Diagnosis of Leishmania

To the Editor.—In the recent excellent report of mucosal leishmaniasis in Iran by Daneshbod et al.1 the authors correctly note that the diagnostic kinetoplast of tissue amastigotes are rarely identifiable in histologic sections. That is true also for the trypanosomal amastigotes of Chagas disease, which are identical in appearance except that unlike Leishmania they have no predilection for histiocytes. This is demonstrated in the following case of Chagas disease, in which the kinetoplast is clearly seen and differential diagnosis relies on clinical presentation and location of the parasite.

The patient, a 56-year-old woman of Bolivian origin, now in New York, underwent heart transplantation for intractable heart failure. The parasite found within the optimally fixed explanted heart is rarely seen in autopsy specimens but was demonstrated here in exquisite detail. Histologic examination of the explanted heart otherwise showed the usual severe chronic myocarditis characteristic of this disease (Figure, 1A), most extensively involving the left ventricle.

The kinetoplast, seen in the parasite in Figure 1B, distinguishes Trypanosoma cruzi from both Toxoplasma and Histoplasma, which lack a kinetoplast, but not from Leishmania, which does have this structure but usually concentrates in the phagocytic cells, an uncommon site for Trypanosoma cruzi. Leishmania is transmitted by the sand fly; Chagas disease is transmitted by adult reduviid bugs that ingest trypanomastigotes while taking blood meals from infected animals, and are then ingested or contaminate mucus membranes, conjunctiva, or abraded skin with fecal material.

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