

This article provides an overview of the management and treatment of atopic eczema, which affects more than 20% of all children in Saudi Arabia. The author offers practical guidelines on the use of emollients, antipruritics and topical steroids. Management of secondary bacterial and viral infections and avoidance of trigger factors are discussed.

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CLINICAL PRACTICE

Atopic eczema: management & treatment

هذه المقالة تورد نظرة شاملة
لادارة وعلاج الكزيما فرط
الاحساسية والتي تصيب اكثر
من ٢٠٪ من الاطفال بالمملكة
العربية السعودية. يقدم الكاتب
مؤشرات عملية لاستعمال
المطفيات او مضاد الحكة
والاسترويد الموضعي. كما
يناقش الكاتب ادارة الاصابات
البكتيرية والفيروسية الثانوية
وتفادي عوامل الانتكاس.

- The mainstay of treatment is still to break the itch-scratch cycle and keep the skin moist by topical ointments and creams
- Treat each case individually, encouraging the parents to try different regimens to see which suit the child best
- Education of the parents is important, eg showing them how to use emollients or topical preparations or discussing any fears they may have about steroids. Any prescription for topical steroids must be accompanied by an explanation of the difference potencies
- Secondary bacterial infection is common. Where there are multiple scattered skin lesions infected with staphylococci, treatment with an oral antistaphylococcal antibiotic is essential
- With topical steroids, use ointments rather than creams and use the least potent drugs (eg 1% hydrocortisone) as sparingly as possible
- Only a disappointingly small proportion of patients benefit from an elimination diet; dietary exclusion should be supervised by a dietitian

Atopic eczema is the most common dermatological condition seen in ambulatory clinical practice. It affects more than 20% of all children in Saudi Arabia^{1,2,3}. Scratching, a constant feature, damages the skin and disrupts sleep, and the dry, ichthyotic skin and erythematous, lichenified skin lesions look unpleasant. Assessing the effectiveness of treatment is complicated by the marked fluctuation in severity.

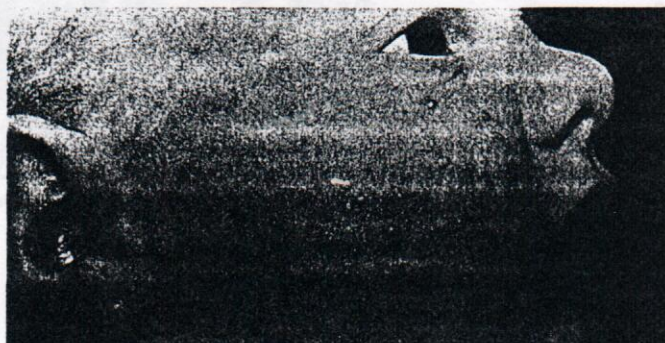


Figure 1: Young infant with atopic eczema due to cow's milk protein allergy

Basic treatment

Therapy and management of atopics pose a difficult problem. The mainstay of treatment is to break the itch-scratch cycle and keep the skin moist by topical ointments and creams in order to minimise the scratching and excoriation which results from dry skin.

Managing scratching

The only remedy is to stop the child's attention from being focused on scratching the skin; shouting at the child to stop scratching is not the answer. Some children obtain relief if the skin is gently rubbed. Damage from scratching can be reduced by daily filing of the nails and using cotton mittens to enclose the hands in order to prevent scratching during sleep.

Applying a simple emollient gives relief, although emollients have no specific antipruritic properties. Calamine and coal tar ointment are useful in some children to relieve itching, particularly at night.

Helping the child to sleep at night is often the treatment most valued by parents. Sedative antihistamines such as trimeprazine have no known direct effect on the eczematous process but they help the child fall asleep, which is very much appreciated by the parents. School children who may feel drowsy in the morning can be given the antihistamines early in the evening.

Doses of up to 30mg may be given to children aged 8-12 months and 10-50mg to children aged over one year. Antipruritics, generally antihistamines, are used to control the itching. Hydroxyzine (*Atarax, Durrax*), diphenhydramine and cryptoheptadine are all useful in adequate doses. Antipruritic lotions containing 0.15% menthol and 0.5% phenol in lipid-free lotions are also helpful.

Emollients

Some degree of skin dryness is found in most cases. Emollients improve hydration of the skin by reducing evaporation and may act as a barrier to protect the skin from water at bath time. Emollient ointments, such as emulsifying ointment or white soft paraffin, are more effective than emollient creams and the absence of preservatives and stabilizers in an ointment reduces the risk of irritation or contact sensitisation. However, some patients or parents prefer emollient creams such as aqueous creams.

