes. A comprehensive assessment of the disease severity and its impact on a patient's life is required before initiating treatment. Education and active involvement of the patient in the treatment plan is an important part of psoriatic management. It is recommended to personalize topical treatment to meet the needs of the patient, depending on disease severity, psychosocial impact, the patient's expectations and, more importantly, the patient's willingness and ability to actively follow the treatment procedure. Fixed-dose combination of corticosteroid and vitamin D analogs is the preferred topical medication for both initial and maintenance phases of treatment. The fast containment of the disease is the goal of the initial phase of 4–8 weeks and it demands a potent fast-acting topical therapy. Satisfactory control of the disease and prevention of relapses should be achieved during the maintenance phase with twice a week or weekend applications.

Key words: Asia, consensus, patient-centered care, psoriasis, topical therapy.

INTRODUCTION

Psoriasis is a chronic skin disorder associated with physical and mental disability and it represents a significant public health challenge.¹ Apart from physical symptoms, chronic lesions in highly visible and sensitive areas can lead to anxiety and depression.^{2,3} Due to the chronic nature and the visibility of skin lesions, psoriasis can be associated with profound psychological impact among those affected and their families.⁴ The impact may be even greater in Asia because of cultural reasons, socioeconomic status and higher levels of social stigma and discrimination due to misunderstandings and misconceptions.

Non-adherence to topical treatment is common among patients with psoriasis.^{5,6} Several determinants of non-compliance

in topical therapy including patients' perception on low efficacy, poor cosmetic characteristics and excessive time required for local applications have been identified.^{6,7} Further, the committee felt that patients' poor awareness, inadequate quantification of applications and lack of monitoring by physicians also may contribute to treatment failures.

In some Asian countries, use of herbal medicine/alternative therapy, improper mixing (extemporaneous use) of topical applications and haphazard use of highly potent steroids are serious challenges in the management of psoriasis.^{8–10} Presence of systemic and metabolic comorbidities in psoriasis is increasingly acknowledged.^{11–13} However, psoriasis is not a health-care priority in many Asian countries because health-care policy makers still perceive psoriasis as a mere dermatological condition.

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Received 31 January 2018; accepted 27 March 2018.

METHODS

In order to assess the current status of psoriatic management, particularly in Asian countries, and to develop consensus on topical treatment, a working group was formed with eight regional expert dermatologists from Japan, China, Korea, Malaysia and Singapore. After collecting information and opinions using a questionnaire, two round table conferences were held on 17 June 2017 in Tokyo, Japan, and on 13 October 2017 in Singapore. The goal was to develop a consensus report on patient assessment, definition of disease severity and optimization of topical treatment in mild to moderate plaque psoriasis particularly relevant to Asian countries. The working group felt that the current care given to patients with mild to moderate psoriasis needs to be streamlined, enhanced and organized in order to achieve better outcomes.

Resource constraints, limited access to health-care facilities and dermatologists, short consultation time and limited or absent health insurance are some of the factors that affect patient care in some Asian countries. Hence, there is a need for a practical and simple management plan which could easily be adopted into busy clinical settings to optimize patient care in these countries. The members of the working group agreed to develop a consensus paper based on their experience in managing psoriatic patients, level of published evidence and recommendations given in international and regional guidelines. The group followed the method of nominal group discussion, a modified Delphi method where issues are openly discussed face-to-face and disagreements are solved after discussion.¹⁴ “Consensus agreement” was defined as the agreement of a minimum of six members out of eight regional experts. Throughout the process, the focus was to make the recommendations simple and practical. While this paper describes the minimum care suitable for busy clinical set ups, comprehensive assessment of disease severity and screening for comorbidities should be done whenever possible.

The recommendations made in this paper are limited to topical treatment in mild to moderate plaque psoriasis and do not include the modalities of systemic therapy or management of other forms of psoriasis.

