Psoriasis
management of regional disease

Oh no, not psoriasis! This is a common condition, yet one that is difficult to treat. No quick cure exists but correct management will achieve control for a compliant patient.

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Psoriasis is a chronic disease that affects 2% of the population. It typically occurs as pink or red scaly patches favouring areas such as the scalp and extensor aspects of the elbows and knees. Although not usually life threatening, psoriasis can have a large (often underestimated) psychosocial impact, causing patients to suffer cosmetically and functionally.

This article focuses on topical treatment for psoriasis, which is the first step in the medical management of a patient with limited disease, and discusses initial counselling and lifestyle modifications that can be of assistance. For optimal results, treatment needs to be individualised and good communication and regular follow up are essential.

Management considerations

Aims and expectations

In the initial assessment, try to work out a patient's understanding of psoriasis and expectations for treatment. Many patients believe that the disease is curable on their first visit, and so the concepts of chronicity and recurrence will need to be addressed.

It is important to define the treatment goals with patients because these goals should attempt to adequately and realistically meet their needs and expectations. One patient may be more concerned with the itch or scaling of the plaques and so symptomatic treatment may be appropriate; another patient may be more severely depressed by the disease and so more aggressive or systemic treatment may be required. The goals of treatment include:

- controlling itch, discomfort and scaling
- clearing psoriatic patches
- limiting the extent of the disease
- preventing complications such as erythrodermic or generalised psoriasis
- decreasing the negative psychosocial impact
- preventing recurrence.

All patients should be given some basic information about psoriasis at the first consultation in

IN SUMMARY

- **Psoriasis is a common disease of the skin that affects 2% of people worldwide. It is rarely a cause of death, but can have a large psychosocial impact on those affected.**
- **The choice of treatment is based on the severity and type of the disease, certain patient characteristics and previous responses to treatments (if any).**
- **Counselling, individualised treatment and regular follow up are important in the proper management of psoriasis.**
- **Psoriasis affecting regional areas can be controlled effectively using topical medications and lifestyle modifications. If possible, known trigger and exacerbating factors (including infection, drugs, stress and trauma) should be avoided.**
- **Referral to a dermatologist is recommended if there is failure of topical treatment, involvement of more than 20% of total body surface area or diagnostic difficulty. Referral is also appropriate if it is requested by the patient.**

Table 1. Factors affecting the choice of local treatment

Features of the disease

- Severity or extent (surface area)
- Site (e.g. scalp, nails or trunk)
- Symptoms (e.g. itch, burning)
- Type of lesions (e.g. plaque, guttate, flexural, pustular or erythrodermic)
- Distress and disability caused to the patient

Patient characteristics

- Age and sex
- Medical history (e.g. renal or hepatic disease)
- Understanding about the disease and expectations for treatment
- Compliance
- Ability to afford treatments

Response to previous therapy

What do patients need to know about psoriasis?

- Psoriasis is a common disease of the skin that affects 2% of people worldwide. No patient is alone – people of all races, both sexes, and all age groups are affected.
- The disease is caused by localised overproduction of skin cells and inflammation of the skin. It is not a cancerous process and is not contagious.
- Psoriasis is thought to be an immunological disease with a hereditary predisposition that is triggered by environmental factors. Infections, drugs, trauma (Koebner phenomena) and stress are known trigger factors.
- Psoriasis is a chronic disease. The basis for therapy is control, not cure. Although clearance can be achieved, recurrences are common.
- Psoriasis has many presentations and varies greatly in its response to treatment.
- Psoriasis affecting regional areas can be controlled effectively using topical medications and lifestyle modification. However, topical treatment may not be practical if more than 20% of the body surface area is affected, and ultraviolet light or oral medication may then be required.
- A variable period of spontaneous remission occurs in approximately 30% of people at some stage in life, and may last indefinitely.

order to dispel any myths or fears that they have.

A list of points to discuss with patients is given in the box on this page.

What choices for which patient?

