Psoriasis: maximizing topical treatment concordance

Psoriasis is one of the most commonly occurring skin conditions in the UK. It is a chronic inflammatory disease and therefore psoriatic patients are predisposed to developing other inflammatory conditions such as cardiovascular disease. The management of such patients increasingly involves other specialties. A basic knowledge of available topical treatments is essential in improving overall patient concordance.

In the time of Hippocrates psoriasis was classified in the 'lopoi' group of skin diseases that included leprosy. It was not until 1841 that Hebra definitively separated the clinical features of psoriasis from leprosy. Unfortunately to the present day social stigma surrounding psoriasis still exists and some still believe it to be contagious.

Psoriasis affects 1–3% of the population with an equal incidence in men and women (Christophers, 2001). It is rare in children under the age of 6 years but can occasionally affect babies. It commonly presents in patients in their twenties, one third of whom have a strong family history. The second group tends to present in the fifth to sixth decade (Mackie, 1998).

Psoriasis is a condition which can potentially last a lifetime, therefore it is important that therapeutic partnerships are formed with patients.

Aetiology

The exact cause of psoriasis is still unclear but it is thought to be a polygenic condition with various triggering factors such as trauma, infections and medications (Mackie, 1998). These factors can be subdivided into internal and external.

Internal

Infections such as streptococcal throat infections commonly precipitate guttate psoriasis while human immunodeficiency virus (HIV) can aggravate pre-existing psoriasis. Hypocalcaemia is associated with the development of generalized pustular psoriasis and this can develop in pregnant women (impetigo herpetiformis). Several drugs such as lithium, beta blockers, antimalarials and interferon have been linked to the exacerbation of psoriasis (Cloote, 2000). Sudden cessation of topical steroids can induce pustular psoriasis or exacerbate chronic plaque psoriasis. In addition alcohol and cigarette smoking are well-known exacerbators of disease.

External

Psoriasis can be induced by forms of cutaneous injury such as sunburn, morbilliform drug eruptions or viral exanthems. This was demonstrated by Heinrich Koebner over a century ago (Koebner phenomenon). The time lag between trauma and appearance of psoriasis is usually 2–6 weeks.

Clinical presentation

Chronic plaque

This is the most common variant of psoriasis and is characterized by large, red, sharply demarcated plaques with variable surface scale. Removal of this scale reveals pin-point blood vessels beneath (Auspitz sign). Sites most commonly affected are the extensor surfaces of the limbs, back, trunk and scalp.

Guttate

This literally translates as teardrop and clinically presents as a shower of small lesions all over the body. This is most commonly found in children and a clear history of a preceding throat infection is found in more than 66% of these patients (Norrlind, 1954). In adults a small percentage of patients will go on to develop chronic plaque disease.

Palmoplantar

This is associated with hyperkeratotic plaques on the palms and soles of feet which can fissure and make walking very painful for patients. This may or may not be associated with chronic plaque psoriasis elsewhere.

Pustular

There are many subtypes of pustular psoriasis such as generalized, Von Zumbusch, infantile and juvenile as well as a generalized pustular psoriasis of pregnancy. Small pustules containing sterile fluid are found in all of these subtypes. If the pustules are localized to the hands and feet only this is known as palmoplantar pustulosis.

Flexural

This is also known as inverse psoriasis. The lesions in this variant are well-defined shiny thin red/pink plaques in sub mammary, axillary and groin areas. The surface may have a glazed appearance and fissuring, particularly in the gluteal cleft, is common and can be very painful.

Dr Girish Gupta *is Consultant Dermatologist and* **Dr Susmita Bhattacharya** *is Specialist Registrar in the Department of Dermatology, Monklands Hospital, Airdrie, Lanarkshire ML6 0JA*

Correspondence to: Dr G Gupta

Psoriatic arthropathy

This is a seronegative arthropathy. There are various patterns of disease, ranging from the classic disease of the distal interphalangeal joints, spondyloarthropathy, dactylitis to a symmetrical arthropathy clinically indistinguishable from rheumatoid arthritis. Most patients develop cutaneous signs of psoriasis before joint involvement. However, an important minority of patients may have had a seronegative arthropathy for many years but only develop psoriatic plaques in their fifth or sixth decade.

Psoriatic nail disease

This is seen in all types of psoriasis and is frequently associated with psoriatic arthropathy. Nail pitting is the most common clinical finding. Other presentations include oil drop discolouration, subungal hyperkeratosis, onycholysis and even splinter haemorrhages. *Candida* species can be found in the psoriatic nail and nail bed but dermatophytic infection is rare.

