

عنوان مقاله:

Topical and Intradermal Efficacy of Photodynamic Therapy with Methylene Blue and Light-Emitting Diode in the Treatment of Cutaneous Leishmaniasis
Caused by *Leishmania braziliensis*

محل انتشار:

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خلاصه مقاله:

Abstract Introduction: The topical and intradermal photodynamic therapy (PDT) effect of methylene blue (MB) using light-emitting diode (LED) as light source (MB/LED-PDT) in the treatment of lesions of American cutaneous leishmaniasis (ACL) caused by *Leishmania braziliensis* in hamsters were investigated. **Methods:** Hamsters were infected in the footpad with 1×10^7 promastigotes of *L. braziliensis* and divided in 4 groups: Control group was not treated, AmB group was treated with amphotericin B, MB-Id group received intradermal MB at the edge of the lesion and MB-Tp group received MB topic. After treatment with MB, the animals were illuminated using red LEDs at the 655 nm wavelength for 1 hour. The MB/LED-PDT was carried out three times a week for 12 weeks. **Results:** Animals of MB-Tp group presented lesion healing with significant diminution in extent of the lesion, and reduced parasite burden compared to control group; however, no significant difference was seen compared to the AmB group. MB-Tp group also showed reconstitution of the epithelium, the formation of collagen fibers, organization in the epidermis, a little disorganization and inflammation in the dermis. MB-Id was ineffective in all parameters evaluated, and it was comparable to the control group results. **Conclusion:** These data show that PDT with the use of MB-Tp and LED may be an alternative for the treatment of ACL. However, additional studies are being conducted to assess the potential of MB/LED-PDT, alone or in combination with conventional therapy, for the treatment of ACL. **Keywords:** Photodynamic therapy Cutaneous leishmaniasis *Leishmania braziliensis* Treatment

کلمات کلیدی:

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