RESULTS AND DISCUSSION

Epidemiology

Prevalence of psoriasis has a geographical and racial variation. The prevalence of psoriasis remains low in China (0.3%), Taiwan (0.19–0.24%) and Japan (0.34%) while a higher prevalence is seen in Europe.^{15–17} Psoriasis has a multifactorial etiology resulting from a complex interaction between genetic and non-genetic factors which possibly explains the geographical variation of disease prevalence.¹⁸ Lack of country-specific epidemiological data prevents one determining whether psoriasis is less prevalent across all Asian countries or if it has a regional variation within Asia.

Clinical features and comorbidities

The diagnosis of psoriasis is based entirely on clinical features and no definition or universally accepted diagnostic

criteria exist. Plaque psoriasis, the commonest form of the disease seen in 90% of patients, appears as raised, inflamed, red patches covered with silvery white scales.¹⁹

Although the diagnosis of psoriasis does not pose a challenge to an experienced dermatologist, misdiagnosis and delay in referral could occur when the first consultation is done by physicians who are not adequately trained in dermatology.

Psoriasis is associated with multiple comorbidities ranging from vascular and metabolic diseases to psychological conditions. Patients with psoriasis have a higher prevalence of cardiovascular disease, metabolic syndrome and its individual components such as hypertension, diabetes, hyperlipidemia and abdominal obesity, varying according to disease severity.^{20–24} A multitude of psychological comorbidities ranging from anxiety, depression, low affective expression, low problem-solving skills, sleep disturbances, sexual dysfunction and suicidal ideation are also linked with psoriasis.^{25–27}

Psoriasis is associated with impaired quality of life (QoL) to a degree comparable with that in diseases such as malignancy, heart disease and diabetes.²⁸ Studies have shown that QoL improves after successful treatment of psoriasis with topical applications.^{29,30}

Assessment of severity

Assessment of disease severity is the cornerstone of psoriatic management and many options are available for this purpose. They vary from generic (e.g. 36-Item Short Form Survey) to disease-specific (Psoriasis Area and Severity Index [PASI]) and site-specific tools (e.g. Psoriasis Scalp Severity Index).³¹ Some of these tools have been validated and show good internal consistency and acceptable intraobserver and interobserver variations.^{32,33}

Body surface area

Body surface area (BSA) measures the percentage of BSA involved. A patient's one full flat palm including fingers is considered to represent 1% of BSA.

Physician Global Assessment

Physician Global Assessment (PGA) uses erythema, induration and scaling as measures to assess severity. Different scales are used in clinical trials. The working committee recommended using a 0–4 scale in clinical practice: 0 (“clear”), no signs of psoriasis (postinflammatory hyperpigmentation may be present); 1 (“almost clear”), intermediate between mild and clear; 2 (“mild”), slight plaque elevation, scaling and/or erythema; 3 (“moderate”), moderate plaque elevation, scaling and/or erythema; 4 (severe), marked plaque elevation, scaling and/or erythema.

PASI

Psoriasis Area and Severity Index uses the extent of the body surface involved and measures symptoms such as erythema, induration and scaling to assess the severity. The score ranges 0–72.

Dermatology Life Quality Index

The Dermatological Life Quality Index uses a self-administered questionnaire to assess the impact of the disease on QoL and score ranges 0–30.

All patients with psoriasis require a comprehensive assessment before initiating treatment, preferably with all four tools mentioned above. However, if time and resources are limited, it is recommended that at least BSA and PGA are performed at the first consultation. BSA at the initial visit helps to determine the baseline severity and the quantity of topical application to be prescribed.

The PASI and DLQI are desirable tools but consume more time and patients require assistance to understand questions and explanations, and hence may not be practical in busy clinics. However, both PASI and DLQI should be considered in patients who undergo phototherapy and systemic therapy. It was felt that BSA together with PGA would provide a sufficient assessment of disease severity in a time-constrained clinical set up. Robinson *et al.*³⁴ found a strong correlation between PGA and PASI ($r^2 = 0.89–0.92$) and stated that simpler PGA may suit assessment of clinical patients while PASI would be an option for clinical trials.

In routine clinical practise it is preferred to have three categories of disease severity (mild, moderate and severe) based on a minimum of two indices (BSA and PGA) (Table 1).

