

## DISEASES OF THE SKIN AND THEIR TREATMENT

**(3) ECZEMA**

By Bill Cunliffe, FRCP

*This final article in our skin diseases series focuses on eczema and what pharmacists can do to help those with the condition*

**E**czema is a common problem affecting up to 15 per cent of the population. Typically it presents as a patchy or widespread itchy rash, often associated with a personal or family history of asthma or hay fever.

**CLINICAL FEATURES**

Most patients present with eczema in the first few months of life, with typical involvement of the face and the flexures. By the age of 2 or 3 years, the face may become less affected and the flexures alone can be involved, particularly the antecubital fossae (in front of the elbows), the popliteal fossae (behind the knees) and the wrists. However, in a significant number of patients the disease can be widespread.

The rash is intolerably itchy. It produces considerable insomnia, which has an effect not only on the patient but also on the family. The patient will not infrequently complain of a dry skin, and may have associated hay fever and asthma. It is unusual for the patient to have bad eczema and at the same time bad asthma or hay fever or both.

Typically, the patient has widespread dry skin (Figure 1), although there may be major involvement only of the flexures. The individual lesions are papules (small, raised red spots) but not infrequently many of them are excoriated as a result of the intolerable itching associated with the disease (Figure 2). The inflammation is often associated with scaling of the skin and because of frequent *Staphylococcus aureus* colonisation of the skin, low grade impetigo is common, resulting in a yellow crust associated with the excoriated papules. The lesions are associated with a background, widespread, ill-defined erythema. As a consequence of much scratching, there may be development of localised areas of superficial, moderately well-defined plaques, in which the skin marks are particularly prominent, producing the so-called lichenification. *Staph aureus* also acts as a superantigen which contributes to the severity of the inflammation.

**AETIOLOGY OF ECZEMA**

Genetics plays an important role in the aetiology of eczema, and environmental factors certainly contribute massively to the development of the disease. Patients with eczema are highly susceptible to changes in temperature and humidity, and extreme temperatures (too hot or too cold) may aggravate the itching and so perpetuate the disease. Overuse of water and overuse of soap will also aggravate the problem.

One of the primary triggers of eczema, which is possibly genetic related, is a characteristic T helper cell dysfunction. The abnormal T cell infiltrate in the skin results in the production of many cytokines, which further contribute to inflammation severity and



**Figure 1: Typical facial eczema with dry, inflamed and excoriated skin**



**Figure 2: Typical flexural eczema which can become secondarily infected, as here, with *Staphylococcus aureus***

epidermal damage, resulting in dry skin. However, there may also be a primary defect in epidermal function causing the skin dryness.

**TREATMENT**

As is typical of many skin diseases, there are four major principles to be discussed with the patient and family: topical therapy, oral therapy, physical therapy and combination therapy.

**Topical therapy** The pharmacist has an important role in overseeing the prescribing and management of topical therapy. There are several topical therapies including emollients, bath additives and topical steroids.

**Emollients** Emollients are essential for the management of eczema. It does not matter which emollient is used as long as the patient feels comfortable in its use. Some pharmacists, physicians and, above all, patients may have a particular preference for one emollient, but there are no excellent, broad clinical studies to indicate the significant ranking order of emollients.

Although ointments are possibly better for atopic skin, creams have a major role simply because if too much ointment is applied to the skin it will make it difficult for the patient to wear decent clothes. Too much ointment on the skin has other disadvantages,

such as blocking the washing machine. Emollients need to be applied regularly and the patient might use 500g quite easily in a week. Emollients need to be applied not just when the disease is bad but as a prevention of recurrence of significant disease when the disease is under good control.

**Bath additives** Soap aggravates eczematous skin. However, there is a multitude of bath oil additives that can be used instead of soap. Some of the additives contain antiseptics, which may possibly minimise or partly treat *Staph aureus* colonisation.

**Topical steroids** Topical steroids are also a mainstay in the treatment of patients with eczema. The pharmacist has an important role to get the right balance in the use of topical steroids. It is important not to underuse or overuse them. Potent steroids, such as betamethasone or mometasone, can be applied when the skin is very bad and an intermediate strength steroid, such as clobetasone, applied when the eczema is under reasonable control but still quite active. Likewise a weak steroid, such as hydrocortisone, can be applied when the skin is inflamed but not aggressively so.

It must also be remembered that the skin can be variegated so that a different strengths of steroid may need to be applied to different areas, as appropriate. This is in contrast to emollients which can be applied all over at any time. However, it is important that emollients are not applied at the same time as steroids, otherwise the effective strength of the steroid can be diluted.

The pharmacist should stress to the patient and the family the

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need to document how much topical steroids are being used. The patient and family should be asked to report this information to the physician and the pharmacist when a repeat prescription is obtained so that excessive use can be avoided.

Many steroids come in combination with antimicrobials, and these may help to reduce *Staph aureus* colonisation.

**Oral therapy** The pharmacist also has a role in overseeing the prescribing and management of oral therapy, particularly sedating antihistamines.

**Sedating antihistamines** Sedating antihistamines are frequently used to reduce the irritation associated with eczema. Their main effect is simply to make the patient drowsy, but whether they have a direct effect in reducing the itch is debatable. Nevertheless, they are effective treatments. The pharmacist can link with the physician and the patient so that the patient can be instructed how to adjust the dose of the medicine to find out how much will control the itch without causing drowsiness. Typical antihistamines used are alimemazine tartrate (Vallergran), promethazine hydrochloride (Phenergan) and hydroxyzine hydrochloride (Atarax).

