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Experimental neurocysticercosis: Immunopathological studies

Neurocysticercosis is the most severe disease of the central nervous system caused by a parasite due to its clinical features that may lead to death and to the difficulty in diagnosis and treatment. Therefore experimental models that help the understanding of the pathological aspects of the host parasite relationship are of utmost importance. Our research group has developed an experimental model of neurocysticercosis with *Taenia crassiceps* cysticerci, ORF strain, in mice. The inoculation of the parasite is stereotactically performed within the ventricles through a hole made in the skull of different lineages of mice, BALB/c and C57BL/6. At the early phase of the infection there was a predominance of polymorphonuclear cells in the inflammatory infiltration which was gradually substituted by mononuclear cells. There was an increase of IL-4 during the experimental infection. IL-10 and IFN-gamma concentrations were higher at the initial phases of the infection. IL-17 was detected uniformly throughout the experiment. Therefore there was a mixed Th1/Th17 immune response through systemic cytokines dosage at the acute phase of the infection, at a late phase of the infection there was a predominance of a Th2 immune profile and mononuclear cells infiltration surrounding the parasite. The location of the cysticerci may lead to ventriculomegaly and ependymitis. BALB/c mice presented inflammatory lesions with greater intensity, inducing necrosis on late stage parasites and with an acute inflammation pattern, while C57BL/6 mice showed greater capability on provoking early necrosis in the cysticerci which showed a chronic inflammation pattern.

Biography

Marina Clare Vinaud has completed her PhD at the Federal University of Goias, Brazil. She is a Professor and Researcher at the Tropical Pathology and Public Health Institute of the Federal University of Goias, Member of the Brazilian Society of Parasitology and Associate Editor of the *Revista de Patologia Tropical (Tropical Pathology Journal)*. She has published more than 30 papers in reputed journals.

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