

O510

Abstract (oral session)

**Leishmaniasis in Turkey: are there hybrid Leishmania strains in Turkey?**

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**Objective:** In Turkey, visceral leishmaniasis (VL) caused by *Leishmania infantum*, and cutaneous leishmaniasis (CL) caused by *L. tropica* and *L. infantum* have been recorded. The occurrence of gene flow and recombination is increasingly reported and several interspecies hybrids have been described in *Leishmania* spp, but none from Turkey before. Here, we examined the tissue tropisms and clinical manifestations of *Leishmania* isolates from Turkey in a murine model. **Methods:** Ten *Leishmania* isolates, five from Sanliurfa province located in southeastern Anatolia and highly endemic for CL caused by *L. tropica* and five from Hatay province located in eastern Mediterranean region and endemic for CL caused by *L. infantum* and *L. tropica*, were used in the study. Promastigotes from each isolate were obtained by mass culture using RPMI+20%FCS medium and  $10^7$ /ml stationary phase promastigotes were injected into 12 BALB/c mice subcutaneously (footpad; n=6) and intravenously (tail vein; n=6). Mice infected subcutaneously were examined every week for 6 months while amastigotes and promastigotes were sought in Giemsa-stained smears and NNN culture, respectively. Mice infected intravenously were sacrificed after 30 days, and amastigotes and promastigotes were sought in Giemsa-stained smears of spleens and livers and NNN culture, respectively. A real-time PCR using primers and probes for the ITS-1 region of *Leishmania* spp. and their melting curve analyses were performed. **Results:** Amastigotes and promastigotes were recovered from all mice in the study. Five CL isolates from Sanliurfa caused only cutaneous lesions on the mice, while the isolates from Hatay were identified both in liver and spleens and culture, and showed visceral symptoms such as lymph node swelling, hair loss, pustular skin lesions, anorexia and weight loss. All isolates from Sanliurfa and three isolates from Hatay were found as *L. tropica* by PCR. However, two isolates from Hatay gave two peaks in melting curve analysis, which showed the presence of both *L. tropica* and *L. infantum*. **Conclusion:** These findings have epidemiological importance and demonstrated either the considerable heterogeneity in *Leishmania* strains in endemic Hatay province, or the potential presence of hybrid *Leishmania* strains that show dermo/viscerotropism in murine model. Further studies using microsatellite analyses (MLMT) are conducted to unveil the situation in Turkey. This project is financially supported by TUBITAK (Project no:111S179).