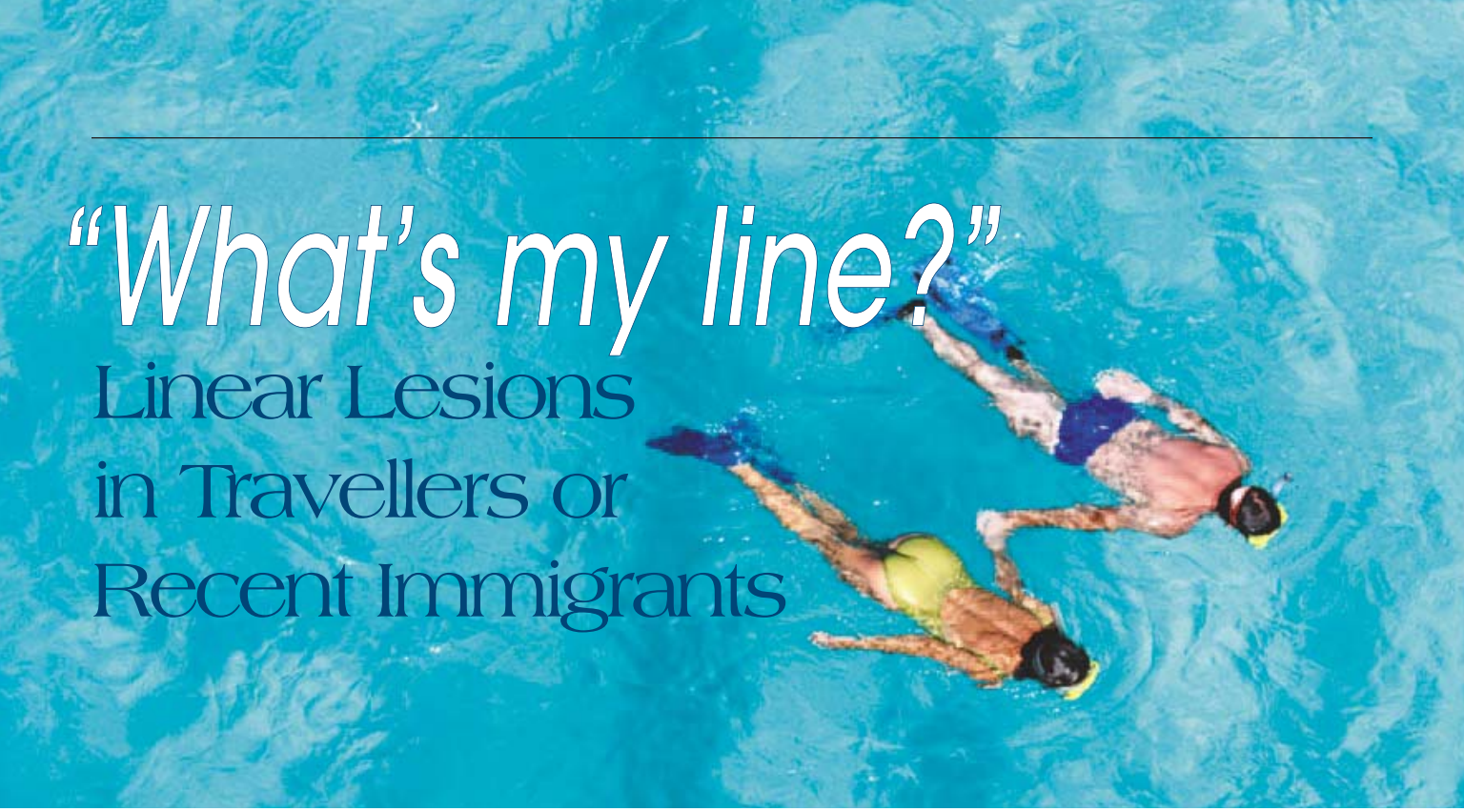


"What's my line?"
Linear Lesions in Travellers or Recent Immigrants

E.R. Lederman, MD; and J.S. Keystone, MD, FRCPC

Linear lesions in travellers or recent immigrants can be distinguished, based on a number of historical and clinical clues. The following four cases highlight various lesions and their origins.

Case #1

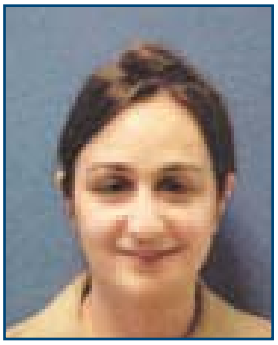
Nine months after his trip to Jamaica, this 27-year-old male presented with an intensely pruritic lesion.