The only rule about bathing is to treat each case individually, and to encourage the parents to try different regimens to see which best suit the child. Some children are helped by a regular bath once or twice a day, whereas others are better off avoiding baths and having an occasional shower.

Washing with soap and water may damage the barrier function of the stratum corneum and in some children it is better to avoid soap and use an emollient instead. An application of emollient before a bath is helpful. Those who dislike using emollients may prefer a dispersible bath oil such as *Hermal Bath* or *Emmollicit Bath*. Taking a few minutes to show parents how to use emollients and how to apply topical preparations is time well spent by the doctor, nurse or pharmacist.



Figure 2: 8-month-old baby with contact dermatitis due to chemical detergent used for washing clothes

Topical corticosteroids

The basic principles are to use ointments rather than creams, and to use the least potent formulations as sparingly as possible.

The first choice is 1% hydrocortisone ointment. More potent preparations are to be avoided for children and should be restricted to refractory cases. When other steroids are used, the potency must be checked.

The different potencies of topical steroids cause confusion among doctors and parents. Most parents think that topical steroids are dangerous and any prescription must be accompanied by an explanation of the different potencies.

Skin atrophy is in fact the main hazard of topical steroids. It results from regular use of the more potent preparations, especially on the face, but topical hydrocortisone virtually never causes atrophy. In older children it is common to see severe and heavily lichenified patches of eczema confined to the front of the knees, the wrists and the ankles. Such lesions may not respond well to low-potency steroids and in these sites it makes no sense to withhold a moderately potent steroid because of the fear of skin atrophy.

The larger the areas of skin affected, and the more inflamed the skin, the greater the risk of systemic absorption of a topical steroid. There is therefore a theoretical risk of iatrogenic Cushing's syndrome with widespread application of topical steroids. While atopic eczema is not a fatal condition, the resulting handicap and damage can be severe. To withhold mild or moderately potent steroids in such patients for fear of adverse effects is unreasonable. Growth impairment occurs in up to 10% of children with atopic eczema but there is no evidence that use of low or moderate-potency topical steroids contributes to this. Nevertheless, long-term use of potent or very potent drugs over large areas of skin may inhibit growth.

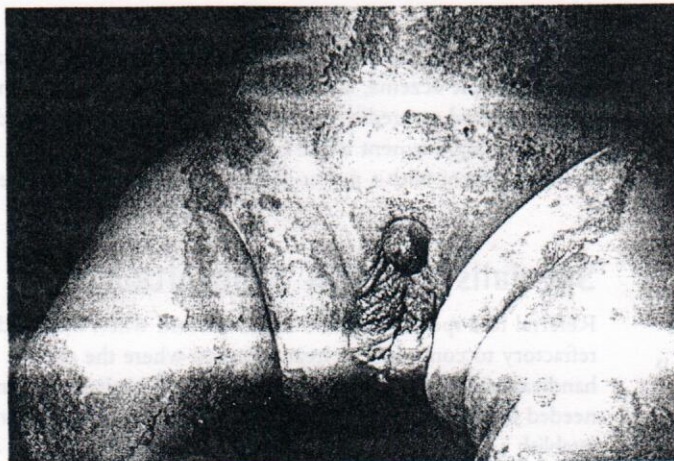


Figure 3: 10-month-old infant presenting with diaper dermatitis

Complications

Features that suggest secondary bacterial infection are pustules, crusting, a weeping discharge or a sudden flare-up of eczema. Secondary bacterial infection is common. In mild cases the causative organism is *Staphylococcus aureus*, so finding this organism in a skin swab is not in itself an indication for treatment. Skin swabs are nevertheless useful for detecting streptococci and multi-resistant strengths of staphylococci.

In infected eczema there are usually multiple scattered infected skin lesions and treatment with an oral antistaphylococcal antibiotic is essential. Oral flucloxacillin is the drug of choice, but it requires administration four times daily and is unpalatable. Cefadroxil is an alternative with an appropriate spectrum of activity that can be given twice daily. A trial of oral antistaphylococcal antibiotics should be considered for any child with a flare-up of atopic eczema.

Topical antibiotics should be avoided because of the widespread nature of the skin lesions and the risk of sensitization and resistance. Topical corticosteroids should be continued. The role of antiseptic/corticosteroid combinations is uncertain. If a product containing clioquinol is prescribed, parents must be warned that clioquinol produces a permanent yellow-brown stain on white clothing.

