Chronic psoriasis

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What are the treatment options for chronic psoriasis?

Case history

A 56-year-old man presented with chronic plaque psoriasis of eight years duration. The psoriasis had been mild at first and affected only his scalp, but it had flared after 18 months and then slowly settled with treatment; it had fluctuated in severity since. Over the past year he had had a moderate number of plaques affecting particularly his trunk but also his elbows, knees, shins, scalp and glans penis (Figures 1a and b). In some areas, the psoriasis was annular (Figure 1c). He had been taking naproxen 250 mg twice daily for two years for osteoarthritis of his knees; he had no features of inflammatory arthritis. He was moderately obese, drank about eight stubbies of full strength beer weekly and had hypercholesterolaemia controlled with atorvastatin 10 mg daily and diet. He had stopped smoking cigarettes six months ago and he worked as an electrician. His mother had mild psoriasis.

The psoriasis had been more difficult to control with the stress of separating from his wife a year ago. As he was getting tired of the topical treatment, he had stopped it two months ago. His topical treatment had been:

- for the trunk and limbs, dithranol 0.3% plus coal tar solution (liquor picis carbonis, LPC) 10% plus salicylic acid 6% in white soft paraffin at night and mometasone furoate 0.1% ointment each morning
- for the scalp, LPC 8% plus salicylic acid 5% in aqueous cream at night and mometasone furoate lotion each morning

Figures 1a to c. Chronic psoriasis. a (top). Typical psoriasis plaques on the back; note the symmetrical distribution. b (centre). Psoriasis on the elbow, showing the typical silvery white scale. c (bottom). Annular psoriasis plaques on the chest.

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- for the penis, methylprednisolone aceptonate ointment each night.

Previously he had to stop using ointments containing higher concentrations of dithranol because of burning irritation. Calcipotriol ointment had cleared less active psoriasis three years ago, but had not been effective when he used it six months ago. Naturopathic treatment for six months had little impact. He was embarrassed by the appearance of the psoriasis, annoyed by the itch and frustrated by the constant flaking of scales.

Treatment

The following treatment was instituted:

- topical treatments – resumption of the topical treatments recently used, with the addition of LPC 3% in aqueous cream at night for the penile psoriasis and the use of betamethasone dipropionate 0.1% ointment instead of mometasone for his trunk and limbs
- narrow band ultraviolet B phototherapy, three times a week in an escalating dose regimen
- acetretin 10 mg, two capsules daily
- use of padded knee and shin guards while working.

Now – several months later

The patient's liver function tests (LFTs) and fasting lipid profiles were normal before treatment and stable during treatment. After three months of treatment, there was a 90% improvement in his psoriasis, and phototherapy was stopped. Stubborn plaques on his lower shins and knees had cleared with injection of 5 mg/mL triamcinolone acetonide (Kenacort-A 10; diluted 1:1 with normal saline) directly into the plaques. His psoriasis has stayed under control with acetretin 10 mg per day and bursts of topical treatment to control minor recurrences.

The use of padded knee and shin guards while working seems helpful in reducing skin trauma.

Comments

This patient demonstrates the sort of problems often faced by people with psoriasis and the trade-offs made because of the limitations of the treatments available. Some points illustrated by this case are discussed below.

Aggravating factors

Stress

While hard to quantify, anecdotally stress often seems to aggravate psoriasis. Also, stressed people are likely to cope less well with the disease.

Koebner response

Sometimes protective strategies are helpful to reduce the development of lesions of psoriasis on areas of skin which have been irritated by mechanical, physical or chemical agents (Koebner phenomenon). This skin trauma may be a hazard associated with employment (such as crawling around in roofs and under houses in this patient's case), or from scratching. Patients should always be advised not to pick and scratch the plaques. Cool compresses will temporarily help itch.

Drugs

NSAIDs have occasionally been reported to flare psoriasis, but this patient's history did not suggest this. It should be noted that many people with psoriatic arthritis experience no flare in skin disease when treated with NSAIDs and there are only isolated reports in the literature of NSAIDs flaring psoriasis.

