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Topical therapies

Topikal tedavi

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Abstract

About 70-80% of the patients with psoriasis have confined, localized diseases and are managed with topical treatments alone. The selection of a topical therapy should be based on patient expectations and peculiarities as well as lesion characteristics such as lesion localization and infiltration, degree of erythema, and amount of squamae. Pharmacological drug formulations are also extremely important in the efficacy of topical therapy. Topical treatment options include corticosteroids, vitamin D analogs, tazarotene, calcineurin inhibitors, salicylic acid, anthralin, and various combinations.
Keywords: Topical corticosteroids, calcipotriol, tazarotene

Öz

Psoriasisli hastaların %70-80'i sınırlı, lokalize hastalığa sahip olup, yalnız topikal tedavi ile yönetilmektedir. Topikal tedavi seçimi hasta beklenti ve özellikleri yanında, lezyonların yerleşim yeri, infiltrasyonu, eritemin derecesi ve skuam miktarı gibi lezyon özelliklerine göre yapılmalıdır. Topikal tedavi etkinliğinde farmakolojik ilaç formülasyonları da son derece önemlidir. Topikal tedavi seçenekleri arasında kortikosteroidler, D vitamini analogları, tazaroten, kalsinörin inhibitörleri, salisilik asit ve antralin yanında kombinasyonlar da vardır.
Anahtar Kelimeler: Topikal kortikosteroid, kalsipotriol, tazaroten

Introduction

Of the patients with psoriasis, 70-80% have confined/localized disease and are managed with topical treatments alone. In this respect, topical treatment is the most common treatment modality in the management of psoriasis. Topical therapies can also be used in combination with phototherapy and systemic treatments for the management of resistant lesions[1-3].

In patients with moderate to severe disease with diffuse involvement, topical treatment alone is not recommended. In the presence of disease resistant to topical treatments primarily on hands, feet, hairy skin, face, genital regions and nails, systemic treatments should be utilized regardless of their localized/confined character[4].

General Principles

Selection of a topical therapy should be based on patient expectations and peculiarities as well as lesion characteristics such as lesion localization and infiltration, degree of erythema and amount of squamae. Pharmacological drug formulations such as creams, pomades, lotions, gels, sprays, foams, etc. that play a role in the efficacy of topical treatment should be selected in consideration of lesion localizations and patient preferences[1].

Fixed combination preparations such as calcipotriol-betamethasone dipropropionate can make treatment easier. Other appropriate topical therapies can also be used in combination with each other in different times of the day. They can be used on thick plaques such as occlusions

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in suitable locations, and on acral regions and nails as an application enhancing the effects of corticosteroids[5,6].

Stronger topical therapies should be used in the early periods for a short time to control the disease and then intermittent use should be preferred. In patients who need long-term topical treatment to keep the disease under control, drugs with minimum side effects should be chosen.

Psoriasis patients on topical treatment and especially those using strong topical agents should be assessed regularly by a dermatologist. High adherence to topical treatment is a major condition for success and all factors influencing adherence, and primarily the selection of a drug or formulation, and frequency of its daily administration should be carefully evaluated[1,4].

Topical treatment for which patient?

Topical treatment as a monotherapy is used only for patients with mild psoriasis (BSA ≤10 / PASI ≤10 / PGA ≤2 and DLQI ≤10). In patients with moderate and severe psoriasis, systemic treatments are used or the current treatment may be combined with a topical therapy in confined lesions resistant to phototherapy[4].

Selection of a topical therapy in adults

The first-line options in the topical treatment of psoriasis are corticosteroids, vitamin D analogues, calcipotriol-betamethasone dipropropionate, tazarotene, and calcineurin inhibitors (Table 1, 3-6). Other topical options available in our country are salicylic acid and moisturisers. Anthralin is a topical agent of a historical value, but has almost no place in contemporary use.