Treatment of psoriasis with topical therapies

All patients with psoriasis need a long-term management plan. Approximately 80% of patients have mild to moderate disease and topical therapy plays a significant role in their treatment plan. The majority of them can be treated with topical agents which have both high efficacy and safety.³⁵ In topical therapy, treatment starts within a few weeks of the initial phase (clearing phase) followed by a longer maintenance period.

A recent survey among international psoriasis experts reported that topical corticosteroids, vitamin D analogs, potent corticosteroids in combination with vitamin D analogs and calcineurin inhibitors were commercially available in almost all 20 countries represented in the survey. Conversely, the availability of therapies such as tars, retinoids, dithranol (anthralin) and balneotherapy varied and topical retinoids were available in only 11 of the 20 countries.³⁶

After a thorough assessment of disease severity and disease burden including the impact on QoL, a topical treatment

plan needs to be agreed between the treating physician and the patient. It is recommended to personalize the topical treatment to meet the needs of the patient depending on disease severity, QoL, psychosocial impact, the patient's expectations and, more importantly, the patient's willingness and ability to actively follow the instructions on frequency and correct procedure of local applications. The patient's understanding and willingness to be actively involved in the management plan can be critical in the success of treatment.

The rapid control of plaques is the goal of the initial phase and it demands a potent fast-acting topical application. The duration of the initial phase varies 4–8 weeks depending on the rapidity of response and effectiveness of medication.³⁷ The goal of the maintenance phase is to prevent relapses. Twice a week application (or during the weekend) may help to achieve this goal.³⁸ Augustin *et al.*³⁸ recommend the application of two-compound products of corticosteroids and vitamin D analogs once or twice a week during the maintenance phase because of favorable risk-benefit ratio and cost-effectiveness.

Potent or super-potent corticosteroids or vitamin D analog monotherapy or fixed-dose combination of the two is considered the topical treatment of choice for mild to moderate psoriasis.³⁹ In some Asian countries, however, many patients are still treated with traditional medications including tar derivatives because of social and financial reasons.

Corticosteroids and vitamin D analogs are directed at different targets in the pathogenesis of psoriasis. Findings from pre-clinical and clinical studies support the complementary and additive effects of ingredients of a fixed-dose combination compared with monotherapy alone.⁴⁰ This 2017 review by Segaeert *et al.*⁴⁰ summarizes these complementary and synergistic effects and discusses how they are translated into clinical outcomes.

Another 2016 systematic review that included 10 randomized clinical trials comparing topical application of calcipotriol/betamethasone dipropionate with topical calcipotriol or betamethasone alone in patients with psoriasis vulgaris showed that combination of calcipotriol/betamethasone dipropionate was more effective than monotherapy with individual drugs.⁴¹ Similar observations were made by Augustin *et al.* in 2014.³⁸ There is consistent evidence to suggest a fixed-dose combination of potent corticosteroids and vitamin D analogs is more effective and well tolerated compared with monotherapy.⁴²

Adverse effects of topical medications

Long-term use of potent topical corticosteroids has safety concerns. Adverse effects of topical corticosteroids are underreported and addressed only in few clinical trials.⁴³ Long-term use of potent topical corticosteroid can lead to skin atrophy. However, the incidence of skin atrophy has not been well documented. Skin atrophy was not evident among 204 patients treated with daily application of halobetasol 0.05% for 2 weeks in two clinical trials.⁴⁴ This may be because of the short duration of the treatment. Another study with 12 weeks of treatment reported skin atrophy in two patients out of 59 when

Table 1. Classification of patients with plaque psoriasis based on severity

Severity	BSA	PGA	PASI	DLQI
Mild	<3%	1–2	<5	<5
Moderate	3%–10%	3	5–10	5–10
Severe	>10%	4	>10	>10

BSA, body surface area; DLQI, Dermatology Life Quality Index; PASI, Psoriasis Area And Severity Index; PGA, Physician Global Assessment.

moderate to severe psoriatic patients were treated with once-daily application of a fixed combination of halobetasol propionate 0.01% with (HP/TAZ) or without (HP) tazarotene 0.045%.⁴⁵ A randomized study that investigated the safety of calcipotriol/betamethasone dipropionate in patients with psoriasis reported an incidence of 1.9% of skin atrophy in 52 weeks of treatment.⁴⁶ The authors suggest that skin atrophy may be a result of previous topical corticosteroid use. Another study that investigated the safety and efficacy of calcipotriol/betamethasone dipropionate scalp formulation in the long-term management of scalp psoriasis found no skin atrophy after 52 weeks of treatment.⁴⁷