The choice of treatment must be individualised, and will depend on the disease, the patient and any responses to previous therapies (Table 1). The severity and type of the lesions and the disability caused to the patient should be assessed. For instance, a patient with hand psoriasis affecting only a small surface area may have discomfort caused by skin cracking and bleeding, but may also suffer embarrassment if he or she works as a waiter or shop assistant.

Certain patient characteristics also affect the choice of treatment. Are they compliant? Do they have time to apply a treatment and can they afford it? Age, sex and medical history should also be considered.

Try to ascertain which treatments have been used in the past. Be specific in your questioning – find out if patients received a cream, an ointment or a lotion (ointments have increased absorption into the lesions, and many people respond better to these than to creams). Often patients will say 'cortisone cream' and we may assume they mean 1% hydrocortisone when they are actually referring to a more potent corticosteroid such as betamethasone. Some patients will give a brand name, but in the case of Betnovate, for example, you should ask whether the product was the full strength, half strength, or one-fifth strength formulation.

Find out also if treatments were tried for a reasonable length of time – many patients give up after a few weeks if they do not see a rapid improvement.

Management options

When you have determined the severity and type of psoriasis and relevant patient characteristics, consider the use of lifestyle modifications, topical treatments and any indications for referral.

A step-by-step guide to the medical management of psoriasis is shown in the box on page 68.

Lifestyle modifications

Lifestyle modifications may reduce the severity of the disease and can be tried in conjunction with topical therapies. They may lead to improved compliance or increased acceptance and ability to cope with the disease:

- behavioural or lifestyle changes – for example, suggest a seaside holiday (rather than bushwalking or skiing) to enable some exposure to UV light
- relaxation therapy and stress management
- psychotherapy or imagery
- exercise
- avoidance of exacerbating factors

Support groups for patients with psoriasis may also be of assistance.

Topical treatments

Topical medications are the first step in the medical management for regional psoriasis. Compared with oral therapies, they are often time consuming for patients but have the benefit of minimising side effects. The response to therapy should be monitored to find the most beneficial regimen.

Although corticosteroid treatments are a 'quick fix', they may not provide a long term answer.[1] Some studies have shown that topical corticosteroids produce longer remission times when used in combination therapies than as monotherapy, so try to use a combination (for example, a corticosteroid cream in the morning with a tar preparation or calcipotriol at night). Some patients need to use a keratolytic mixture to thin plaques prior to using a prescription treatment.

Referral

For patients who do not respond to topical treatment or whose disease involves at least 20% of surface area, referral to a dermatologist may be necessary to offer topical therapy (in either inpatient or outpatient settings), ultraviolet light therapy or oral medication.

Other indications for referral include:

- diagnostic difficulty
- a patient's request for counselling, education or referral
- unstable psoriasis
- generalised pustular and erythrodermic psoriasis.

Using topical therapies for regional psoriasis

The remainder of this article will concentrate on the use of topical therapies for different types of regional psoriasis. Topical corticosteroids that are currently available are outlined in Table 2. A range of other topical preparations that are commercially available and used to treat psoriasis are listed in Table 3; additional medications that can be prepared by a pharmacist are listed in Table 4.

Before starting a medication, patients should be told how to use it, how long it should be used for and what they can expect in terms of improvement. For example, you may instruct a patient to use a particular topical preparation after a moisturiser or to apply a thin smear of a topical corticosteroid preparation,

