

ID Snapshot

What's the Dx? Girl with hypopigmented macule, contact with armadillos

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A 10-year-old girl presents to a clinic in Louisiana with a solitary, hypopigmented macule on her left shoulder, similar to that shown in the photograph. The lesion has not responded to topical corticosteroid therapy. The lesion is not painful and lacks sensation to heat or touch. She is afebrile and otherwise well. One notable feature in her history is contact with armadillos.

The most likely diagnosis is:

- sarcoid
- systemic lupus
- Hansen's disease (leprosy)
- pityriasis versicolor
- vitiligo

Answer: c. Hansen's disease

Hansen's disease is a chronic granulomatous infection caused by *Mycobacterium leprae*. It is seldom lethal but causes extensive morbidity through its effects on the skin, peripheral nerves and upper



Photo courtesy of the Centers for Disease Control and Prevention

A patient has a hypopigmented lesion that lacks sensation to heat or touch and has not responded to topical corticosteroids.

airways. Ninety-five percent of the world's population is not susceptible to infection with *M. leprae* because they lack genes associated with susceptibility.

Most cases of leprosy in this country are reported in native-born U.S. citizens in Texas and Louisiana and among immigrants in California, Florida, New York and Massachusetts. Approximately 200 new cases a year are reported in the United States. The disease remains endemic in tropical regions of the world, with 90% of cases occurring in Brazil, India, Madagascar, the Marshall Islands, Micronesia, Mozambique, Nepal and Tanzania.

Leprosy was thought to spread only between humans via nasal secretions from a patient with untreated infection. A recent report strongly supports the possibility of transmission from armadillos, the only known non-human host of *M. leprae*. Genetic similarity has been demonstrated between *M. leprae* isolates from armadillos and from U.S.-born Americans who have never traveled to endemic areas (Truman RW, et al. *N Engl J Med.* 2011;364:1626-1633).

Patients with Hansen's disease are classified as having a spectrum of disease ranging from paucibacillary disease, which is a milder illness characterized by hypopigmented macules (tuberculoid), to multibacillary disease, which is associated with symmetric skin lesions, nodules, plaques, thickened dermis and frequent involvement of the nose (lepromatous). The clinical forms of leprosy reflect the cellular immune response to *M. leprae* and the organism's tropism for peripheral nerves.

No serologic tests are available, and diagnosis generally is made by histopathologic examination of a skin biopsy. Diagnosis of leprosy in the United States often is delayed because of lack of familiarity with the disease. The possibility of leprosy should be considered in any patient with hypoesthetic or anesthetic skin rash.

Leprosy is a readily treatable disease. Sequelae can be avoided by



The patient's history indicates she had contact with armadillos. Pictured is a *dasypus novemcinctus*, a nine-banded armadillo.

early recognition and appropriate therapy, which may include rifampin, clofazimine and dapsone for up to two years. Infectivity ceases within 24 hours of multidrug therapy.

“Leprosy was brought to the New World during colonial times, and armadillos must have acquired the infection from humans,” according to Richard W. Truman, Ph.D., an authority on leprosy at Louisiana State University School of Veterinary Medicine. “Fortunately, the disease is not easily retransmitted from the animals.”

Sarcoidosis may present with areas of hypopigmentation, usually in association with pulmonary findings. However, these causes of hypopigmentation are unlikely to be associated with decreased sensation.

Systemic lupus erythematosus may present with erythema usually in a malar distribution.

Pityriasis versicolor is a fungal infection of the skin (caused by *Malassezia furfur* in tropical countries or *M. globosa* in northern countries), resulting in areas of hypopigmentation.

Vitiligo is thought to be an autoimmune process that results in destruction of melanocytes and areas of hypopigmentation.



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