Dendritic cells pulsed with live *Mycobacterium leprae* are not efficient inducers for primed T cell proliferation

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Leprosy is an ancient spectral disease caused by infection with obligate intracellular and nom cultivable *Mycobacterium leprae* (ML). The disease still provokes more than 200.000 new cases per year around the world and targets mainly skin and peripheral nerves resulting in deformities and stigma. Spectral pathology and severity of the disease are related with the host´s immunity involving the interaction of dendritic cells (DCs) with ML primed T cells. An essential point is to explore whether viable ML is an efficient agent for maturing DC to activate T cells. In the present study, we stimulated monocyte derived-dendritic cells (MO-DCs) from healthy controls with ML, freshly harvested from nude mouse footpad in the range of doses of 10 and 20 bacilli per one MO-DC. In parallel, MO-DCs were also stimulated with standard maturation cocktail (IL-6, IL-1β, TNF and prostaglandin E2) for 48 hours. The stimulated MO-DCs were then co-cultured with autologous T cells for 5 days and cell proliferation was estimated using a colorimetric assay (MTT). MO-DCs pre-stimulated with ML showed weaker inducer for T cell proliferation independent of number of bacilli per MO-DC as compared to those classically matured with standard cytokine cocktail, but similar to that induced by immature MO-DCs. Our results suggest that live ML is a weak agent for maturation of MO-DCs for effective T cell activation to constrain the bacterial dissemination. Such phenomenon may be regarded to be contributive for persistence of ML in the host**.**.

Key-words: Live *Mycobacterium leprae*, Dendritic Cell, T cell proliferation

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