Table 2. Topical corticosteroids for psoriasis

Product	Strength	Formulation
Mild*		
Hydrocortisone		
Cortaid	0.5%	Cream
Cortic	0.5%	Cream
DermAid Cream	0.5 or 1%	Cream
DermAid Soft Cream	0.5 or 1%	Cream
Cortef	1%	Cream
Egocort Cream 1%	1%	Cream
Sigmacort	1%	Cream, ointment
Hydrocortisone/clioquinol		
Hydroform	1%/1%	Cream
Hydrocortisone/clotrimazole		
Hydrozole Cream 1%	1%/1%	Cream
Moderately potent		
Methylprednisolone		
Advantan	0.1%	Cream, ointment, fatty ointment
Triamcinolone		
Aristocort	0.02%	Cream, ointment
Betamethasone valerate		
Antroquoril	0.02%	Cream, ointment
Betnovate 1/5 or 1/2	0.02 or 0.05%	Cream, ointment
Celestone-M	0.02%	Cream, ointment
Celestone-V1/2	0.05%	Cream, ointment
Mometasone		
Elocon	0.1%	Cream, ointment, lotion
Novasone	0.1%	Cream, ointment, lotion
Alclometasone		
Logoderm	0.05%	Cream, ointment
Potent		
Betamethasone dipropionate		
Betnovate	0.1%	Cream, ointment, scalp application
Celestone-V	0.1%	Cream, ointment
Diprosone	0.05%	Cream, ointment, lotion
Eleuphrat	0.05%	Cream, ointment, lotion
Very potent		
Betamethasone dipropionate in propylene glycol		
Diprosone OV	0.05%	Cream, ointment

* Hydrocortisone is available over the counter in 0.5% formulations and on prescription in 1% formulations.

continued

Medical treatment of psoriasis

Step 1. Topical therapy*

Indications

- Mild psoriasis affecting less than 20% of body surface area

Types

- Keratolytics and emollients
- Tar preparations
- Dithranol (see Table 3)
- Calcipotriol (see Table 3)
- Combination topical therapies

Step 2. Phototherapy†

Indications

- Failure of topical treatment
- Psoriasis affecting more than 20% of body surface area

Types

- Ultraviolet B light therapy
- Psoralens and ultraviolet A light (PUVA) therapy
- Combinations of topical therapies and phototherapy

Step 3. Oral therapy†

Indications

- Failure of adequate trial of topical therapies and phototherapy
- Repeated hospital admissions for topical therapy
- Extensive chronic plaque psoriasis
- Erythrodermic or generalised pustular psoriasis
- Severe psoriatic arthropathy

Types

- Methotrexate (Ledertrexate, Methoblastin, Methotrexate)
- Cyclosporin (Neoral, Sandimmun)
- Acitretin (Neotigason), with or without phototherapy
- Mycophenolate mofetil (CellCept)
- Rotational or combination therapies

* Usually instituted in conjunction with lifestyle modifications.

† Referral to a dermatologist is indicated for Step 2 or Step 3 therapies.

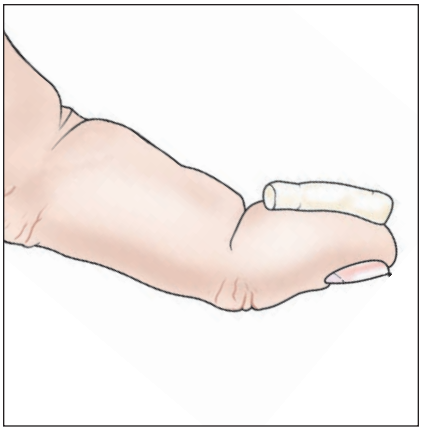

Figure 1. The fingertip unit can be used when explaining to a patient how much of a topical treatment to apply. One unit is the amount expressed from a tube with a 5 mm nozzle, applied from the distal skin crease to the tip of the index finger.

LONG CC, ET AL. CLIN EXP DERMATOL 1991; 16(6): 444-447.

whereas you may advise that calcipotriol be applied liberally. The 'fingertip unit' (see Figure 1) is a practical unit to use when explaining to a patient how much of a preparation should be used, with the amount to be applied expressed in terms of a number of these units:

- 1 unit per hand
- 2 units per foot
- 2.5 units for the face and neck
- 3 units per arm
- 6 units per leg
- 7 units for the back and buttocks
- 7 units for the chest and abdomen.

Emphasise that follow up is necessary to monitor the response to therapy and to find the most beneficial treatment regimen. Follow up also gives you an opportunity to check compliance and to offer alternative treatments if a patient is not responding well.