Quality of life issues

There is no single assessment tool used to measure clinical severity in a patient. Some dermatologists and clinical practitioners use the PASI score (Psoriasis Area and Severity Index) which is a calculation based on surface area, degree of erythema and scaling. Others prefer to use a more holistic approach and together with the patient grade the psoriasis as mild, moderate or severe.

However, the effect of psoriasis on the patient's quality of life should not purely be assessed on clinical severity but should also take into account his/her own perception of the condition. One such tool is the DLQI (Dermatology Life Quality Index; Findlay and Khan, 1994) which is a patient-centred questionnaire. This is an important area for the health-care professional to address as feelings of rejection can lead to fear of being stigmatized in the community and at work (Ginsberg and Link, 1993).

Unfortunately there is scant evidence at the moment for the treatment of psoriasis. A stepwise approach to the treatment of psoriasis is adopted by the majority of dermatologists, as follows:

1. Topical therapy
2. Second-line treatment, e.g. phototherapy
3. Systemic treatment such as methotrexate or acitretin
4. Combination therapy, e.g. ultraviolet B phototherapy and acitretin
5. Biological therapies
6. Unlicensed systemic treatments, e.g. fumaric acid esters, hydroxycarbamide.

Focusing on topical therapies

Topical therapy will provide a safe and efficacious treatment option for the majority of patients with psoriasis. Topical treatment options are listed in *Table 1*.

What is concordance?

Concordance is fundamentally different from adherence or compliance. It focuses on the consultative process rather than on a specific patient behaviour and has an underlying ethos of a shared approach to decision making rather than paternalism (Barat et al, 2001).

In relation to psoriasis and topical treatments health-

Table 1. The spectrum of topical treatments available for the treatment of psoriasis

Agent	Example	Uses	Action	Possible side effects
Emollients	50/50 liquid paraffin	All dry skin conditions such as eczema, psoriasis and icthyosis	Increases lipid film on skin and reduces water loss	Possible contact sensitivity to fragrances and parabens
Keratolytics	Salicylic acid	Hyperkeratosis of palms and soles	Softening and removal of hard keratotic skin	Should not be used for large areas especially children owing to risk of salicylism
Vitamin D analogues	Calcipotriol	Psoriasis	Reduces proliferation and differentiation of keratinocytes (Kragballe et al, 1991)	Local reactions are common, e.g. burning, pruritus and erythema
Combination treatments	Calcipotriol and betamethasone dipropionate	Psoriasis	Action of calcipotriol as above and steroid component eases skin inflammation (Cloote, 2000)	Local reactions as for calciptriol. Also possible risk of hypercalcaemia in erythrodermic patients
Steroids	Clobetasone butyrate 0.05% Oxytetracycline 3% and Nystatin 100 000u/g	Flexural psoriasis. Not suitable as sole treatment for extensive chronic plaque psoriasis	Reduction in the production of inflammatory cytokines	Chronic use can result in skin thinning. Can occasionally precipitate erythrodermic or pustular psoriasis
Retinoids	Tazarotene	Psoriasis (can be used on the face unlike calcipotriol and also clean and odourless)	Affects cell differentiation and proliferation (Weinstein et al, 1997)	Local pruritis and irritation of uninvolved skin. Possibly teratogenic
Coal tar	Coal tar and salicylic acid ointment	Psoriasis (mainly inpatient use)	Exact mechanism of action unknown but thought to exert both anti-proliferative and anti-inflammatory effects	Unpleasant odour, staining of clothes and bedsheets, contact allergy and carcinogenic in animal models
Dithranol	Dithranol ointment in yellow soft paraffin	Psoriasis	Inhibits mitosis (Cloote, 2000)	Burning of unaffected skin and leg ulceration

care professionals need to be sensitive to the patient's lifestyle, physical disability and comorbidity. Factors such as ease of application, mess, whether the agent stings, burns or leaves a greasy residue will determine the patient's overall concordance with a topical agent.

Psoriasis is a condition which lasts a lifetime and patients have to deal with the ongoing challenge of applying multiple medications.

