Tackling atopic dermatitis

Family counselling and a thorough management plan are needed for a pediatric disease that can persist into adulthood

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Children and their parents should be advised that atopic dermatitis is a chronic disease that requires daily treatment complemented by lifestyle changes.

A topic dermatitis is a chronic and relatively common skin condition that develops during the early years of life. It is characterized by pruritus and a relapsing course, and often is accompanied by a family history of eczema, allergies or asthma. Presentation varies widely, with the subsequent impact on quality of life varying from a minor handicap to a major hindrance of physical activity, self-image and social interaction.

According to data from the International Study of Asthma and Allergies in Childhood (ISAAC) study, the prevalence of atopic dermatitis, or flexural eczema, in Canadian children ages six to seven years increased from 8.7% in 1994 to 12.0% in 2003 (see the Journal of Allergy and Clinical Immunology, April 2008). Globally, “a maximum prevalence plateau of around 20% suggests that there might be a finite number of persons susceptible to developing eczema in any population.”

Diagnostic criteria for atopic dermatitis were developed in 1994 by the U.K. Working Party and published in the British Journal of Dermatology. These remain the most extensively validated tool for diagnosing the disease. The main feature of the U.K. criteria is that a child must have history of perceived itch or a parental observation of scratching. This is in addition to three or more of the following: involvement of flexural skin creases; personal history of asthma or seasonal allergies; generally dry skin at any time in the last year; visible eczema in the flexural areas, extensor areas or cheeks in children younger than four years; and onset before two years of age.

That said, the clinical presentation of the disease varies throughout life. In the chapter on the disease in the highly respected Dermatology text (edited by Dr. Jean Bolognia et al.), the authors divide the clinical stages into infancy, childhood and adulthood.

The typical lesions of eczema include erythematous and edematous papules, sometimes with secondary excoriation and crusting. Vesicles, usually deep-seated, can be seen in acute eruptions, and lichenification—exaggeration of the normal skin markings—is a feature in more chronic lesions. In infants, dry, erythematous and scaly patches are usually observed on extensor surfaces as well as the cheeks. These patches and plaques tend to spare the nasolabial folds.

In older children and adults, the clinical distribution changes to more commonly affect flexural surfaces, particularly the inner surface of the elbows and behind the knees. The most bothersome symptom of eczema is itch. Pruritus and the resultant scratching disturb sleep, daily function and social interaction, resulting in an overall decrease in quality of life.

Several studies have examined the effect of atopic dermatitis on quality of life. In their 2005 paper in Pediatric Dermatology, researchers at Wake Forest University in Winston-Salem, N.C., found there is “significant psychosocial burden in addition to

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. . . the medical aspects of the disease.” They also noted that atopic dermatitis is primarily a childhood disease, the condition affects caregivers and family members in addition to the patient.

The researchers noted the cost of the disease to society can range from $500 to $2,000 per patient per year, taking into account treatment regimens, hospital charges such as frequent dusting, removing carpets and switching detergents and soaps; and time off work to attend appointments. That is in addition to the psychosocial impact of the disease on the patient, worsened by the fact that affected areas of skin are on body parts (inner surfaces of elbows, backs of knees) exposed in certain types of clothing.

The psychosocial and economic burdens of atopic dermatitis warrant a thorough management plan. These children and their parents should be counselled that atopic dermatitis is a chronic disease that for some children continues into adulthood. The need for maintenance and treatment on a daily basis—not only during flares—should also be addressed. Topical corticosteroids are the first-line treatment, complemented by lifestyle modifications.

The child should bathe daily, applying topical corticosteroid and emollient to his or her skin immediately following the bath to “lock in” moisture. Dust and allergens in the house should be minimized by regular dusting and vacuuming, especially in the child’s room; and household products such as clothing detergents should be unscented. Dryer sheets and fabric softeners should be avoided.

It is important to counsel parents on the importance of using topical steroids properly and regularly, especially because misinformation on the Internet and from other sources, including other health professionals, warning of steroid atrophy. Parents and children should be reassured that when topical steroids are used in appropriate strength and applied as directed, atrophy is very unlikely. Going the extra step of demonstrating how much cream to use over a particular area while the patient is still in the office is also useful, as everyone has a different idea of the meaning of “apply liberally.” In general, a pea-sized amount of topical steroid can cover an area the size of the palm of the hand.