Acneiform lesions, telangiectasias, depigmentation, hypertrichosis, perioral dermatitis and tinea incognita are also reported as adverse effects of topical corticosteroids.^{48,49}

Adverse events to topical applications are dose-dependent and related to frequency of application. The previously mentioned 52-week study demonstrated that daily treatment with calcipotriol/betamethasone dipropionate ointment (calcipotriol 50 µg/g and betamethasone dipropionate 0.5 mg/g) significantly reduced the overall number of adverse events, particularly burning, itching or erythema of the skin compared with vitamin D analog monotherapy (calcipotriol 50 µg/g).⁴⁶ These findings suggest that vitamin D analogs reduce the risks associated with corticosteroids and vice versa, resulting in a favorable safety profile observed with fixed-dose combination treatment.

During topical treatment, close observation is recommended to preserve the function of the epidermis. When plaques are flat, quick tapering of the topical steroid is required.

Even though it is more common in atopic dermatitis, some patients have fear and anxiety about topical steroids.

This may lead to under treatment and consequently to poor outcome. Identification of potential patients for steroid phobia followed by education and close observation will improve the outcome.^{50–52}

Patient-centered care

The working group agreed that psoriasis, owing to its chronic nature and associated physical and psychological burden, should preferably be managed with a patient-centered care (PCC) approach. PCC, however, is poorly understood by health-care professionals and it is not being widely practised.⁵³

Patient-centered care, compared with evidence-based medicine, places a major emphasis on patient participation in clinical decision-making. It takes patient-related factors such as worries, preferences and psychosocial factors into account in clinical and therapeutic decision-making.^{53,54} In PCC, the doctor explores the patient's main reason for the visit, his concerns about the disease and emotional needs, and they mutually agree on management. Feldman *et al.*⁵⁵ emphasize the need of PCC in chronic skin diseases such as psoriasis and atopic dermatitis due to their profound negative impact on QoL.

Recently published analysis of the Topical Treatment Optimization Programme has shown a better clinical response in patients who were randomized to an optimization program

Table 2. Highlights of consensus

1. The psychosocial burden of psoriasis may be even higher in Asia because of cultural reasons, socioeconomic status and higher levels of social stigma and discrimination due to misunderstandings and misconceptions
2. Psoriasis is still lower in the health-care priority lists in Asia because policy and decision-makers still perceive psoriasis as a moderate and mere dermatological condition despite the association of psoriasis with systemic and metabolic comorbidities being increasingly recognized
3. Use of herbal medicine/alternative therapy, improper mixing (extemporaneous use) of topical applications and haphazard use of highly potent steroids are serious challenges in management of psoriasis in some Asian countries
4. Even though corticosteroids, vitamin D analogs and their fixed-dose combinations are the preferred topical therapies in psoriasis, in some Asian countries many patients are still treated with traditional medications including tar derivatives because of socioeconomic reasons
5. Information booklets for patients, educational programs, social-media activities, psychosocial support programs and patient associations are helpful in psoriatic management

Table 3. Highlights of recommendations

1. A proper assessment of disease severity and psychosocial impact is an essential part of psoriatic management. In routine clinical practise, it is preferred to have three categories of severity (mild, moderate, severe)
2. Body surface area (BSA), Physician Global Assessment (PGA) (0–4), Psoriasis Area and Severity Index (PASI) and Dermatological Life Quality Index (DLQI) are the preferred disease severity assessment tools to be used in clinical practise. It is recommended to perform at least BSA and PGA in all patients. They can be performed quickly compared with PASI and DLQI
3. Patient education, patient involvement in treatment decisions and patient willingness and ability to follow the treatment plan and instructions are key factors for topical treatment success
4. Corticosteroids, vitamin D analogs or fixed-dose combination of these two is considered as the topical treatment of choice for mild to moderate psoriasis for both initial and maintenance phases
5. A rapid control of the plaques is the goal of the initial treatment phase. Four to eight weeks of treatment with a potent fast-acting topical application is recommended
6. Prevention of relapses is the goal of the maintenance phase. Application of a topical steroid, vitamin D analog or a fixed-dose combination of both twice a week or during weekends may help to achieve this goal
7. Long-term use of potent topical steroids may damage the skin barrier and induce atrophy. Close observation and a quick tapering of topical steroid when plaques are flat is recommended

