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Acta Medica Iranica

2009;47(4) : 168-173

Live logarithmic phase Promastigotes of *Leishmania major* induced high level of INF- γ but lower level of IL-10 in whole blood culture of healthy individuals

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Abstract:

Stage-specific developmental forms of *Leishmania major* promastigotes were grown in vitro. Procyclic and metacyclic promastigotes were cultured and separated by peanut agglutinin. The axenic amastigote form were prepared by culturing the promastigotes in acidic medium at 35C. These three forms of parasites were used as antigens to study cytokine production in whole blood culture of healthy individuals (no= 13) and early IFN- γ and IL-10 production were determined by specific sandwich ELISA. The results showed that logarithmic promastigotes were more potent to induce IFN- γ production than metacyclic and axenic amastigotes parasites. In contrast, IL-10 production was significantly higher in supernatants of cells stimulated by the two infective forms. In addition, the adjuvant effect of BCG on cytokine production induced by these three types of promastigotes was studied. BCG showed augmenting effect on cytokine production, however there were still differences between logarithmic and the two other forms since logarithmic parasites still induced higher amount of IFN- γ and lower amount of IL-10. These results demonstrated that logarithmic promastigotes of *L. major* are more potent to induce T helper 1 response which might have implication in vaccine preparation.

Keywords:

Human . Logarithmic . Metacyclic . Axenic amastigotes

TUMS ID: 1212

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