Lastly, possible side effects should be stressed. Potent corticosteroid creams should be avoided on the face and flexures because these preparations may lead to skin thinning, but you can reassure patients that 0.5 to 1% hydrocortisone is safe to use on the face.

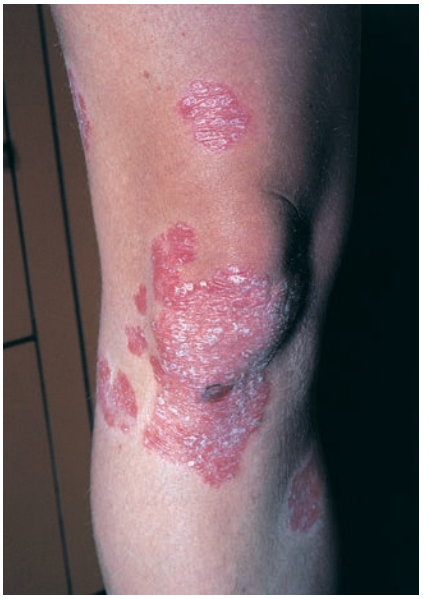

Figure 2. Isolated psoriatic plaques on the knee.

Isolated lesions on the elbows, knees or trunk

Presentation

Isolated plaques on the elbows, knees or trunk are the most common type of psoriasis (see Figure 2). The skin on the elbows, knees and trunk is thicker than in other areas of the body, and trauma to these areas (such as resting the elbows on tables) or 'picking' may make these lesions more refractory to treatment.

Treatment

Keratolytic mixtures are often used to remove scale from a plaque and to thin lesions prior to prescription treatment. Keratolytics can be used in combination with other topical treatments, including over-the-counter products (urea or combination urea/lactic acid creams), and salicylic acid preparations such as Dairysal (a veterinary product).

Appropriate treatments for isolated plaques may include:

- keratolytics – for example, 2 to 6% salicylic acid (in sorbolene cream, emulsifying ointment or white soft paraffin), applied once or twice daily

- tar preparations, applied twice daily
- a combination keratolytic and tar preparation, applied once or twice daily
- corticosteroids (usually in ointments, which are more easily absorbed) – use a more potent agent for a shorter duration or a once daily regimen for improved compliance (see Table 2)
- calcipotriol, applied daily or twice daily in conjunction with a potent topical corticosteroid (e.g. methylprednisolone or mometasone in the mornings with calcipotriol at night).
- dithranol, used as short contact (i.e. applied to the skin and then washed off).

Scalp psoriasis

Presentation

Scalp psoriasis occurs in 50% of all patients affected by psoriasis; for some people, the scalp is the only area involved. Clinically, it may range from a very mild, fine scaling that resembles dandruff to a very severe form with thick crusted plaques affecting the entire scalp or even extending beyond the hairline (Figure 3).

An itchy patch on the nape of the neck or scalp can be caused by habitual scratching, a means of relieving anxiety, and patients need to be made aware that it worsens the situation. Scalp psoriasis does not usually cause hair loss, but alopecia may result from harsh scalp care or systemic medications.

Treatment

The difficulty in topical treatment for scalp psoriasis is the hair, which acts as a barrier between medications and lesions. Short hair enables medications to be applied with ease and has the advantage of allowing natural sunlight to reach the scalp or phototherapy to be applied. Gentle scalp care is necessary to avoid trauma.

Topical treatments for mild to moderate scalp psoriasis include corticosteroid lotions and tar gels or shampoos (see Table 3); creams and ointments are often too messy to use. Even antidandruff shampoos may be helpful, with or without a tar shampoo or corticosteroid lotion.

We may look forward to some new treatments for scalp psoriasis – a topical calcipotriol scalp lotion and a new topical corticosteroid foaming mousse (the latter is available in the USA).