compared with patients who received standard care.⁵⁶ The optimization program had a five-element tool, including checklists and guidance for the conversations between dermatologists/nurses and patients, patient information material, telephone/email helpdesks and treatment reminders. After 8 weeks of treatment, the response rate was significantly higher among patients who followed the optimization program than the patients who received standard care (36.3% vs 31.3%, $P = 0.03$). Patients who followed the program felt well informed about disease, treatment and other relevant factors. Patients regarded the structured one-to-one conversations with their dermatologist/nurse as the most important element of the program.

These results indicate the importance of patient education, a two-way dialogue between the patient and the health-care personal and the involvement of the patient in the management plan. In busy clinics, paramedical staff can be trained to perform a structured dialogue with the patient about the disease, treatment options, treatment process, application details and possible consequences. Furthermore, it is important to understand the patient's expectations, socioeconomic background, his availability and willingness to follow the medication instruction properly.

In addition, information booklets, educational programs, social-media activities, psychosocial support programs and patient support services could enhance patient knowledge and participation on decision-making. Korea, Singapore and Malaysia adopt patient-centric approach in managing psoriasis with the help of educational, online support programs. These programs help achieve a higher treatment response rate in patients. The highlights of consensus and recommendations are summarized in Tables 2 and 3.

Conclusion

Psoriasis is associated with a multitude of systemic and psychological comorbidities requiring detailed assessment, including measures of the QoL. Care given to patients with psoriasis can be compromised due to a variety of factors including limited health-care facilities and less time spent on patient evaluation. Patients with mild to moderate plaque psoriasis can effectively be managed with topical applications. Corticosteroids or vitamin D analog monotherapy or fixed-dose combination of the two are the preferred topical applications. Studies have shown that fixed-dose combinations are more effective and well-tolerated compared with monotherapy in both initial and maintenance periods. Involvement of the patient in the management plan is imperative in achieving treatment goals. Non-pharmacological measures such as education and motivation of the patient with frequent two-way communications should be done regularly to control this chronic disease adequately.

ACKNOWLEDGMENTS: The regional working group meetings and article-processing charges were financially supported by LEO Pharma. Medical writing and editorial support was provided by Rohan

Hettiarachchi, Ph.D., M.D., and Sarath Lekamwasam Ph.D., M.D., from Medro Asia, funded by LEO Pharma.

CONFLICT OF INTEREST: S. I. received honoraria for lectures from Maruho, LEO Pharma, Eisai, AbbVie, Kyowa Hakko Kirin, Janssen and Eli Lilly. M. Z. received research grants for clinical trials from Eli Lilly, Novartis and Pfizer. Y. T. received honoraria for research from Maruho, LEO Pharma, Eisai, AbbVie, Kyowa Hakko Kirin and Eli Lilly, and for lectures from Maruho, Kyowa Hakko Kirin and Janssen. X. Z. is on the speaker list of LEO Pharma, Janssen and Huapont Pharma and is consultant for LEO Pharma and Huapont Pharm. C. T. is on the speaker list for AbbVie, Janssen, Novartis and LEO Pharma. He has received grants/support from Novartis and Janssen and is a consultant for AbbVie, Janssen, Novartis and LEO Pharma. S. T. is on the speaker list of AbbVie and Janssen, and received grants/research support from Novartis. Y. Z. is on the speaker list of LEO Pharma and is a consultant for LEO Pharma and Janssen. H. J. S. received honoraria for lectures from AbbVie, LEO Pharma, Janssen and Novartis, and received research grants for clinical trials from Janssen, LEO Pharma, Eli Lilly and AbbVie.

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