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**Phylogenetic position of *Leishmania* isolates from Khyber Pakhtunkhwa province of Pakistan**

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**Abstract**

Several species of the genus *Leishmania* are causative agents of cutaneous leishmaniasis in Pakistan. This study aimed to determine phylogenetic placement of *Leishmania* species causing cutaneous leishmaniasis in Khyber Pakhtunkhwa province, Pakistan (34 *L. tropica,* 3 *L. infantum*), in-relation to species from other geographical areas using gene sequences encoding cytochrome b and internal transcribed spacer 2. Based on cytochrome bsequence analysis, *L. tropica* strains from Pakistan and other geographical regions were differentiated into two broad groupings, A and B. Within the province, five distinct *L. tropica* genotypes were recognized, two in Group A, three in Group B). Two *L. infantum* isolates from KP were closely associated with both Afro-Eurasian and American genotypes of the *L. donovani* complex, including *L. chagasi*, *L. infantum* and *L. donovani* from Sudan and Ethiopia; while a third *L. infantum* isolate could not be differentiated from visceralizing Kenyan and Indian *L. donovani*. We observed apposite phylogenetic placement of CL-causing *L. tropica* and *L. infantum* from Khyber Pakhtunkhwa. Affinities ascribed to *Leishmania* spp. from the region are valuable in tracing cross-border movement of leishmnaiasis.

**Key words:**

*Leishmania*, Cytochrome b (*cytb*), Internal Transcribed spacer 2 (*its2*), Khyber Pakhtunkhwa (KP)