

## Short Report

### Atypical cutaneous leishmaniasis in a semiarid region of north-west Costa Rica

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An outbreak of an unusual cutaneous disease was observed during 1986–1987 in about 200 persons, mainly children, in a few neighbourhoods of the town of Liberia, Guanacaste Province, north-west Costa Rica. Most of the cases were from Nazareth, a neighbourhood, developed in 1978, with about 1200 persons, at least 5% of whom are Nicaraguan immigrants. Scattered cases have been recognized since 1976 and at that time the disease was identified as nodular infantile tuberculoid leprosy. The area, 150 m above sea level and with a mean temperature of about 27°C, is characterized by a prolonged dry season (from November to June), scarce vegetation, and gravelly, dusty soil.



Figure. Typical nodules on the cheek and ear of a boy, produced by *Leishmania infantum*.

The lesions were either small round nodules 2–10 mm in diameter (Figure) on the face, arms, legs and back, with no tendency to ulcerate, or small papules or erythematous plaques, tending to be chronic but, in some cases, apparently healing spontaneously. The Montenegro skin test was done on 39 patients with suspected lesions, and was positive in 28 (71.8%); among 22 control persons with no history of lesions, 5 (22.7%) were positive. We were able to isolate a *Leishmania* parasite in cultures from 4 patients of 43 examined; a few amastigotes were seen in direct smears from 2 of these 4 patients. The flagellates proved difficult to grow in Senekjje's medium (TOBIE & REES, 1948), but 2 successful transfers were obtained when we added Schneider's medium to the liquid phase. Six hamsters were inoculated in the nose and feet with material directly

from patients or from cultures, but they did not develop lesions. We captured sandflies close to houses, with human and animal baits and with CDC light traps. A search for insects in 30 latrines, a few metres from the corresponding houses, revealed sandflies in 29. The most common species was *Lutzomyia longipalpis*, but *Lu. evansi*, also anthrophilic, and *Lu. cayennensis* and *Lu. chipanensis*, both animal feeders, were also found. Attempts to isolate flagellates in culture by dissection of 94 females of *Lu. longipalpis* failed. Patients responded well to treatment with glucantime, either systemically or intralesionally. One strain (L-09) sent to the Instituto Oswaldo Cruz in Brazil was identified by zymodeme characterization (in the laboratory of Dr H. Momen) as *L. infantum*.

We believe this disease is a cutaneous form of visceral leishmaniasis of the Mediterranean type, due to *L. infantum*, which entered northern Costa Rica probably with immigrants from Nicaragua and/or Honduras. No visceral case has ever been observed in Costa Rica, and none was detected in the present outbreak.

PONCE *et al.* (1988) have reported similar clinical cases observed in Honduras, on Tigre Island, a well-known focus of visceral leishmaniasis; the parasite they isolated from cutaneous lesions was identified as *L. donovani chagasi*. This *Leishmania* and *L. infantum* are probably the same parasite (MOMEN *et al.*, 1987); it has also been shown to be dermatotropic in Brazil, where an ulcerative lesion was described (OLIVEIRA NETO *et al.*, 1986). Furthermore, *L. infantum* is responsible for about 70% of cutaneous leishmaniasis cases in Italy (GRAMICCIA & GRADONI, 1989), and in the eastern part of that country it may cause only cutaneous lesions (BRAY, 1985). This evidence supports the idea that *L. infantum* has been introduced from Europe to the New World.

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