Case 1

This month—5 cases:

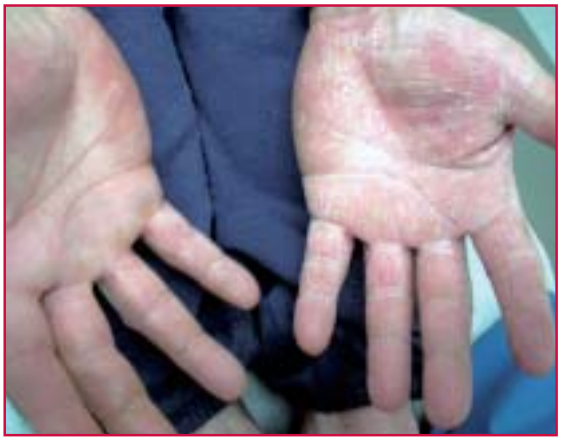
1. *Itchy Soles*
2. *"It spread to my groin!"*
3. *"What happened to my hands?"*
4. *Scaly Skin Situation*
5. *Peanut Problems*

Itchy Soles

This 45-year-old male presents with a 20-year history of recurrent redness, scaling and itching on the soles of both feet and his left palm.

What can it be?

a. Dyshidrotic eczema
b. Psoriasis vulgaris
c. Palmo-plantar keratoderma
d. Tinea pedis/manuum
e. Xerosis



Answer

This patient has *tinea pedis* (in a moccasin pattern)/manuum (**answer d**). A scraping for fungal culture grew *trichophyton rubrum*. The "one hand, two feet" distribution should raise the possibility of cutaneous dermatophyte infection.

This condition usually begins in late childhood or early adulthood and can be chronic. Hot, humid weather, excess sweating and walking barefoot in public facilities, such as swimming pools, may be predisposing factors.

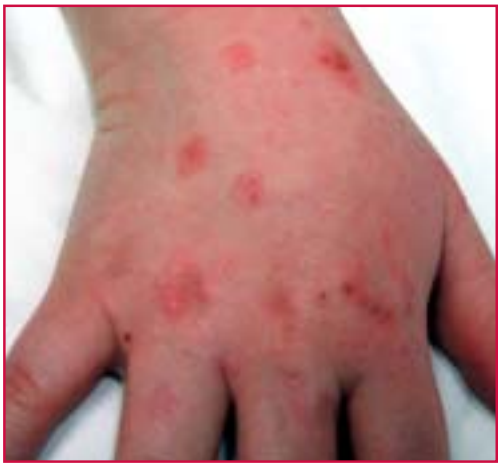
The treatment options include topical anti-fungal preparations such as ketoconazole, ciclopirox olamine, sometimes used in addition to a keratolytic agent such as salicylic or lactic acid, and in more extensive cases, systemic agents, such as griseofulvin, itraconazole or terbinafine.

Raj Tuppal, MD, FRCPC, FACP, Consultant Dermatologist, Oshawa Clinic & Courtice Health Centre, and Active Staff, Lakeridge Health Corporation, Oshawa, Ontario.

Case 2

"It spread to my groin!"

An eight-year-old male with a history of atopic dermatitis presents with a rash consisting of small vesicles and yellowish crusts on an erythematous base on the left side of his face. He was distressed to find that, two days later, the same rash spread to both hands, forearms and the groin area.



What is it?

a. Herpes simplex virus infection
b. Cellulitis
c. Impetigo
d. Exacerbation of atopic dermatitis
e. Molluscum contagiosum infection

Answer

Impetigo (**answer c**) is the most common primary skin infection in the pediatric population. This is a superficial skin infection caused by either group A beta-hemolytic Streptococcus (GABHS) or *Staphylococcus aureus*. It can be non-bullous, as demonstrated in the above case, or bullous, a form seen more often in children aged two to five years.

In non-bullous impetigo, lesions begin as small vesicles or pustules, which soon rupture to produce the classic honey-coloured crusts. Bullous impetigo, which is caused by an epidermolytic toxin produced by *S. aureus*, presents with flaccid bullae < 3 cm in diameter, which easily rupture to leave blisters on the skin.