Facial and ear psoriasis

Presentation

Psoriasis does not usually affect the face alone, but facial psoriasis may occur as an extension from the scalp or as an overlap with seborrhoeic dermatitis (sebopsoriasis). It can occur in ear folds and behind the ear, areas that accumulate moisture and are not exposed to much light or ventilation (Figures 3 and 4). The resultant break in the skin leads to infections that can worsen the condition.

Treatment

There can be problems with topical treatment for facial and ear psoriasis. Facial skin can be thinned by long term use of potent topical corticosteroids, stained by dithranol, or irritated by calcipotriol and topical retinoids.

Appropriate treatments for facial and ear psoriasis include:

- mild corticosteroid – 0.5 or 1% hydrocortisone cream
- an antidandruff shampoo, used with or without the corticosteroid cream.

Flexural and genital psoriasis

Presentation

Flexural psoriasis can affect the armpits, the area under the breasts (Figure 5), or the groin. Genital psoriasis can affect the natal cleft (Figure 6), perianal area, vulva or groin.

The characteristic clinical picture is a glazed, well demarcated, red lesion that may be itchy. The combination of heat, sweat, friction and occlusion macerates the horny layer – therefore, scaling is not seen (which may lead to diagnostic difficulty). Pain caused by fissuring is a common symptom and may be aggravated by fungal colonisation.

Treatment

First, the possibility of a bacterial or fungal superinfection should be investigated

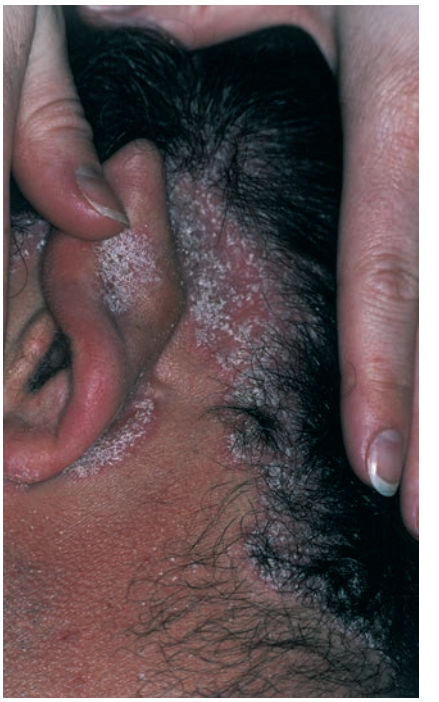

Figure 3. Severe scalp psoriasis with thick crusted plaques extending beyond the hairline and involving the ear.

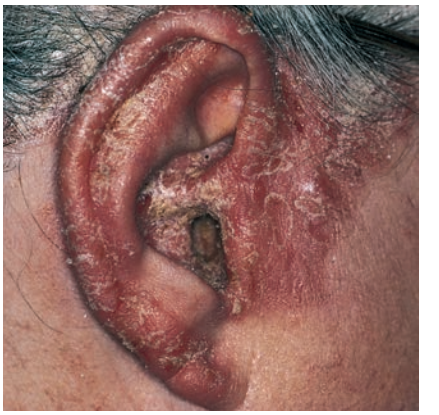

Figure 4. Psoriasis affecting the ear folds – be sure to look behind the ear.

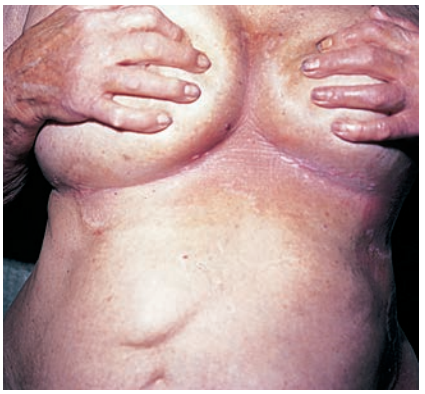

Figure 5. Flexural psoriasis under the breasts – avoid the use of potent corticosteroids.