There are many psychological theories behind non-concordant behaviour:

1. The patient's perception of the reason for being prescribed medication (Nyatanga, 1997). Often in clinical practise the PASI and DLQI scores are incongruous. An example of this is a patient who has had extensive chronic plaque psoriasis for many years and therefore achieves a high PASI score following clinical assessment by a dermatologist. However, the patient may feel that the skin condition does not adversely affect his/her lifestyle and therefore would only achieve a relatively low DLQI score. This would have an effect on the patient's overall concordance with topical treatment. Equally the reverse is true. A patient with severe scalp psoriasis would achieve a low PASI score as this measurement is based on surface area affected. However, this may cause significant social embarrassment and therefore the patient would score highly on the DLQI. It is important that the patient's and doctor's perceptions of disease severity are similar.
2. Patients receiving conflicting advice from GPs, nurses and hospital physicians (Col et al, 1990). Often the topical treatment regimens are not covered in depth at a consultation because of time constraints or the assumption that patients are already aware of correct methods of application. There are often differing opinions among health-care professionals regarding questions such as whether emollients should be applied before or after topical steroid application. Patients often choose not to apply any topical creams or ointments until they clarify details at the next visit.
3. Patients altering treatment regimens themselves based on how good or bad they consider their disease to be (Robertson, 1992).
4. There is a strong correlation between patients requiring multiple treatments and lack of concordance (Barat et al, 2001).
5. The patient may dislike certain treatments for example because of the smell of the product.
6. The length of time to get a response from some of the treatments, fast-acting treatments can lead to improved concordance.
7. Social, cultural and financial influences.

Improving patient concordance

Before prescribing a topical treatment it is always worth considering the lifestyle of the patient; do they work night shifts, do they have young children, are they breastfeeding or are they elderly and live at home alone?

Simple regimens such as vitamin D analogues once a day are popular among patients as they are non-greasy, non-staining and easy to apply. However, these can take some time to work which can lead to dissatisfaction.

Avoiding polypharmacy wherever possible is a must, e.g. trimovate (steroid cream with antifungal component) for flexural psoriasis.

If messy treatments are needed, e.g. cade oil for scalp psoriasis or crude coal tar for chronic plaque psoriasis, then a dermatology day unit staffed by dermatology trained nursing staff is invaluable. Patients can fit treatments around work, college or home commitments. The day unit also allows regular patient review and if a patient is not responding well to treatment, then this can be tackled earlier before they become too despondent.

A follow-up appointment to see the practice nurse or staff nurse fairly quickly after the initial consultation is also a good idea. Nursing staff can assess patient knowledge of administration of topical agents which can be variable.

If the patient is being prescribed a topical corticosteroid, they must be familiar with the 'fingertip unit'. This corresponds to the length of cream or ointment expelled from the tube and should measure the distance of the tip of the adult index finger to the first crease. One fingertip unit (approximately 500 mg) is sufficient to cover an area that is twice that of the flat adult palm.

Specific instructions should be given wherever possible to patients along with a practical demonstration. This should emphasize the correct application of creams. The take-home points should be that the topical medication is applied sparingly to the affected areas only. The fingertip unit as mentioned above can be used for other creams not only topical steroids. An example is the application of topical calcipotriol; this should be applied twice daily with not more than 35% of body surface to be treated daily and a maximum of 30 g per day. As one fingertip corresponds to approximately 500 mg patients can estimate total weight of daily application. Topical medication should be applied in a downward motion in the same direction as the hair follicles to reduce the risk of developing folliculitis. Finally if the patient is receiving concurrent ultraviolet B phototherapy, they should be told specifically to apply topical vitamin D analogues at least 2 hours before light treatment. Topical steroids should not be used concomitantly as remission time from psoriasis following light treatment is reduced.

Concordance can be helped by a written chart, as shown in *Table 2*, that reminds the patient what topical treatment to apply and at what time of the day.

Conclusions

Psoriasis affects a significant proportion of the population. Topical treatments have come a long way in the last 10 years. Knowledge of the newer topical treatments and a sympathetic approach to patients' needs can improve concordance considerably. In addition, liaison with nursing staff either in the community or at a dermatology day unit

is invaluable. Treatments should be simple and involve one or at most two topical agents whenever possible. BJHM

Table 2. Example of a topical treatment chart used in both inpatient and outpatient dermatology departments

Medication	Site of application	Morning	Lunchtime	Afternoon	Evening
50/50 liquid paraffin	Body	no	no	no	yes
Trimovate cream	Groin and underarms	yes	no	no	yes
Elocon ointment	Legs	no	no	no	yes

KEY POINTS

- Tailor topical treatments as much as possible to suit the patient's lifestyle.
- Address patient's expectations about what they want to achieve from treatment – this may not necessarily be complete clearance.
- Make sure patients have follow up at a nurse-led clinic or an appointment at the day unit where any problems with treatment can be dealt with at an early stage.
- Try and keep treatment regimens as simple as possible – ideally use only one or two topical treatments plus a separate scalp treatment if indicated.

