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Leishmaniasis

Leishmaniasis in southern Spain: changes over the past two decades and risk factors

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Southern Spain is a good area for studying changes in the prevalence of canine leishmaniasis (CanL) in a changing environment, because long-term quality data on leishmaniasis caused by *Leishmania infantum* and its sandfly vector sare available.
We conducted a cross-sectional seroprevalence study and a survey from April to June 2006, in order to examine prevalence changes and risk factors for CanL. We then compared current CanL seroprevalence data with data from two cross-sectional surveys conducted in 1984 and 1991 (J. Martín-Sánchez et al., 2009, *Emerging Infectious Diseases* 15, 795-8). The villages sampled for all 3 studies were similar and had been selected at random from within each of three bioclimatic zones: thermo-, meso- and supra-Mediterranean.
Sandfly sampling was undertaken at 7 sites on a monthly basis (from April to October) in 2005, in order to investigate changes in vector density. Sandflies were captured using sticky traps which were left at the capture sites for one week. The sandfly densities were compared with data obtained in 1978 at the same locations. The density variations were then compared with the temperature variations recorded over these years.
We constructed a risk map for exposure to *P. perniciosus* that could be used in leishmaniasis control programmes. For this, sandflies were captured in the month of July with sticky-paper traps which were placed in 170 sandfly resting sites for a period of 4 days. From each sampling site, geographical, environmental and ecological data were assembled using a GIS and notes taken in situ using a PDA (independent variables). We carried out uni- and multivariate logistic regression studies with all the independent variables to model the presence/absence of *P. perniciosus* as our dependent variable.
Findings: Over the past 22 years, CanL seroprevalence has progressively increased at the meso-Mediterranean zone. CanL risk was highest for dogs that were older (>4 years), larger (>25 Kg), worked as guard dogs or sheepdogs, slept outside, and lived in a village where the *P. perniciosus* density was > 4 sandflies/m^2. Over the past 25 years, the densities of *P. perniciosus* and *P. ariasi* have remained constant in the thermo-Mediterranean zone and have fallen in the meso-Mediterranean zone. If the monthly results were examined, however, *P. perniciosus-P. ariasi* density was found to increase in the month of May in the meso-Mediterranean zone and in September in the thermo-Mediterranean zone. The average monthly temperature variation was negatively associated with the variation in density, with the bioclimatic zone having an influence ($p < 0.05$). The main vector in the area, *P. perniciosus*, had increased its activity period at some trap sites, while the season of activity of *P. ariasi* ended earlier at some trap sites.
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Potential role of *Phlebotomus halepensis* in the transmission of cutaneous leishmaniasis: faunistic studies in two endemic sites in Turkey

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Both human cutaneous leishmaniasis (CL) and human visceral leishmaniasis (VL) are prevalent in Turkey. The studies on the sandfly vectors have been carried out in different endemic provinces in the Aegean, Mediterranean, Marmara, East, Middle East and Southeast Anatolia regions, revealing a total of 21 different *Phlebotomus* species and 4 *Sergentomyia* species. *Leishmania tropica* was found to be the causative agent of CL, and *P. sergenti* its vector, in the hyper endemic areas located in the Southeast and East Mediterranean