Topical calcineurin inhibitors such as tacrolimus (Protopic) and pimecrolimus (Elidel) are useful steroid-free topical treatments for atopic dermatitis. They are good choices to manage eczema on thin-skinned areas such as the face, neck, armpits and groin. Some children find that these products sting or burn on initial application, but this effect seems to be ameliorated by regular use. In 2010, Health Canada approved tacrolimus ointment once daily for 12 months. They found that, the entire body should be coated in a thick moisturizer. A hydrous emulsifying ointment is a good choice, as it is an excellent barrier cream and tends to be well-tolerated. However, some pediatric patients, particularly as they get older, find it to be quite thick and greasy.

For patients seeking alternatives, there are new ceramide-containing moisturizers. Ceramides are an important component of the natural lipid composition of the skin. Ceramide-containing moisturizers include the prescription Epiceram and over-the-counter products such as Cetaphil Restoraderm and Cerave. The hydrocortisone ointment and emollient work best if applied twice daily, but the child need not be bathed for the second application.

For more significant or acute eczema, a stronger steroid preparation such as desonide or betamethasone valerate can be tried for a week or two to gain rapid control. The establishment of a routine early on in the disease can result in good clinical control and forms the basis of a regular skin care routine the child can follow for many years. Should this basic regimen fail to control the child’s atopic dermatitis, a referral to a dermatologist is appropriate.

The main complication of childhood eczema is secondary infection, either by bacteria or viruses. Infected lesions tend to appear more erythematous and inflamed, and feature the classic “honey-coloured crust” seen in impetiginized eczema. Children with atopic dermatitis are more likely to be colonized by Staphylococcus aureus than children in the general population. Furthermore, this colonization is thought to aggravate the already inflamed skin. Thus, the practice of decolonization with bleach baths has arisen in the literature. An odd-sounding but simple practice, bleach baths have come back into vogue, and for good reason.

In one trial, Dr. Jennifer Huang and colleagues at Northwestern University in Chicago enrolled 31 patients, ages six months to 17 years, with moderate to severe atopic dermatitis and clinical signs of secondary bacterial infections.
from page D7

All patients received oral cephalexin for 14 days and were randomized to receive intranasal mupirocin ointment and bleach (sodium hypochlorite) baths or intranasal petrolatum ointment and plain water baths for three months. The bleach concentration was approximately 1/3 cup of 6% bleach in a full bathtub of water. Patients were instructed to wash the bleach in the bleach or placebo bath for five to 10 minutes twice weekly.

At one and three months, patients who received both the bleach baths and intranasal mupirocin showed significantly greater mean reductions from baseline in Eczema Area and Severity Index scores compared with the placebo group, in particular at body sites other than the head and neck.

For patients in whom secondary bacterial infection is a problem, twice-weekly bleach baths are an inexpensive, practical and effective practice to complement an existing eczema care regimen.

Children with atopic eczema can also become secondarily infected with herpes simplex virus (HSV 1 or 2), resulting in eczema herpeticum—mono- or multinucleate vesicles or shallow ulcerations, usually rounded and located on the head and neck.

The use of conventional systemic or topical treatments for eczema makes it particularly impactful to a child, whose ability and willingness to participate in normal childhood activities can be limited by shy- ness, frustration and the complications of the disease itself.

The burden of skin disease is felt not only in its effect on the body, but also on the psyche of patients living with atopic dermatitis. The chronic nature of eczema makes it particularly impactful to a child, whose ability and willingness to participate in normal childhood activities can be limited by shyness, frustration and the complications of the disease itself. Taking the time to educate the child and their family about the nature of the disease and the importance of flare and lesional coverage is paramount in the development of a healthy, happy child.

References:


0.03% PROTOPIC ointment is indicated for children 2-15 years of age. The use of conventional systemic or topical treatments for eczema makes it particularly impactful to a child, whose ability and willingness to participate in normal childhood activities can be limited by shyness, frustration and the complications of the disease itself. Taking the time to educate the child and their family about the nature of the disease and the importance of flare and lesional coverage is paramount in the development of a healthy, happy child.

References:


