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Paper Poster Session

Clinical parasitology and epidemiology

Molecular epidemiology of autochthonous cases of cutaneous Leishmaniasis in Turkey - figures are on the rise lately

Ahmet Özbilgin¹, Fulya Okudan², Suhan Günasti Topal³, Soner Uzun⁴, Mehmet Harman⁵, Hatice Ertabaklar⁶, Cumhuri Gündüz⁷, Ipek Östan⁸, Özgür Kurt⁹, Sema Ertug⁶, Aysegül Erat⁴, Dilek Güngör¹⁰, Cagla Kayabasi⁸, Ibrahim Cavus¹, Yusuf Ozbel¹¹

¹*Celal Bayar University Medical Faculty, Parasitology, Manisa, Turkey*

²*Alanya State Hospital, , Department of Dermatology, Antalya, Turkey*

³*Cukurova University Medical School, Department of Dermatology, Adana, Turkey*

⁴*Akdeniz University Medical Faculty, Dermatology, Antalya, Turkey*

⁵*Dicle University Medical School, Dermatology, Diyarbakir, Turkey*

⁶*Adnan Menderes, Faculty Of Medicine, Parasitology, Aydin, Turkey*

⁷*Ege University Medical Faculty, Medical Biology, Izmir, Turkey*

⁸*Celal Bayar University, Vocational School of Health Sciences, Manisa, Turkey*

⁹*Faculty of Medicine, Department of Medical Microbiology, Kerem Aydinlar Kampüsü İçerenköy Mah. , Istanbul, Turkey*

¹⁰*Cukurova University Medical School, Dermatology, Adana, Turkey*

¹¹*Ege University Medical School, Department of Parasitology, Izmir, Turkey*

Background: Turkey has been an endemic site for cutaneous leishmaniasis (CL), mostly due to its subtropical climate that facilitates the survival of its vectors, the sand flies (*Phlebotomus sp.*). Almost 15,000 CL cases have been reported in Turkey in 7 years, between 2005 and 2012. However, emerging factors such as the fled of more than 3 million of Syrian citizens due to the ongoing civil war in Syria, where the incidence of CL was more than 58,000 in 2011; increase in the number of foci of CL cases caused by different *Leishmania* species and maybe the effects of global warming that extend the survival time of the sand flies, have all contributed to the elevation of CL incidence in Turkey. Here, we aim to present the latest data concerning our series of 304 autochthonous CL cases in Turkey, with information on molecular epidemiology of cases including *Leishmania* species and patient details.

Material/methods: Patients with one or more delicate skin lesions have been admitted to hospitals in different provinces in Turkey. CL diagnosis relied initially on the clinical manifestation, followed by microscopic examination of Giemsa-stained lesion samples and cultivated lesion sample in NNN medium. Real time PCR targeting ITS-1 region of *Leishmania spp.* was done. Isoenzyme analysis was used to confirm any hybrid *Leishmania* species.

Results: A total of 304 CL cases were identified in different provinces in Turkey (Figure 1). Male patients were slightly more than females (164 vs. 140), and the leading lesion site was the face (n=201; 66.1%). Number of lesions on the patients were mostly one or two (n=270 in total; 88.9%). RT-PCT results indicated *L. tropica* (n=231; 76.0%), *L. major* (n=39; 12.8%), *L. infantum* (n=27; 8.9%) and *L. donovani* (6; 2.0%), *L. infantum*/*L. donovani* hybrid (1; 0.3%).

Conclusions: Contrary to previous assumption that only *L. tropica* and *L. infantum* cause leishmaniasis in Turkey, it is now well documented that *L. major* and *L. donovani* are also the causative agents of autochthonous leishmaniasis cases in Turkey. Indeed, the presence of *L. donovani* and *L. major* may be seen as the signs of elevation of autochthonous visceral leishmaniasis cases in coming years. Since all presented cases were local people, with no history of recent visits to endemic neighbouring countries, measures should urgently be implemented to prevent the transmission of leishmaniasis within the country, together with large-scale projects that will reveal the reservoirs and vectors of leishmaniasis in Turkey [Samples are kept as cryopreserved in Parasite Bank of Celal Bayar University in Manisa, Turkey. This study was supported by the Department of Scientific Research Projects of Celal Bayar University (Projects No: 2013-002; 2013-003 and 2014-022)].



Figure 1. The sites of origins of autochthonous CL cases in Turkey