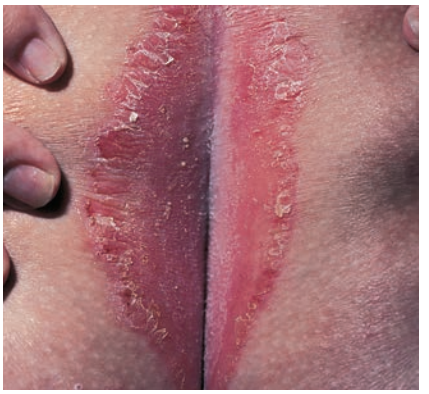

Figure 6. Psoriasis affecting the natal cleft – avoid the use of potent corticosteroids.

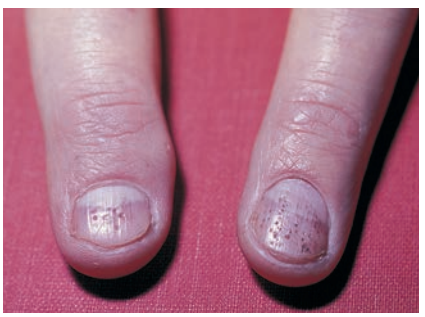

Figure 7a. Nail psoriasis. A magnifying glass can be useful for seeing pitting.

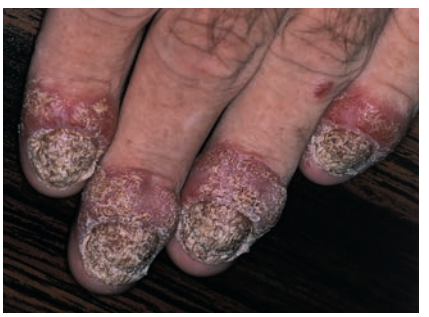

Figure 7b. Severe nail psoriasis affecting the proximal nail folds.

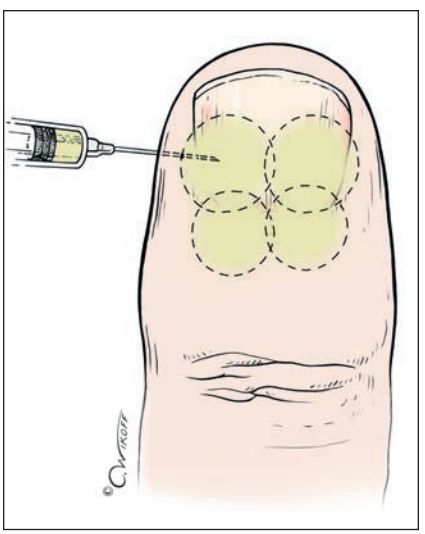

Figure 8. Injection of intralesional corticosteroids is the traditional therapy for nail psoriasis. The solution is injected into each of the four periungual sites.

(a scrape for fungi or a swab for bacteria). For a *Staphylococcus aureus* infection, treat with topical mupirocin (Bactroban) followed by a mild corticosteroid agent; for a fungal infection, use a mild corticosteroid in combination with an antifungal agent such as clotrimoxazole (Hydrozole Cream 1%).

Start with a mild corticosteroid – these are highly effective in the genital area due to occlusion (stronger corticosteroids have an increased risk of skin thinning and stretch marks). Then, introduce a weak tar preparation (such as 1 to 2% LPC in sorbolene cream), once or twice daily. Note that topical tars, dithranol and calcipotriol treatment may be used, but caution is needed because they irritate flexural skin. If the response is poor, use a more potent topical corticosteroid to clear the lesions, then maintenance therapy with 1 to 2% LPC in aqueous cream; if the latter is not tolerated, use 1% hydrocortisone cream as maintenance.

Patients should avoid irritants such as soap, so suggest a substitute such as sorbolene cream or body washes (such as Q.V. Wash or Hamilton's Body Wash) or a bath oil. Colloidal oatmeal in the bath (DermaVeen Preparations) is useful, soaking daily for 20 minutes. Moisturisers may be soothing, and petrolatum can be helpful. Loose cotton underwear is recommended.