It must be remembered that young children up to the age of 2 years can take a dose of antihistamine which is no different from that of an adult. Smaller doses in young children are much less effective.

Rarely, oral sedating antihistamines can be too sedating, and non-sedating antihistamines have to be used as an alternative, although these may not produce enough control of the itch.

**Antibiotics** Not infrequently, especially in significant disease, there is marked colonisation with *Staph aureus* and a five- to seven-day course of oral flucloxacillin 250mg four times a day may be necessary. If the patient is allergic to flucloxacillin or the organisms resistant to it, which is unusual, then a five- or seven-day course of erythromycin 250mg four times a day will be required.

**Physical therapy** To enhance penetration of the drugs into the skin and minimise skin damage, dressings are sometimes prescribed. Wet-wraps are particularly helpful in young children.

Many patients comment that sunshine helps their eczema, so it is not surprising that patients when referred to a hospital may be prescribed narrow band UVB light. This has been shown to be a most helpful treatment.

**Combination therapy** Therapies are frequently combined. For example, an emollient might be combined with a topical steroid, a sedating antihistamine and, possibly, an oral antibiotic.

#### SIDE EFFECTS

Any topical therapy may produce an irritant dermatitis or an allergic contact dermatitis. If the physician is concerned about this latter possibility, patch tests will be necessary, and this will require referral of the patient to the dermatology department at a local hospital.

Excessive use of topical steroids will produce skin thinning. Steroids reduce collagen, and skin thinning is associated with lack of support for the blood vessels resulting in telangiectasia. Some of these side effects are permanent, so it is important to look at the skin quite frequently in patients who need chronic treatment with topical steroids. Secondary infection can occur due to the use of topical steroids, especially in impetiginised eczema.

#### POORLY RESPONDING PATIENT

Occasionally the pharmacist, like the physician, will see patients whose eczema is not responding to treatment. One reason for this might be poor compliance. The patient may simply not be using enough moisturiser or enough topical steroid. The patient may not be using the correct topical steroid for the severity of eczema. Alternatively, the patient may not be adjusting the dose of the sedating antihistamine appropriately and may require advice about this.

If poor compliance and an alternative diagnosis as a cause for poor response have been excluded, the patient may need to be referred to a hospital so that treatment with disease-modifying drugs, narrow band UVB light or oral steroids can be considered.

One disease-modifying drug is ciclosporin, an immunosuppressant. This is usually prescribed in doses of 3mg/kg and given for several months, provided there is good control of the disease. It is important that creatinine is checked regularly in patients taking ciclosporin because it can affect renal function. It is also necessary to measure blood pressure every six weeks.

Narrow band UVB light therapy is available in some dermatological centres. It can be extremely beneficial and is likely to be considered before ciclosporin. Occasionally patients do well after PUVA photochemotherapy. This is a combination of an oral psoralen (P) followed two hours later by long-wave ultraviolet irradiation (UVA). Side effects of PUVA include an acute sunburn-like reaction. When given over long periods, there is a long-term risk of skin cancer. This could particularly be a problem if the patient has been given immunosuppressants, such as ciclosporin.

Oral steroids may be given, usually in short courses, in patients with severe atopic eczema around, say, Christmas and holiday times. The dosage given is usually of the order of 0.5mg/kg/day with the doses of the drug reduced over the next few weeks.

#### DIFFERENTIAL DIAGNOSIS

There is rarely anything with which eczema can be confused. The diagnosis of eczema is easily made, but it should be considered whether the patient might have a contact dermatitis due to one of the medicines, or may have developed scabies. It is therefore important to discuss with the patient if any other family member or friend has developed an itchy rash.

#### PROGNOSIS

Although eczema is a chronic disorder, in about 85 per cent of individuals the rash will clear up at the time of puberty, but in some patients it persists for life.

Some individuals present with a different clinical form of eczema, such as discoid eczema, seborrhoeic eczema, pompholyx or erythrodermic eczema. Most of these variations occur mainly beyond the teenage years. Treatment is similar to that for other types of eczema.

In discoid eczema, the patient frequently has well defined itchy plaques on the extensor aspects of the body.

Seborrhoeic eczema probably has nothing to do with the sebaceous glands. The lesions occur in the areas where sebaceous glands are found — on the scalp, face and upper trunk. The itchy rash presents as ill-defined erythema and scaling.

Pompholyx presents as an intensely itchy rash on the palms and soles. The patient, pharmacist and physician notice recurrent, small, multiple, clear fluid-filled, coalescent vesicles. After a few days the lesions weep. Then, as they dry, the skin frequently cracks and becomes painful.

Patients with erythrodermic eczema are very unwell and frequently need to be admitted to hospital. The whole, or most of the, skin is very red, sore, itchy and scaly.

#### THE ROLE OF THE PHARMACIST

The pharmacist has an important role in helping to manage a patient's eczema. Help should include discussion with the patient on the following issues:

- How and where to find more help or a better understanding of the disease, including self-help groups such as the National Eczema Society, 163 Eversholt Street, London NW1 1BU (tel 020 7388 4097)
- Optimum use of emollients
- Prevention of over and under use of topical steroids
- Advising the patient to make notes of the amounts of emollients and steroids prescribed and used
- Use of bandages which could form part of the wet-wrap procedures or simply to help minimise daubing of clothes with greasy topical therapies.
- Dose adjustments of antihistamine (obviously through collaboration with the physician) to control the itch without the patient becoming too drowsy.