Table 1. Topical treatment options in psoriasis*

1st option medications	Corticosteroids Vitamin D analogues** Calcipotriol-Betamethasone dipropropionate Tazarotene Calcineurin inhibitors
2nd option medications	Salicylic acid Anthralin
Supportive treatments	Moisturisers

*Adopted from the study of Menter et al.[1], **Only calcipotriol is available in our country

To quickly control psoriatic plaques, a strong topical corticosteroid or a calcipotriol-betamethasone dipropropionate combination should be used for a short period of time, between 2 and 4 weeks, depending on the thickness of the plaques. This therapy can be repeated with pauses in between when necessary. Combinations of very strong and strong corticosteroid classes with calcipotriol-betamethasone dipropropionate are not recommended for long-term regular use due to their side effects and atrophy in particular. A single application of topical corticosteroids daily is effective and has a reduced risk of side effects. Clobetasol, a well-known example of the very strong corticosteroid class, should not be used more than 50 grams a week[1].

The front line options for maintenance in topical treatment are the vitamin D analogues[5-7]. but they should not be used more than 100 grams a week as they may lead to hypercalcaemia. If vitamin D analogues prove to be ineffective or intolerable in maintenance treatment, tazarotene should be considered before corticosteroids[7]. The standard use of vitamin D analogues and calcineurin inhibitors is twice a day and that of tazarotene once a day[1].

A topical therapy in thick and infiltrated plaques with plenty of squamae may involve a short initial salicylic acid therapy or a corticosteroid combined with salicylic acid[8]. Regular use of moisturisers is part of daily skin care but can provide only limited remedy to the symptoms including itching[7].

Selection by localization

It should be noted that involvement of hairy skin, intertriginous regions and genital region requires special approaches in topical treatment (Table 2). For an initial treatment of psoriatic plaques on the trunk and extremities, strong topical corticosteroids or a calcipotriol-betamethasone dipropropionate combination should be chosen[1,9]. If there are thick squamous plaques on the hairy skin, the treatment should begin with salicylic acid and various oil preparations. Strong corticosteroids used initially for a short time to quickly have a control on hairy skin are the most effective component of the treatment. In the maintenance treatment of hairy skin lesions, vitamin D analogues should be used first[6].

Table 2. Priority treatments by lesion localization

Trunk and extremities	Corticosteroids with strong effects Calcipotriol-Betamethasone dipropropionate Vitamin D analogues Tazarotene
Hairy skin	Corticosteroids with strong effects Vitamin D analogues
Face and flexural regions	Corticosteroids with weak-moderate effects Calcineurin inhibitors

In facial and flexural lesions, low and moderate-strength corticosteroids may be considered first for short-term use to control the disease. Although not approved for psoriasis, application of tacrolimus and pimecrolimus twice daily is a major option for topical treatment in the lesions on the face, genital region and flexural areas that do not respond to medium-strength corticosteroids or have a high potential of side effects. Vitamin D analogues and tazarotene should not be considered as a first choice for the facial and flexural areas due to their irritation-causing effects[1,6].

In palmoplantar areas, strong corticosteroids in the form of pomades or their combinations with salicylic acid may be used as a first-line option[6]. Occlusion with corticosteroids should be considered as an option for thick plaques in these areas, which have a poor response to treatment[5]. Nail psoriasis is highly resistant to topical therapies and corticosteroids, calcipotriol-betamethasone dipropropionate, vitamin D analogues or tazarotene may be used for its management[10].

Combinations

Corticosteroids and vitamin D analogues can be used in combination without including a fixed combination of calcipotriol-betamethasone

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dipropropionate. This combination can also be in the form of a vitamin D analogue during the week and a corticosteroid at the weekend[7,11].
Since the penetration and efficacy of corticosteroids increase when combined with salicylic acid, this combination may be preferred in thick plaques with plenty of squamae[8]. A corticosteroid and tazarotene combination can have a higher clinical effectiveness along with a reduction in the irritation side effect of tazarotene and atrophy side effect of corticosteroids[12].

