THE DIAGNOSIS

This patient had cysticercosis, which is caused by ingestion of eggs of the tapeworm *Taenia solium*. Cysticercosis is endemic in many parts of the developing world, including South America, sub-Saharan Africa, and Southeast Asia, and is one of the leading causes of seizure disorders. After the eggs hatch in the stomach, they can travel to any organ in the body, where cysticerci then form.

Ingestion of undercooked and contaminated pork can result in acquisition of the adult tapeworm in the gastrointestinal tract, but not cysticercosis. Diagnosis of neurocysticercosis can be made on imaging by identifying a scolex (the head of the larvae within the cyst) on MRI. If a scolex is seen, that is essentially pathognomonic for neurocysticercosis. Treatment of neurocysticercosis requires the use of albendazole for several weeks, plus the initiation of systemic steroids if the burden of noncalcified cysts is high enough to present an inflammatory response.

**PEARLS**

- Cysticercosis is acquired by ingestion of *Taenia solium* eggs, not the ingestion of contaminated pork. Vegetarians can acquire cysticercosis if they eat vegetables contaminated with eggs of the tapeworm.
- Cysticercosis can be found in any part of the body, including subcutaneous tissue, muscle, eyes, bones, and brain; it is important to start systemic steroids simultaneously with antiparasitics if the burden of live cysts is high enough to present an inflammatory response.

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**CASE 4: PAINLESS CUTANEOUS LESIONS IN A WOMAN IN NICARAGUA**

By Jack Chase, MD

**THE PATIENT**

A 34-year-old woman with an unremarkable medical history presented to a National Health Ministry clinic in Nicaragua for a painless ulcer on her right leg. She lived on a farm in a temperate, rural area in the North Atlantic Autonomous Region of Nicaragua with her husband and 3 children. The patient explained that 3 weeks earlier she developed a small pink bump on her right shin. The lesion grew in diameter, and the center ulcerated. She reported frequent bug bites and thought this lesion was a “spider bite.” She did not report fever, chills, cough, abdominal pain, nausea, vomiting, diarrhea, or use of bed nets or insect repellent.

Upon arrival at the clinic, the patient’s temperature was 36.9°C, her blood pressure was 115/72 mm Hg, and her pulse was 84 beats per minute. On examination, the patient had a 4- × 5-cm ulcer on her anterior shin (see Figure 4, below). The borders were raised, indurated, and nontender with intact sensation. The ulcer was filled with nonpurulent slough. Two similar ulcers were noted overlying the posterior lower leg. The remainder of her physical examination was unremarkable.

**THE DIAGNOSIS**

This patient’s diagnosis is cutaneous leishmaniasis, a vector-borne protozoan dermatosis transmitted by sandflies. Over 2 dozen species of the genus *Leishmania* are endemic on 4 continents and cause a spectrum of disease ranging from isolated, self-limited, cutaneous ulcers (cutaneous leishmaniasis) to organ infiltration, muscle wasting, and hematologic complications with high rate of mortality if left untreated (visceral leishmaniasis). The severity and chronicity of leishmaniasis depend on species virulence factors and host immune factors. Greater parasite burden and either inadequate or overexuberant immune response result in more severe disease.

Leishmaniasis can be diagnosed clinically, and disease manifestations depend on geography. The diagnosis can be confirmed by direct visualization of parasites on tissue biopsy (gold standard) or by antibody enzyme-linked immunosorbent assay.