Many patients with genital involvement are embarrassed and will need counselling, and they may be troubled by discomfort during sexual intercourse. They need to be reassured that the disease is not contagious.

Nail psoriasis

Presentation

Nail changes occur in 50% of patients affected by psoriasis, but a small proportion of these patients do not have skin lesions (5%). The clinical appearance can be varied and will depend on the site involved: pitting, ridges and grooves of the nail plate are caused by involvement of the nail matrix; on the other hand, onycholysis, subungual hyperkeratosis and nail discolouration are caused by disease of the nail bed (Figures 7a and b). A dystrophic nail may be superinfected with candida or fungi; a nail clipping should be taken if the nail looks clinically suspicious.

Treatment

Nail psoriasis will often be persistent and refractory to treatment, and thus no uniform therapeutic regimen exists. Treatment includes general nail care and use of moisturisers after exclusion of infection.

Topical therapy is not uniformly successful. Limited benefit has been observed with potent topical corticosteroids (which have a risk of skin and distal phalangeal atrophy) and tazarotene gel (a topical retinoid unavailable in Australia). Some

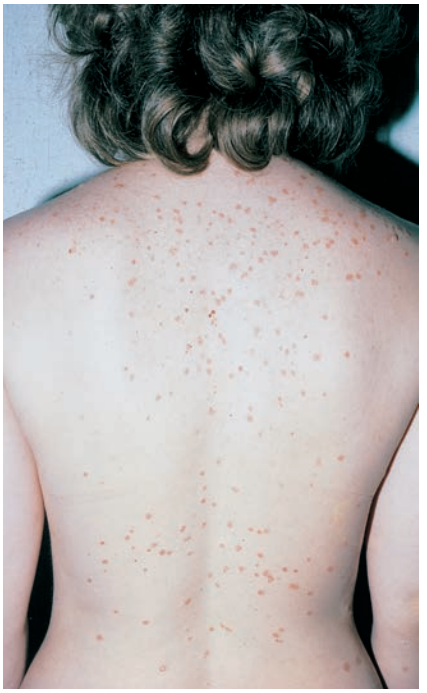

Figure 9. Numerous psoriatic lesions on the trunk in guttate psoriasis.

benefit has been seen with calcipotriol ointment; however, side effects include periungual redness, irritation and burning. Anecdotal reports of dithranol in petrolatum or 5% 5-fluorouracil cream suggest limited benefit.

Treatment should be targeted at the affected area of nail. Injection of intralesional corticosteroids into the nail matrix is the traditional therapy but is extremely painful and should be performed with ring block local anaesthesia. It does not always lead to complete improvement and must be done on a repeated basis. A solution of triamcinolone acetonide (Kenacort-A 10; 0.1 mL of 10 mg/mL) given at each of the periungual sites every two or three months may be as effective as a weaker solution (2.5 mg/mL) given every month (see Figure 8).[2] Other side effects include dystrophy of the nailfold, atrophy of the distal phalanx, pain, and subungual haematoma.

Oral treatment does improve nail psoriasis, but should not be used for this

Table 3. Commercial topical medications used for psoriasis (excluding corticosteroids)