Drugs that may flare psoriasis include lithium, hydroxychloroquine, chloroquine, β-blockers, terbinafine and recombinant human granulocyte colony stimulating factor (G-CSF; filgrastim and lenograstim). The condition may also flare on stopping systemic corticosteroid therapy.

Alcohol consumption and cigarette smoking

Excess alcohol consumption and cigarette smoking have been identified as risk factors for psoriasis in some epidemiological studies. It is not clear how much improvement, if any, is expected from dealing with these.

Annular psoriasis plaques

It is not known why psoriasis plaques are sometimes annular. The presence of annular plaques can lead to confusion with tinea or other annular eruptions, such as erythema annulare centrifugum.

Genital psoriasis

Genital psoriasis can be particularly embarrassing and people often worry that it will be sexually transmitted. Patients can be reassured that psoriasis is not transmissible.

Topical treatments used on the genital area should be weaker than those used on other areas of the body. Mild genital psoriasis may respond to weak topical corticosteroids like hydrocortisone. If it does not, and stronger corticosteroids are not effective either, calipotriol (Daivonex) or weak coal tar preparations can be used, although they may irritate the skin. There is uncertainty as to whether prolonged use of coal tar preparations increases the risk of genital squamous cell carcinoma.

Phototherapy can be used on the genital area if necessary, although the area is usually protected from exposure to phototherapy of other sites by the wearing of underwear as this therapy is also a proven cause of genital cancer.

Treatment options

The treatment options for psoriasis are topical and oral medications, intralesional corticosteroid injections and ultraviolet light. The advantages and disadvantages of these are listed in the Table but generically topical agents are messy and less practical for large surface areas, intralesional corticosteroids are suitable for only small surface areas and ultraviolet light is inconvenient because of the frequent attendances needed at a hospital or dermatologist's rooms.

Table. Treatment options for chronic psoriasis

*Combinations of salicylic acid and/or coal tar and/or other active ingredients

Treatment	Type	Advantages	Disadvantages
Salicylic acid (Egozite Cradle Cap Lotion, Ionil)*	Topical	No smell, keratolytic	May sting, salicylism
Coal tar, LPC or crude (Exorex Penetrating Emulsion Psoriasis Medication, Ionil T Plus, Linotar Gel, Polytar Plus Liquid)*	Topical	Anti-inflammatory, antipruritic	Smell, staining, tar smarts, folliculitis
Dithranol (DithraSal, Micanol)	Topical	Antiproliferative, no smell	Staining, burning (often delayed a few days)
Calcipotriol (Daivonex)†	Topical	No smell	Twice daily application, may irritate
Corticosteroids (betamethasone, desonide [Desowen], methylprednisolone aceponate [Advantan], mometasone furoate [Elocon, Novasone], triamcinolone acetonide [Aristocort, Tricortone]) †	Topical	No smell, antipruritic	Atrophy (especially thin skin areas), perioral dermatitis, tachyphylaxis
Corticosteroids (triamcinolone acetonide [Kenacort-A], betamethasone acetate [Celestone Chronodose])	Intralesional	Quite effective and persistent effect	Pain, fear of injection, suitable for small areas only, atrophy
Ultraviolet B (narrow band or broad band)	Delivered via UV-emitting fluorescent tubes in a cabinet	Additive to other treatments, tanning	Inconvenient, sunburning, polymorphic light eruption, photoageing, carcinogenic (low risk)
Excimer laser (ultraviolet B)	Laser	Useful for localised disease	Expensive, very limited availability
Psoralen plus ultraviolet A (PUVA)	As per UVB. Psoralen given topically or orally before treatment	As per UVB but may be a little more effective	As per UVB but more carcinogenic and photoageing. Itch, nausea (oral psoralen)
Acitretin (Neotigason)	Oral	Good adjuvant, good for pustular psoriasis, additive to UV	Dry lips and skin, hair loss, lipid and liver problems, highly teratogenic (women)
Methotrexate (Ledertrexate, Methoblastin)	Oral	Often effective	Nausea, tiredness, haematological and liver abnormalities, teratogenic, reduced fertility, weekly dosing
Cyclosporin (Cicloral, Cysporin, Neoral, Sandimmun)	Oral	Often effective	Expensive, hypertension, reduced renal function, risk of infection, risk of skin cancer and possibly lymphoma
Mycophenolate mofetil (CellCept)	Oral or intramuscular	May be effective, side effects uncommon	Expensive (not PBS listed), gastrointestinal upset, occasional haematological side effects, possible risk of cancers
Biologicals (alefacept [Amevive], daclizumab [Zenapax], efalizumab [Raptiva], etanercept [Enbrel], infliximab [Remicade])	Injected	Very effective in 30 to 55%, low side effects (therefore suitable for patients with contraindications to other treatments)	Very expensive, yet to be PBS listed (some are RPBS listed), some patients respond poorly. Best use still being evaluated
Lifestyle (diet, stress management)	Various	–	Unpredictable, limited evidence