Topical treatment in children

The top treatment options in the management of plaque psoriasis in children are corticosteroids and vitamin D analogues. Topical corticosteroids should be used cautiously in children and babies due to their important side effects including growth and developmental delay caused by increased systemic absorption[1].
Use of vitamin D analogues in lower weekly doses in children between 2 and 12 years of age is considered safe[13]. Calcineurin inhibitors are contraindicated below 2 years of age and should be considered as an alternative therapy in older children. Use of salicylic acid in the paediatric age group is not appropriate due to systemic absorption and toxicity risk. Use of tazarotene in children is not recommended for lack of sufficient data[4].

Topical treatment during pregnancy and lactation

The leading topical treatment option for the management of plaque psoriasis in pregnancy is corticosteroids and then vitamin D analogues can be considered in lower weekly doses. Very strong and strong topical corticosteroids should be used in lower weekly doses in pregnant patients. Short-term and limited amounts of calcineurin inhibitor use can be considered as an alternative in pregnant patients. Use of tazarotene in pregnancy is absolutely contraindicated and not recommended. Salicylic acid in low concentrations and weekly doses may be considered in pregnant patients[14].
Except for salicylic acid, no risk is predicted in the use of other topical therapies during lactation. If salicylic acid is to be used during lactation, it should not be applied on the breasts and its percentage, amount and duration should be limited[14].

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Table 3. Topical corticosteroids: Summary*	
Indication	Monotherapy in mild plaque psoriasis Combined therapies in moderate to severe psoriasis Monotherapy or combined therapies in their mild forms on the face and intertriginous regions
Dosage	1-2 times daily Topical and systemic drugs with a possibility of combining UV
Potency class, dosage and duration relationships	Class 1: Two-four weeks based on available data Less potent ones: Optimal endpoint unknown Gradual decrease after obtaining clinical response is necessary Uncontrolled, long-term use not recommended Clobetasol and halobetasol: Weekly maximum dose 50 gm
Side effects	Increased risk of side effects in long-term and frequent use Local: Atrophy, telangiectasis, stria, purpura, rosacea, contact dermatitis Systemic: Suppression of hypothalamic-pituitary-adrenal axis in the middle- and full-strength class, which can be alleviated with intermittent and localized use Cushing syndrome: Rare Avascular necrosis of the femoral head: Rare Glaucoma, cataract, increased intraocular pressure: Use around the eyes Increased risk of infection in long-term use
Pregnancy/lactation	Mild-moderate effects considered safe
Use in children	Caution required for systemic effects including growth and development delay due to absorption
Initial tests	None
Monitoring in long-term use	Assessment of growth in children Assessment for atrophy
*Adopted from the study of Menter et al.[1]	

Table 4. Vitamin D analogues: Summary*	
Indication	Monotherapy in mild plaque psoriasis Combined therapies in moderate to severe psoriasis
Dosage	Twice daily
Most effective use	Combination with topical corticosteroids
Contraindication/side effects	Contraindicated in renal failure and calcium metabolism disorders Temporary lesional or perilesional irritation Serum Ca elevation when used >100 gm/week Photosensitivity; but not contraindicated when combined with UVB
Pregnancy/lactation	Considered safe in low weekly doses
Use in children	Thought to be safe
*Adopted from the studies of Menter et al.[1] and Rademaker et al.[14]	

Table 5. Tazarotene: Summary*	
Indication	Monotherapy in mild plaque psoriasis Combined therapies in moderate to severe psoriasis
Dose	Once daily
Most effective use	Combination with topical corticosteroids
Contraindication/side effects	Itching and burning sensation
Pregnancy/lactation	Not recommended
Use in children	Sufficient data not available
*Adopted from the study of Menter et al.[1]	

Table 6. Tacrolimus and pimecrolimus: Summary*	
Indication	Off-label use in facial and intertriginous psoriasis
Dose	Twice daily
Contraindication/side effects	No specific contraindication Itching and burning sensation
Pregnancy/lactation	An alternative option when used short-term in limited amounts
Use in children	There are limited number of cases and case series
*Adopted from the studies of Menter et al.[1] and Rademaker et al.[14]	