

Answer to Dermacase *continued from page 853*

4. Scabies

Scabies is a human skin infestation caused by the parasitic mite *Sarcoptes scabiei* var *hominis* burrowing into the epidermis.¹ There are an estimated 300 million people worldwide infested with scabies and the incidence has increased during the past 2 decades.^{1,2} Scabies can be transmitted directly by close contact or indirectly through fomite transmission,^{1,3} as the mite can live away from a human for up to 3 days. Family members, health care workers, and others in close contact with a patient with scabies are at greatest risk of infection.



Pathogenesis

Scabies is exceedingly host-specific, and mites from animals are not a source of human infestation. The scabies mite is 0.3 mm in diameter—too small to see with the naked eye—and cannot fly or jump. The average host carries 20 mites; however, in cases of crusted (Norwegian) scabies, as seen in some patients with low socioeconomic status or immunocompromised patients, there can be more than a million mites.¹

Clinical findings

Infestation with scabies mites is typically present for weeks before pruritus and rash develop; subsequent infestations might require only several days to manifest owing to sensitization.^{1,4} The pruritus is severe and unrelenting and, like most pruritic lesions, is worse at night. Scabies can easily be missed or misdiagnosed, and should be considered in any patient with persistent, generalized, severe pruritus.⁵ Typical sites of involvement include the interdigital webbing of the hands, and rough or wrinkled skin such as knuckles and flexural creases of the wrists, axillae, waist, ankles, feet, buttocks, and belt area. Penile and scrotal lesions are common in men; lesions around the nipples and “bra line” are common in women.

A female mite lays 1 or 2 dozen eggs in the base of her burrow before she dies; larvae hatch several days later and move to the skin surface, becoming adults in 2 weeks. The cycle continues until the mites are killed.

Burrows are threadlike, linear structures 1 to 10 mm in length, and can be difficult to find early in the infestation, or if the patient has extensively excoriated the lesions.^{1,6} The face and scalp are often affected in young children and the elderly, but rarely in adults.¹ A definitive diagnosis of scabies can be made through microscopic visualization of the scabies mites, eggs, or fecal pellets. This is accomplished by placing a drop of mineral oil over a burrow and then scraping lightly with a scalpel blade along the length of the burrow, being careful not to cause bleeding. The scrapings are then applied to a glass slide and examined under low power.^{1,6}

A dark, washable felt pen might be used to colour a small area of affected skin. After several minutes, the ink is washed off, revealing the outline of the burrow that absorbed it.

Sometimes the mite cannot be seen, but a therapeutic trial will confirm the diagnosis.²

Treatment

Treatment is aimed at killing the scabies mites with a scabicide.⁷ Permethrin (5% cream) is currently the standard topical scabicide.^{1,2,8} There have been no reported serious adverse reactions other than local irritation with permethrin cream. It should be noted that persons with *Compositae* sensitivity (ie, to asters, daisies, sunflowers) should not use permethrin. The topical preparation is applied overnight (8 to 14 hours) from the neck down with special attention to under the fingernails, the umbilicus, and the gluteal fold, and to reapplication on the hands if they are washed. In children and elderly patients, topical treatment should be applied to the face and scalp as well, while avoiding mucous membranes, but contact dermatitis caused by permethrin cream of the face is more common in the elderly.

Alternately, 1% lindane can be used, although not by patients with extensive dermatitis, pregnant or lactating women, or children younger than 2 years of age. Lindane resistance has been reported. A repeat treatment is usually not required but can be performed 1 week later if deemed necessary. In cases of severe pruritus, topical corticosteroids can be prescribed; a sedating oral antihistamine might be added at bedtime.

An important part of scabies treatment is decontamination of the patient's living environment. To reduce the potential for reinfestation during treatment by fomite transmission, carpets, chairs, and car seats should be cleaned, and clothing, stuffed animals, pillows, towels, and bed linens used within the previous week should be washed in hot water and dried on high heat, or sealed in a plastic bag for a week. All family members and close contacts should be treated simultaneously, even if they are asymptomatic. Pets do not require treatment as they do not harbour human mites.



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Competing interests

None declared

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