Both forms of impetigo may be preceded by minor skin trauma, such as an insect bite, and are most common on the face and extremities. Children may spread the infection to other body sites by auto-inoculation. Children with atopic dermatitis, such as the patient described in this case, are more susceptible to developing impetigo. In fact, the most common secondary skin infection in children is impetiginized atopic dermatitis. This is most commonly caused by *S. aureus*, although it can occasionally be caused by GABHS.

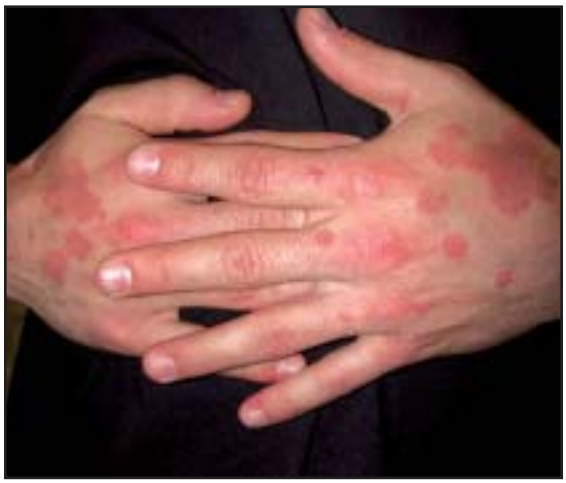
When treating impetigo, therapy should be chosen that is effective against both *S. aureus* and GABHS. The treatment of localized lesions includes the application of mupirocin ointment, a topical antibacterial agent, three times a day, for seven days. For more extensive disease, including infection with associated systemic features, such as fever and lymphadenopathy, an oral or parenteral antibiotic is indicated. Treatment with cloxacillin, a first- or second-generation cephalosporin or clindamycin is effective, and should be given three or four times daily for seven days. In our case, the patient was systemically ill with extensive lesions, and received three doses of ceftriaxone IV, followed by a switch to oral cephalexin.

Monika Winnicki, MD, is a Dermatology Resident, Université de Montréal, Montreal, Quebec.

Case 3

"What happened to my hands?"

A 16-year-old male presents with asymptomatic concentric lesions on his hands two weeks after an episode of "cold sores" on his lips.



What is your diagnosis?

a. Granuloma annulare
b. Erythema chronicum migrans
c. Urticaria
d. Herpes-associated erythema multiforme
e. Annular lichen planus

Answer

Herpes-associated erythema multiforme (**answer d**) is an acute, self-limited disease that develops in only a few patients who experience recurrent herpes simplex virus (HSV) infection.

Clinically, a prodrome is absent or mild (malaise, low-grade fever). The characteristic target lesions follow an HSV infection 10 to 14 days after and begin as dusky red, edematous, maculopapules that spread centrifugally to a circumference of 1 cm to 3 cm as the centre becomes cyanotic, purpuric or vesicular over a 24- to 48-hour period.

The lesions occur on the palms, soles, extensor limbs and on the backs of hands; they may, rarely, be generalized. Mucosal lesions, especially on the lips and buccal mucosa, usually present as bullae and erosions.

The entire episode lasts approximately one month. Symptomatic treatment is usually sufficient for mild cases. Severe constitutional symptoms or extensive, symptomatic mucocutaneous and/or ocular involvement effectively exclude this diagnosis and should prompt swift emergency consultation. Prophylactic oral antiviral therapy is effective in decreasing frequency and severity of recurrent herpes and *Herpes-associated erythema multiforme.*

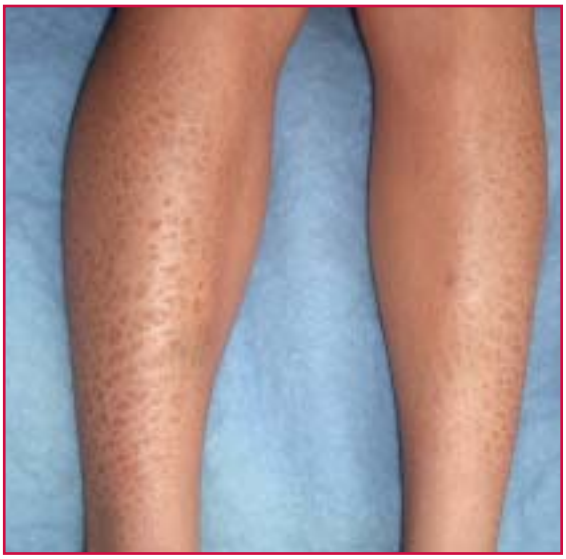
Christina Lam, MDCM, Dermatology Resident, Université de Montréal, Montreal, Quebec.

