

Managing childhood eczema in the Middle East



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This case study describes the management of an 11-year-old boy living in the desert in Saudi Arabia who was diagnosed with severe eczema. The traditional therapy used by a local physician to treat this common disease had negatively affected his management. Recommendations are made to improve the future treatment of skin conditions in rural areas, such as the need for more coordination with secondary and tertiary centres, regular follow-up supported by educational programmes and better diagnosis and management.

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Eczema is the most common form of dermatitis and is characterised by pruritus, eczematous lesions, dry skin and lichenification (thick, leathery skin). It can also be associated with other atopic diseases, such as asthma, allergic rhinitis, urticaria and acute allergic reactions to foods^[1].

Eczema is also common around leg ulcers and along with other skin conditions, such as lipodermatosclerosis, oedema, atrophie blanche and cellulitis, can be a predictor of leg ulcer development.

In one study, the highest rates of eczema (greater than 15%) were observed in urban centres in Africa, Australia, and northern and western Europe, whereas the lowest prevalence (less than 5%) was found in China, eastern Europe and central Asia^[2]. In Saudi Arabia, dermatitis and eczema were the most frequent dermatoses (19.6%), with atopic dermatitis constituting 36% of eczemas^[3].

Eczema can affect all age groups, although in children the estimated prevalence is 16–20%. It usually starts under the age of six months and by one year 60% of those likely to develop eczema will have done so. In 75% of cases, remission occurs by 15 years of age, although some children develop worsening symptoms in their teenage years and others relapse later in adulthood^[4].

Case report

History

Patient A is an 11-year-old boy who has had chronic eczema since the age of five, although he had experienced dry, excoriated skin since he was two years old. His family has a history of allergic disorders, for example his father has asthma and a younger sibling also has eczema.

Living in the desert means coping with

humidity-free air and high temperatures. Atopic dermatitis thrives in these extremes, resulting in dry skin that in turn increases the effects of eczema^[5].

School-aged children with moderate-to-severe atopic eczema are also at high risk of developing psychological difficulties, which may have implications for their academic and social development^[6].

Patient A had many psychosocial problems because of his eczema. He was bullied at school and was shunned by classmates and even some relatives. People avoided close contact with him as they were afraid that they would ‘catch’ eczema. In addition, there was parental anxiety, especially from his mother, as he was falling behind in his studies, sometimes refusing to go to school.

Patient A's parents believe in traditional therapies and initially consulted a local physician. Local physicians use a variety of methods, including herbal preparations, Unani (an ancient form of Greek medicine used throughout the Muslim world) and various traditional Iranian and Islamic techniques. However, the physicians themselves are often not qualified and the techniques are transmitted orally throughout communities and families — this means that on occasion the inappropriate use of these traditional medicines can have negative or even dangerous side-effects^[7].

In this case, the local physician prescribed a paste made from the leaves of the ziziphus plant mixed with olive and sesame oil, a kind of traditional treatment also used in Japan. Patient A used this paste for 18 months.

However, as patient A's skin showed no signs of improvement, when he was three and a half years old the family consulted the local general

practitioner who prescribed the application of an emollient and a high-potency steroid cream (betamethasone).

Emollients should be prescribed in large quantities as this helps to achieve the optimum effect and reduces the need for steroids^[8]. However, they are only prescribed occasionally as they do not provide quick results and the skin is often greasy after application.

Physicians should use the least potent topical steroid possible and the potency should be matched to the disease severity of the affected site^[8,9]. Guidelines also recommend that they are only applied once or twice a day^[10].

In this case, however, the general practitioner recommended that the steroid cream should be applied two to three times a day. He also prescribed betamethasone for long periods without interruption, whereas it is recommended that the use of topical steroid be limited to up to a week for acute eczema and then twice a week to control the symptoms^[11].

The general practitioner did not provide any advice on avoiding any possible eczema trigger factors such as eggs, milk, peanuts or soy. The role of food antigens in the pathogenesis of eczema is controversial^[12]. Approximately one-third of children with refractory moderate to severe eczema have an IgE-mediated clinical reaction to food proteins and a food allergy assessment should be considered in these patients^[13].