The linear lesion in this case is serpentine and highly pruritic. The appearance and presentation are classic for cutaneous larva migrans (CLM), an accidental dog or cat hookworm (Ancylostoma or Uncinaria) skin infestations. Also known as "creeping eruption" or "ground itch," this lesion is the most frequent cause of skin-related, post-travel physician visits.[1]

These lesions may appear as early as one week after exposure, or they may lie dormant and appear months later, as illustrated in this patient.[2] The pruritus of this lesion is intense and may worsen at night when the larva is more active. Although foot lesions are the most common, any exposed body area may be at risk if it contacts the ground for a significant period of time. Lesions may

be complicated by a painful bullous reaction representing an exuberant immune response. These infections are self-limited, as humans are not the intended host, yet infections may persist for months, despite the parasite's inability to complete its life cycle.[3]

Treatment consists of antihistamines and albendazole, 400 mg daily for three days, or ivermectin, 200 ug/kg once (25% of patients relapse).[4,5] Both drugs are available in Canada only through the Special Access Program of the Bureau of Human Prescription Drugs, Health Canada. The clinician should not try to extract the worm surgically or use liquid nitrogen because the lesion postdates the movement of the parasite. These approaches are, therefore, futile and potentially harmful.



Dr. Lederman is lieutenant at the Naval Medical Center, Division of Infectious Diseases, San Diego, California.

Dr. Keystone is professor of medicine, University of Toronto, and staff, Centre for Travel and Tropical Medicine, University Health Network, Toronto, Ontario.

Case #2

A 30-year-old female developed the following asymptomatic lesions after a trip to Costa Rica; she indulged in tequilas on a daily basis.

This patient displays a linear lesion that is asymptomatic and hyperpigmented. Any trauma to the skin may lead to post-inflammatory hyperpigmentation, yet this patient did not recall experiencing any trauma. She did have cutaneous exposure to lime juice that will produce initially erythematous macular lesions, potentially becoming blisters, depending on the degree of sun exposure. These lesions eventually progress to hyperpigmented macules. The furocoumarins or psoralens from the lime juice will chelate

with deoxyribonucleic acid in the skin to produce photosensitivity to ultraviolet A exposure, increasing melanin and keratin production.[6] This syndrome is known as phytophotodermatitis. Other plants that may be implicated include lemons, oranges, celery, parsley, fennel and figs. Unripe plants and rinds may contain higher concentrations of photosensitizing chemicals.[6]

Exposure to the above plants or plant extracts produces lesions appearing as discontinuous lines and drops (as you would imagine juice dripping) or even handprints (initially erythematous, often with a vesicular component). Lesions may erupt from hours to days after exposure.[7] Dyspigmentation, or hyperpigmentation mixed with erythema, is common and is a good clue to the diagnosis.[8] These lesions do not require intervention and do not cause permanent scarring. Certain plants, such as parsnips, create a more exuberant phytophotodermatitis which may lead to painful blistering prior to the hyperpigmentation. Hyperpigmentation usually resolves within six months, but may persist beyond one year.[9]

These cases are treated symptomatically with cold compresses, topical steroids and non-adherent dressings. After treatment, individuals should avoid contact with the offending plant material and apply sunscreen, as these affected areas may be photosensitive for months.

Case #3

A 25-year-old female developed these painful lesions after waterskiing in the Caribbean.

This patient develops an immediate excruciatingly painful linear eruption after waterskiing in the Carribean. These lesions occur around the leg and are consistent with nematocyst/tentacle contact from a large hydroid, namely a Portuguese man-of-war. Other cnidarians, such as fire coral, sea wasps (true jellyfish) and sea anemones, may induce painful lesions upon contact. Given the tentacular, flagella-like appearance and coastal location where the patient was waterskiing, jellyfish or hydroids are the most likely culprits. Systemic complications, such as muscle spasm, emesis, weakness and arrhythmia may develop from Portuguese man-of-war contact. In rare cases, patients develop chronic symptoms, such as hyperpigmentation, erythema nodosum and delayed-type hypersensitivity, after an initial encounter with a jellyfish or hydroid.[9,10]

Therapeutic interventions include gentle lifting (or shaving) off remaining tentacles, rinsing the area with warm salt water to remove nematocysts and rinsing again with acetic acid (vinegar 3-10%) to inactivate any remaining nematocysts. For local relief and relief of muscle spasms, use topical steroids and intravenous calcium gluconate (respectively). If the affected areas have significant breakdown and/or show signs of local infection, use topical or systemic antibiotics. Toxin-containing nematocysts tend to rupture with exposure to fresh water or contact (*i.e.*, rubbing).

Case #4

A 20-year-old Vietnamese male presented to the emergency room after three weeks of fever. He had these lesions on his back.

This Asian patient presented with asymptomatic curvilinear, hyperpigmented macular lesions extending over the entire surface of his back. The patient did not complain of these lesions; doctors found them incidentally. These lesions are the result of a traditional practice known as coining, "scratching the wind" or Cao Gio which is a common anti-fever remedy. This traditional remedy is common practice in Vietnam

and South East Asia. The term "coining" describes how the lesions are created, by rubbing a salve-covered coin (*i.e.*, menthol, ginger) back and forth over the skin.

These lesions require no attention, but are signs the patient may have other constitutional complaints which merit investigation. In this case, the patient had fever secondary to tuberculosis. These lesions may also be mistaken for signs of abuse if practitioners are unfamiliar with these traditional practices.[11] Dx

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