Use of FTA Cards for Direct Sampling of Patients’ Lesions in the Ecological Study of Cutaneous Leishmaniasis


Abstract:

The FTA card (Whatman) was assessed for its utility as a molecular epidemiological tool in collecting samples from patients with leishmaniasis in Peru because the card has a variety of merits; it is less invasive for patients and easy to handle for both physicians and other medical personnel for sample collection or diagnosis, in addition to its simplicity and easy countrywide and/or intercountry transportation for analysis. Samples were collected from 132 patients suspected of having leishmaniasis, and Leishmania species were successfully identified in samples from 81 patients in 15 departments of Peru by cytochrome b and mannose phosphate isomerase gene analyses. Of these, 61.7% were identified as Leishmania (Viannia) peruviana, 22.2% as L. (V.) braziliensis, 12.3% as L. (V.) guyanensis, 2.5% as L. (V.) shawi, and 1.2% as L. (V.) lainsoni. The three predominant species, L. (V.) peruviana, L. (V.) braziliensis, and L. (V.) guyanensis, were mainly found in the Andean highlands, in the tropical rainforest, and in northern and central rainforest regions, respectively. This is the first time L. (V.) shawi has been identified outside Brazil. The present study showed that the FTA card will be a useful tool for the ecological study of different forms of leishmaniasis. Furthermore, collecting samples directly from patients’ lesions by using the FTA card eliminates (i) the possibility of contamination of Leishmania isolates during short- and/or long-term passages of culture in vitro in each laboratory and (ii) pain and suffering of patients from taking samples by skin biopsy.

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