Initially the treatment regimen was well tolerated. However, after three years Patient A began to develop a resistance to the steroid cream demonstrated by an increase in the number and intensity of flares. Patient A had been using the steroids for long periods on his face but only when the eczema became symptomatic – he would discontinue the regimen when he was symptom-free. This was partly because his parents, like many others, were concerned about the side-effects of potent topical steroids^[14].

Current treatment

At the age of 9, Patient A was assessed in a secondary care hospital. On examination, he was found to have bilateral erythematous weeping lesions at the flexural surface of his elbows, popliteal fossa, the medial surface of his arms, and along the anterior axillary line of the axilla.

There was also an itchy eczema rash visible in his skin creases, flexural involvement and dry skin. The onset of the rash at two years of age is very characteristic and helped to confirm a clinical diagnosis of eczema^[15]. Patient A also had bilateral lesions of excoriated and lichenified



Figure 1. An example of eczema where the skin has become itchy and may scale and blister.

skin on his elbows, on the front of his knee joints and on the flexural surface of his knees. A few scattered hypopigmented lesions were visible on the extensor surface of both elbow joints. There were also some obvious scratch marks on the skin and some scattered crusty lesions.

Patient A was experiencing an increasing number and intensity of flare-ups, which were negatively affecting his quality of life. The author diagnosed severe eczema, which had in the past been responsive to high-potency steroid treatment, but which had now developed resistance.

The severity of eczema was assessed using SCORAD (SCORing Atopic Dermatitis), which focuses on three factors – area, severity and symptoms.

Patient A also scored 18 on the Children's Dermatology Life Quality Index, indicating that eczema was having a significant effect on his psychological, social and academic life.

The family were assessed using the Family Dermatology Life Quality Index (FDLQI)^[16] and scored 13, indicating that eczema did not have a significant effect on their life.

Patient A was advised to continue using betamethasone during skin flares but with the dose tapered off to twice-weekly thereafter. Emollients were also prescribed and advice provided on how to use them in order to keep the skin soft and moist, for example, that they should be used frequently and in large quantities, particularly after bathing or washing, in order to protect the integrity of the skin barrier. Antihistamines were also

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Table 1. List of prescribed treatment

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|---|
| Betamethasone cream twice daily |
| Clobetasone propionate 0.05% cream |
| Chlorpheniramine maleate 2.5mg evening and at night |
| Emollient (liberal and judicious use) |

prescribed to help control his itching [Table 1].

This time Patient A's compliance with the topical steroids was good and he used them as advised. However, after 18 months there was an increase in the number and intensity of his eczema flares, therefore clobetasone propionate 0.05% cream was prescribed, with careful monitoring for any adverse effects (eg hypothalamic pituitary adrenal axis suppression, Cushing's syndrome, linear growth retardation, and delayed weight gain).

Since Patient A has been using clobetasone propionate 0.05% cream there has been a decrease in the number and intensity of skin flares. However, because of the fear of adverse effects from what is a very potent steroid preparation and the non-availability of immunomodulator medicines and phototherapy within the author's hospital, Patient A is now being referred to a tertiary centre for evaluation and the next line of treatment.

The future

The author recommends the following management plan for Patient A's ongoing treatment:

- Referral to tertiary care for further evaluation and further treatment, ie photodynamic therapy
- Counselling and education for Patient A and his family about the long-term course of eczema and possible treatment options
- Regular follow-up with a child psychiatrist

and involvement of social services to provide supportive care

- Close liaison with his school and teachers to facilitate a gradual return to studies.

Recommendations for improved local practice include:

- General practitioners should have regular refresher courses and receive more training in the diagnosis and management of skin disease
- There should be regular seminars and workshops for general practitioners and paediatricians
- Specialist nurses should be introduced into dermatology to emulate other specialties, eg antenatal and paediatrics
- Primary care centres need more coordination with secondary and tertiary centres to improve referral pathways
- More clinical trials should be performed on traditional therapies, many of which have good anecdotal evidence
- Regulations on patient management and drug dispensing must be improved in hospitals and pharmacies, especially the prescription of high potency steroid preparations.

Conclusion

The traditional therapy had negatively affected the management of this child. His case was also hindered by the fact that Patient A and his parents gave little importance to his skin disease.

The evidence-based treatment provided by the general practitioner was also questionable, given the fact it was not supported by any available local data or guidelines. Had the appropriate treatment been provided early enough, Patient A may have been able to better manage his condition and would not now require onward referral for more invasive treatments.