

Epidemiology and surveillance of leishmaniasis in Southwestern Europe -Portugal

výzkumné týmy

Zoonotic visceral leishmaniasis (VL), caused by *Leishmania infantum* and transmitted by the bite of phlebotomine sandflies, is a serious public health and veterinary medical problem in the Mediterranean countries, where about seven million dogs can be exposed to infection with the protozoan (Hommel *et al.*, 1995). Seroprevalence studies in Portugal, Spain, France and Italy have estimated that about 2.5 million dogs are infected (Baneth, 2006). Dogs are considered the major host for these parasites, and the main reservoir for human visceral infection. The increase and spread of the infection can be caused by several risk factors such as human-made environmental and climatic changes. The association between global climate change and the spread of vector-borne and other infectious agents in Europe has been under focus, but European endemic leishmaniasis is still a neglected disease (Dujardin *et al.*, 2008). Taking into account that dogs never achieve parasitological cure associated with the lack of European policy concerning the common use of the few available anti-*Leishmania* drugs for both canine and human treatment, the emergence of resistant parasites might occur in the near future. Human and canine cases have been known in Portugal since 1910 (Alvares, 1910; Alvares and Silva, 1911). Although human visceral leishmaniasis notification has been compulsory since the 50's, it is still underreported. Whilst between 2000 and 2005, 76 cases of autochthonous visceral leishmaniasis were officially reported (Direcção Geral de Saúde, 2008: www.dgs.pt), 127 cases (+67%) were observed in the Leishmaniasis Unit - Institute of Tropical Medicine and Hygiene of Lisboa - a reference laboratory for the diagnosis of human leishmaniasis. In addition, canine leishmaniasis (CanL) has increased in the last two decades; a seroprevalence of up to 20% has been found in some foci (Cardoso *et al.*, 2004; Cortes *et al.*, 2007). In this last study infection prevalence in an urban/periurban area in domestic and stray dogs was 18.41 % and 21.65 %, respectively. Although no statistical differences were observed between the two groups, stray dogs are more susceptible to infection and an easier target for sandflies thus making leishmaniasis control much more difficult in this animal group. Recently, in an inquest by Neves *et al.* (2007) with 88 veterinarian clinics enrolled throughout the country, almost 50% of the 1480 dogs' owners who answered the questioner had not heard about CanL before, showing the general lack of knowledge about the disease.

The Portuguese National Leishmaniasis Observatory (ONLeish - Observatório Nacional das Leishmanioses; www.onleish.org) was created in September 2008 as an answer to the lack of general knowledge and of public health surveillance, by a group of veterinarians and researchers that includes the authors. The main objectives are to implement epidemiological surveillance of CanL and to develop a closer relationship between health professionals, medical physicians, veterinarians and researchers. To achieve these goals, canine surveys will be conducted in risk areas and results disseminated to medical and veterinary official entities. The first workshop about CanL diagnostics occurred at the end of November 2008 with a group of clinical veterinarians. Deliverable guidelines of “gold” CanL diagnosis were established to achieve an early and efficacious detection of infected animals in order to treat and control the spread of the disease. In January 2009, about 3000 dogs from the whole country will be screened for the presence of *Leishmania* antibodies. A further objective of ONLeish is to generate knowledge, tools and education packages in order to alert the general public about this endemic zoonotic disease.

The development of any epidemiological network will help the knowledge of leishmaniasis and will promote opportunities to advise health authorities about the most effective measures for prevention and control of this parasitosis. Leishrisk (www.leishrisk.org) is the best example of an international network that has as general objectives to network the EU-funded networks active in leishmaniasis and the dissemination of their findings relevant for improved surveillance and control of leishmaniasis at worldwide scale. These networking initiatives and, more importantly their integration, will hopefully contribute towards a significant reduction of the burden of human and canine visceral leishmaniasis.

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