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Poster Session II

Leishmania and Trypanosoma

LEISHMANIASIS IN TURKEY: EMERGING LEISHMANIA MAJOR INFECTIONS IN ANATOLIA

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Objective: Today, more than 12 million people from 98 countries are diagnosed as leishmaniasis while 2 million are infected annually, with three-fourth develop cutaneous (CL) infection. In Turkey, CL cases caused by *L. infantum* or *L. tropica* but not by *L. major*, which mostly causes severe cutaneous infections accompanied by secondary bacterial or fungal infections, have already been reported. Our aim is to report 16 new CL cases due to *L. major* - 13 autochthonous and 3 imported – identified in eastern, southern and southeastern Anatolia recently and discuss the current situation of the disease in Turkey.

Methods: Among the patients admitted to Department of Parasitology in Celal Bayar University Medical School, lesion aspiration samples taken from 13 autochthonous cases living in Antalya (n=4), Adana (n=3), Mardin (n=2), Diyarbakir (n=2), Bitlis (n=1) and Hatay (n=1) provinces and three imported cases from Iran, Iraq and Syria, respectively, were inoculated into NNN medium. Following successful isolation in NNN, the promastigotes were transferred to RPMI medium including 20% of Fetal Calf Serum (FCS) for mass culture. One *Leishmania* isolate was injected into the footpads of 6 hamsters to establish an animal model. Hamsters were physically examined once a week for 3 months. To identify the parasites in species level, a real-time ITS-1 PCR assay was performed both with the clinical material and the promastigotes obtained from culture. Melting curve analyses of real-time PCR using primers and probes designed for the ITS-1 region of *Leishmania spp.* were conducted. Two autochthonous isolates were then sent to the Leishmaniasis Reference Center of WHO in Montpellier (France), to confirm the results of isoenzyme analyses.

Results: Active and acute lesions were developed in 7-10 day old hamsters, which were evaluated as very short and heavy. Irreversible impairments were observed on hamster skins in time, leading to total amputation of the extremity. The melting curve analyses of ITS-1 PCR showed a peak concordant with *Leishmania major*. Two samples were sent to WHO Leishmaniasis Reference Center in Montpellier (France) for isoenzyme analysis and both of them were found to be *L. major* MON-103.

Conclusion: This is the first time that CL caused by *L. major* is diagnosed in Turkey and it is estimated that the number of such cases will rise in eastern Anatolia. *L. major* may cause a more severe infection in patients and its treatment is harder than *L. tropica*. Public health measures should include *L. major* infections while researchers plan field studies to identify the vectors and reservoirs of *L. major*. Our study is currently conducted. *This project is supported by TUBITAK (Project No: 111S179) and Celal Bayar University (Projects No: CBU BAP 2013-02 and CBU BAP 2013-03).*