Systemic agents, while convenient, are more prone to side effects, although the new generation of 'biologic' therapies (alefacept [Amevive], daclizumab [Zenapax], efalizumab [Raptiva], etanercept [Enbrel], infliximab [Remicade]) offers hope of effective treatments with few side effects. Expense is the main limitation.

Treatments are not always effective

A treatment that has worked in the past may not work on a later flare. This varying response to treatment over time makes a slow rotation of treatments a useful strategy.

Calcipotriol ointment works best when applied twice daily; it should be applied more thickly than topical corticosteroids. Adding a corticosteroid improves the effectiveness of calcipotriol (a handy combination formulation of calcipotriol and betamethasone, Daivobet 50/500 Ointment, is now available but is not PBS listed).

Limitations of topical treatments

Topical treatments often cause irritation and are messy. Dithranol (DithraSal, Micanol) may cause a burning irritation that occurs up to a few days after the ointment is applied. This irritation can be quite painful, and is more likely with higher concentrations, longer application times and when used on occluded sites. Short contact therapy (30 to 40 minutes) using a higher concentration of dithranol works well and is less likely to stain the skin. In short contact or overnight application regimens, a low starting concentration of 0.5% or 0.1%, respectively, is used and the concentration is raised slowly as required.

While all the topical treatments tend to be messy, the ointments are particularly so because of their greasiness. However, ointments tend to be more effective as they enhance penetration of the active ingredients. Common issues with ointments are staining of clothing, accumulation of dirt on the skin during manual labour and the time-consuming nature of applying topical treatment. In addition, ointments are not suitable for the scalp; here lotions or creams should be used.

Methotrexate

In a patient unwilling to stop consuming alcohol, methotrexate is an unsuitable choice, even if LFTs are normal. Obesity is another risk factor for liver problems while on methotrexate.

Acitretin

The dose of acitretin (Neotigason) can be from 10 to 75 mg daily, and may be limited by the presence of hypercholesterolaemia since acitretin commonly elevates serum cholesterol and triglycerides. Obesity makes LFT abnormalities more likely, presumably from fatty liver change, and this may limit the dose of acitretin. Higher doses are also often limited by mucocutaneous side effects.

Phototherapy

Ultraviolet phototherapy is a very useful treatment. However, the practicalities of attending for treatment three times a week can be an issue, especially if a patient's employment involves working at different locations. Significant ultraviolet exposure during work should be taken into account as ultraviolet photo - therapy adds to lifetime risk of skin cancer and photoageing. In general, ultraviolet phototherapy should probably be replaced with other treatment options after a patient has had 200 to 300 individual ultraviolet treatment sessions over a lifetime.

Information for patients

Useful sources of information for patients with psoriasis include the following websites:

- The US National Psoriasis Foundation: www.psoriasis.org
- DermNet NZ: www.dermnetnz.org/scaly/psoriasis-general.html
- eMedicine consumer health: www.emedicinehealth.com/collections/CO1658.asp

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Further reading

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6. eMedicine. Dermatology – papulosquamous diseases articles. www.emedicine.com/derm/PAPULOSQUAMOUS_DISEASES.htm

DECLARATION OF INTEREST: None.