Mark Krasny, MDCM 2006, McGill University, Montreal, Quebec.

Case 4

Scaly Skin Situation

An eight-year-old male complains of dry, scaly skin on his lower legs since early childhood.



What do you think?

a. Atopic eczema
b. Psoriasis
c. Ichthyosis vulgaris
d. Seborrheic dermatitis
e. Tinea corporis

Answer

Ichthyosis vulgaris (**answer c**) is an autosomal, dominantly inherited disorder of keratinization with a reported incidence of 1:250. Increased adherence of the skin's corny layer with scale formation is thought to result from a loss of water-retaining amino acids.

Clinically, this disease presents in early childhood with fine, white, polygonal scales that appear "pasted-on." The scales are found primarily on the extensor surfaces of the extremities and the trunk, sparing flexures. The forehead, cheeks and scalp are frequently involved. Accentuated skin markings of the palms and soles are common features. It is associated with atopy and *keratosis pilaris*. The course is favourable, with limited findings in adulthood.

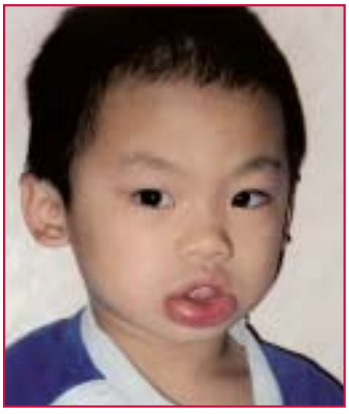
The mainstay of symptomatic management is the reduction of scaling through the continual use of lubricants and emollients. Application of keratolytic creams (containing alpha-hydroxy or lactic acid) and preparations containing urea are beneficial. The use of moisturizing cleansers and humidifiers may also be helpful.

Christina Lam, MDCM, Dermatology Resident, Université de Montréal, Montreal, Quebec.

Mark Krasny, MDCM 2006, McGill University, Montreal, Quebec.

Case 5

Peanut Problems



A three-year-old male is noted to have a swollen lower lip an hour after he had ingested some peanuts.

What do you think?

a. Dermatomyositis
b. Stevens-Johnson syndrome
c. Angioedema
d. Papular urticaria
e. Pediculosis

Answer

Angioedema (**answer c**) is characterized by diffuse subcutaneous tissue swelling with normal or erythematous skin. The lesion may be intensely pruritic or itchy, if at all. There may also be a burning or stinging sensation at the affected site. Angioedema usually affects the face, but may also involve the hands and feet. There may be associated dysnea or dysphagia. The release of histamine, leukotrienes and bradykinin from the affected cells causes vasodilatation and increased vascular permeability, which produces edema.

Type I anaphylactic, immunoglobulin E-mediated, or immediate hypersensitivity reactions to foods, inhalants and drugs are the most common mechanisms. Angioedema may also accompany type II cytotoxic reactions (transfusion reactions) and type III antigen-antibody complex reactions (serum sickness). A subset of angioedema (vibratory angioedema and exercise-induced angioedema) results from hypersensitivity to mechanical and physical factors. Hereditary angioedema is an autosomal dominant disorder characterized by the absence of a C1 inhibitor.

Angioedema is usually self-limited, but known triggers should be avoided. Pruritus can be relieved with antihistamines. Intramuscular epinephrine (1:1000), 0.01 ml/kg (maximum dose, 0.3 mL), usually affords rapid relief of acute, severe angioedema.

A short course of systemic corticosteroid should be considered for severe episodes of angioedema.

cme

Alexander K.C. Leung, MBBS, FRCPC, FRCP (UK & Irel), is a Clinical Associate Professor of Pediatrics, University of Calgary, Calgary, Alberta.