Product*	Active constituents	Formulation
Keratolytics		
Aquacare/HP	Urea	Cream
Hamilton Dry Skin Treatment Cream	Urea	Cream
Nutraplus	Urea	Cream
Urecare	Urea	Cream
Urederm	Urea (in paraffin base)	Cream
Calmurid	Lactic acid, urea	Cream
Psor-Asist Scalp Lotion	Salicylic acid, urea	Lotion
Tar preparations		
Pinetarsol Bath Oil	Pine tar	Bath oil
Ionil T Plus	Coal tar	Shampoo
Linotar Gel	Coal tar	Gel
Neutrogena T/Gel Therapeutic Conditioner	Coal tar	Conditioner
Neutrogena T/Gel Therapeutic Shampoo	Coal tar	Shampoo
Polytar Plus Liquid	Coal tar	Shampoo
Psorigel	Coal tar	Gel
Neutrogena T/Sal Scalp Cleanser	Coal tar, salicylic acid	Liquid
Egopsoryl Ta	Multiple actives (including coal tar solution)	Gel
ER Cream	Multiple actives (including coal tar, allantoin)	Cream
Fongitar	Multiple actives (including coal tar)	Shampoo
Polytar Liquid	Multiple actives (including coal tar)	Liquid
Polytar Medicated Bar	Multiple actives (including coal tar)	Cleansing bar
Combined keratolytic and tar preparations		
Ionil-T	Coal tar, salicylic acid	Shampoo
Psor-Asist	Multiple actives (salicylic acid, coal tar, sulfur)	Cream
Sebitar	Multiple actives (including salicylic acid, pine tar, coal tar solution)	Shampoo
Dithranol preparations		
DithraSal	Dithranol	Ointment
Dithrocream	Dithranol	Cream
Calcipotriol preparations		
Daivonex Cream	Calcipotriol	Cream
Daivonex Ointment	Calcipotriol	Ointment
Daivonex Scalp Solution	Calcipotriol	Liquid

* Keratolytics and tar preparations are available over the counter; dithranol and calcipotriol preparations are prescription items.

Table 4. Pharmacist preparations for psoriasis*†

Keratolytics
- Salicylic acid: 2 to 6% in aqueous cream, sorbolene cream or white soft paraffin base
- Salicylic acid/sulfur: 2 to 6%/2 to 6% in aqueous cream, sorbolene cream or white soft paraffin base

Tar preparations
- Crude coal tar: 1 to 10% in aqueous cream, sorbolene cream or white soft paraffin base
- Liquor picis carbonis (LPC): 1 to 10% in aqueous cream, sorbolene cream or white soft paraffin base

Dithranol preparations
- Dithranol: 0.25 to 2% in Lassar's paste
- Dithranol (short contact): 0.5 to 4% in aqueous cream, sorbolene cream or white soft paraffin base

* Aqueous cream, sorbolene cream and white soft paraffin are also used for combined keratolytic/tar preparations.
† Each pharmacist preparation requires a prescription.

problem alone because of the inherent risk of side effects with systemic treatment.

Guttate psoriasis

Presentation

The guttate form of psoriasis is usually seen in children or young adults, and may be triggered by a bacterial upper respiratory tract infection. The lesions are found mainly on the trunk and limbs, and are numerous and drop-like in appearance (Figure 9).

Treatment

Moisturisers and topical corticosteroids are often used (mild or moderate agents, applied twice daily). Appropriate treatment may also include:
- penicillin (for streptococcal infections)
- tar preparations (e.g. 3% LPC, with or without 3% salicylic acid, made up in sorbolene cream)
- calcipotriol, used once or twice daily in conjunction with a potent topical corticosteroid (e.g. methylprednisolone or mometasone in mornings with calcipotriol at night).

If a patient is not responding to topical therapy, referral to a dermatologist for combination therapy with UV light is appropriate.

Conclusion

Although there is continuing development in systemic therapies for more severe and widespread disease, there is currently no cure for psoriasis. The current treatment regimens help to alleviate the symptoms and signs. However, psoriasis is usually seen as a nonfatal disease, and patient care may be suboptimal if the psychosocial impact and morbidity of the disease are underestimated.

The aims of treatment include adequately and realistically meeting patients' needs and expectations. This may be done by taking into account the type and severity of the psoriasis, the characteristics of each patient, and responses to current and previous treatments. The general approach described in this article can be used to clear, improve or – at the very least – control the disease. MT

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2. Van Laborde S, Scher RK. Developments in the treatment of nail psoriasis, melanonychia striata, and onychomycosis: a review of the literature. Dermatol Clin 2000; 18(1): 37-46.