Immunotherapy with Imiquimod Increases the Efficacy of Glucantime Therapy of Leishmania major Infection

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ABSTRACT

Background: Leishmaniasis is a complex disease which presents as visceral, cutaneous and mucocutaneous forms. The current treatment options for this infection are very limited and the immunological state of the host appears to play an important role in the efficacy of the treatment. Immunostimulation through immune response activating agents such as Imiquimod is another rational approach for this purpose. Objective: We assessed the efficacy of immunotherapy with Imiquimod alone or combined with Glucantime for treatment of Leishmania major infection in BALB/c mice. Methods: Treatment efficacy was monitored by determination of thickness and parasite load of infected footpad of mice. Results: The footpad thickness revealed that treatment with Imiquimod plus Glucantime has the highest efficacy. The results were confirmed by parasite load of infected footpad. Our data shows that treatment of Leishmania major infection in BALB/c mice by the combined Imiquimod and Glucantime is more efficient than each drug alone. Conclusion: The combination of Imiquimod with chemotherapy may offer a way for more efficient treatment of leishmaniasis.

Keywords: BALB/c Mice, Glucantime, Imiquimod, Leishmania major

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