Concurrent infection with Leishmania donovani and Leishmania major in a Kenyan patient: clinical description and parasite characterization.

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Leishmania isolates aspirated a few months apart from the spleen of an indigenous adult male kala-azar patient from Baringo District, Kenya, were biochemically characterized and compared. The patient lived within a dual focus of L. donovani kalaazar and L. major cutaneous leishmaniasis. A primary Leishmania isolate from splenic aspirates was cryopreserved (NLB-294). The patient was treated with sodium stibogluconate for kala-azar and discharged. Three months later, he had clinical relapse and returned for retreatment. During his second visit, the patient participated in a diagnostic study in which urine and nasopharyngeal samples were cultured for leishmaniasis. Urine, nasopharyngeal, and splenic samples were positive for Leishmania. Secondary isolates from splenic (NLB-294-I) and urine (NLB-318) cultures were cryopreserved and characterized by cellulose acetate electrophoresis (CAE) using 20 enzymes. Whereas the urine isolate was typed as L. donovani, the splenic aspirate culture revealed a mixed infection with L. donovani and L. major. The primary isolate (NLB-294) was then characterized and also showed a mixed infection. To exclude the possibility of
protein post-translational modifications in electrophoretic assays, the primary and secondary isolates were grown and processed under identical cultural and lysis conditions, and compared using CAE. The results were identical to the first electrophoretic assays showing mixed promastigote banding patterns.

Stationary-phase promastigotes of the secondary splenic isolate (NLB-294-I) inoculated subcutaneously, intraperitoneally, and intracardially into Syrian hamsters and BALB/c mice produced both kala-azar and cutaneous leishmaniasis within 6.5 months. (ABSTRACT TRUNCATED AT 250 WORDS)

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