Recurrence of infection is common and difficult to prevent. Long-term use of antistaphylococcal antibiotics often results in selective growth of antibiotic-resistant staphylococci. Use of antiseptics in the bath water and of corticosteroid/antiseptic combination are logical but unproven strategies.

Viral infection

Whereas the initial infection with herpes simplex virus (HSV) in normal children usually consists of gingivo-stomatitis, in children with atopic eczema the initial infection may be in the skin, causing eczema herpeticum. This is usually a self-limiting though unpleasant problem but occasionally patients with eczema herpeticum may become dangerously ill and may die. This can be due to untreated secondary bacterial skin infection or to an undiagnosed immune-deficiency state. Delay in diagnosis may be a contributory factor.

The key physical sign of HSV infection is the presence of vesicles. In an initial infection these are scattered, thin-walled lesions with clear or turbid fluid, the lesions often having a characteristic central depression. Recurrent HSV infection, limited to the skin, is not uncommon. The vesicles appear confluent and

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are quickly ruptured, leaving a patch of inflamed skin that may be difficult to distinguish from ordinary eczematous lesions.

Treatment of eczema herpeticum is aimed primarily at preventing secondary bacterial infection. With recurrent HSV this is all that is required. In severe cases of initial infection, when there is a high fever and general malaise, admission to hospital and intravenous treatment with the antiviral agent acyclovir is required. The need for oral acyclovir in less severe initial infection is unproven.

Avoidable trigger factors

Triggers do not cause eczema but exacerbate pre-existing eczema. Common triggers are warmth, skin contact with woollen clothing, detergent and enzyme washing powders, chlorinated water, fabric conditioners, teething, intercurrent infection such as colds, and tiredness and stress.

In infants, and to a lesser extent in preschool children, certain foods such as cow's milk, eggs, soya or fish may act as triggers and if there is a clear history of food triggers then avoidance is sensible. Where there is no clear history of food triggers, studies have established that:

- Only a disappointingly small proportion of affected patients benefit from an elimination diet.
- There is no evidence that diet influences the natural history (which is a tendency to improvement, often followed by the development of asthma)
- Skin and blood tests for allergy have failed to identify those individuals who will benefit from a diet which avoids trigger foods
- Dietary exclusion without supervision from a dietitian risks nutritional deficiency

There is increasing recognition that pets and dust mites can provoke atopic eczema, although again, allergy tests are unhelpful and have failed to predict those who will benefit from avoidance measures. Improvement while on holiday away from home is more consistent with a pet or dust mites than food as triggers.

Specialist referral & hospitalization

Referral to a specialist should be considered when the condition is refractory to conventional treatment and where the child is handicapped by the severity of the disease. Hospitalization may be needed for severely infected eczema or to improve control and establish a suitable treatment regimen where there is severe and uncontrolled disease.

Guidance for the use of topical preparations

- Always start with low-potency preparations such as 1% hydrocortisone
- Avoid using fluorinated steroids in infants
- Avoid using high-potency steroids on face, neck and intertriginous areas
- Always warn patients and parents of the side-effects of steroid medications
- Do not authorize repeat prescriptions or refills of steroid preparations without proper follow-up of patients
- For eyelids and perioral areas, use ophthalmic steroid preparations
- When infection of the skin (bacterial, fungal and viral) is suspected, avoid using topical steroids
- When using long-term topical steroid therapy with high-potency steroids, discuss the possibility of systemic absorption, hypothalamus pituitary axis (HPA) suppression and possible growth retardation
- When inflammatory conditions do not respond, or worsen, with treatment, suspect allergic contact dermatitis to one or more ingredients of the preparation used. Beware of sensitizers like neomycin, ethylenediamine in certain preparations. Consider also tinea incognito and infections by dermatophytes. Carry out appropriate procedures such as potassium hydroxide (KOH) mount, cultures and skin biopsy to settle the diagnosis.
- Reserve use of high-potency steroids for chronic recalcitrant conditions such as psoriasis, lichen planus and chronic atopic dermatitis with lichenification.
- As far as possible, avoid occlusive therapy involving plastic wrapping as the side-effects tend to be hastened and complications are more common.
- Avoid abrupt discontinuation of topical steroid therapy. It is better to switch to lower-potency steroid medication and then gradually taper off.
- Emollients may be useful in eczema. Emollient ointments are better than creams but the latter may be preferred by patients or parents.
- The basic principles for topical corticosteroids are to use ointments rather than creams and to use the least potent drugs and as sparingly as possible.

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