Conflict of interest: Dr G Gupta has received funding from Leo Pharma to attend meetings and give talks.

Barat I, Andreason E, Dansgaard EMS (2001) Drug therapy in the elderly: what doctors believe and patients actually do. *Br J Clin Pharmacol* **51:** 615–22

Christophers E (2001) Psoriasis- epidemiology and clinical spectrum. *Clin Exp Dermatol* **26**: 314–20

Col N, Fanale JE, Kronholm P (1990) the role of medication non-compliance and adverse drug reactions in hospitalizations of the elderly. *Arch Intern Med* **150:** 841–5

Cloote H (2000) Psoriasis. *Nurs Stand* **14**(45): 47–52

Findlay AY, Khan GK (1994) DLQI-a simple practical measure for routine clinical use. *Clin Exp Dermatol* **19**(3): 210–16

Ginsberg H, Link BG (1993) Psychological consequences of rejection and stigma. *Int J Dermatol* **32**(8): 587–91

Kragballe K, Gjertson BT, Lark O et al (1991) Double blind right/left comparison of calcipotriol and betamethasone valproate in the treatment of psoriasis vulgaris. *Lancet* **337:** 193–6

Mackie RM (1998) *Clinical Dermatology.* 4th edn. Oxford University Press, Oxford

Nyatanga B (1997) Psychological theories for patient non-compliance. *Prof Nurse* **12:** 331–4

Norrlind R (1954) The significance of infections in the origination of psoriasis. *Acta Rheumatol Scand* **1**: 135–44

Robertson MHB (1992) The meaning of compliance: patient perspectives. *Quality Health Review* **2**(1): 7–26

Weinsten GD, Krueger GG, Lowe NJ et al (1997) Tazarotene gel, a new retinoid for topical treatment of psoriasis. *J Am Acad Dermatol* **37:** 85–92

Pulling a sickie

Anyone who boasts of never having taken a day's sick leave is lucky, lying or a fool. Sick leave is a problem. In April the figures for 2006 were published. They were a bit worse than 2005, and it is reckoned that one in 8 days taken is a 'sickie', the employee skiving off. People are more likely to go off sick on Mondays or Fridays, days before or after holidays, and on days of big events. It's difficult to think of a medical reason why real illness should be more prevalent on those days.

Once you delve into it and try to think what to do about it, things get murky. Years of sitting on union committees, receiving sickness absence figures from management, have shown me that different groups within the NHS consistently have different average absences. By far the least sickness is recorded by medical staff and higher management, but there are two confounders. First, these staff are less likely to report short periods of sickness formally. They tend to contact colleagues to cover them, and no forms get filled in. Second, they tend to think themselves indispensable and come to work when they shouldn't. We've all done it. We risk infecting others, staff and patients, and, worse, we endanger patients.

There are other factors. As I write this, I have quite severe sacro-iliac pain. I could barely stand up 2 days ago, and stayed at home. It was better today, so I put up with it and did my operating list. It would have been different if I'd been a porter, required to hump heavy objects about all day.

And if I was a domestic – poorly paid, working contracted-out for an agency with poor terms and conditions, getting little job satisfaction made worse by bullying superiors – I might feel like taking a day or two now and again.

All sorts of incentives have been suggested to improve matters, such as a bonus for anyone taking fewer than some arbitrary number of sick days per year. That seems unfair on anyone who has any long-term sickness, and is probably more likely to encourage good workers to come into work sick than encourage bad workers not to take sickies. Discussions in the union committees were depressing, with views tending to polarize: employees attributing sickness absence explicitly to stress at work, and management attributing it implicitly to distractions at home.

Ultimately, there will always be some who bunk off. Ignoring the plain dishonest, sickies are always more likely among the less satisfied at work. The key to reducing sickness absence is contained within that slippery phrase 'good working relations'. The NHS is at a disadvantage here, given its endless changes of direction from above, forced from beleaguered top management via stressed middle management to under-appreciated front-line staff. The bald overall figures show there is more sickness absence in the public than the private sector, but the lessons drawn from that depend, much like interpretation of the figures at Trust level, on political viewpoint.

The best that we as doctors can do is to persuade any coughing, spluttering, vomiting colleagues to report their sickness properly and then go home; if operating lists or clinics have to be cancelled, so be it. BJHM

Dr Neville Goodman *is Consultant Anaesthetist at Southmead Hospital, Bristol*