

The effect of new leishmania vaccine against Th1, Th2 as well as increasing of spleen white pulp size in Balb /c mice after repeated exposure

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Introduction: Human leishmaniasis is distributed worldwide, but mainly in the tropics and subtropics, with a prevalence of 12 million cases and an approximately incidence of 0.5 million cases of VL and 1.5 million cases of cutaneous leishmaniasis (CL). Leishmania parasites are vector-born protozoan pathogens found in tropical and subtropical regions of both the old and new world. The disease in human can be divided into cutaneous, visceral, and mucosal syndromes. The aim of this study was more experiments over our previous new formulation modify leishmania major antigen that had satisfactory results, before.

Material and Method: In this study we have made preliminarily new vaccine with the same methodology again and selected two injection doses (100 & 200 µg/0.1ml), three injection groups: Leishmania plus BCG (LB), Leishmania plus new adjuvant (Teucrium Polium)[LT], leishmania plus BCG and Teucrium Polium (LBT), and one susceptible mice (Balb/c) and measure two type cytokines: Th1 (IFN- γ, IL-12) and Th2 (IL-4, IL-10) and expansion of white pulp size after challenge with live leishmania.

Results: Results show that both doses over LBT group have highest IL-12, lowest IL-10 and highest increasing in spleen's white pulp size, whether; other groups have lower IL-12, higher IL-10 and lowest increased size in spleen's white pulp in susceptible mice. Correlation to IL-12 and IL-10, IFN- γ and IL-4 against to spleen's white pulp expansion is significant

Conclusion: Our study show that in Balb/c mice, best injection group that produced highest IL-12 and lowest IL-10 which have significant differences, is LBT group, and adjuvants BCG both Teucrium which have synergic effect with together. And also, higher spleen's white pulp size increasing was seen in LBT group.

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