GENETIC SUSCEPTIBILITY TO INTRACELLULAR PATHOGENS

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Human infection with species of intracellular pathogens as *Leishmania* genus and *Mycobacterium leprae* can cause a wide range of disease manifestations ranging from asymptomatic infection to clinical diseases, which can be severe and even fatal if not treated adequately. In Brazil, *Leishmania braziliensis* is the most frequent species causing cutaneous leishmaniasis (CL) and its more severe form mucosal leishmaniasis (ML), whereas *Leishmania chagasi* is responsible for visceral leishmaniasis (VL). We have worked in the perimetropolitan area of Natal, Rio Grande do Norte, where VL caused by *L. chagasi* has been endemic since the 1990's. We have shown that the outcome *L. chagasi* infections can include self-resolution or evolve into clinical disease. Our studies have shown that VL patients have a biased immune response to parasite antigens manifested by high IL-10 and low IFN-γ. The clinical outcome of *Mycobacterium leprae* in humans is also dependent on the type of the immune response mounted by the host. We showed that there is familial aggregation of *L. chagasi* and M. leprae in Rio Grande do Norte, which was not totally explained by environmental factors. In this presentation, we will be discussing the strategy for conducting genetic studies of complex diseases as leishmaniasis and leprosy in Rio Grande do Norte.

Key words. Leishmania, Mycobacterium lepra, aggregation, susceptibility

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