

عنوان مقاله:

A new approach to the therapeutic efficiency of novel *Scrophularia bavanatia* extract against *Leishmania major*

محل انتشار:

پنجمین کنفرانس بین المللی پژوهش در علوم و مهندسی و دومین کنگره بین المللی عمران، معماری و شهرسازی آسیا (سال: 1399)

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خلاصه مقاله:

Subject & aims: Developing countries have been suffering from Cutaneous Leishmaniasis as an endemic disease. WHO has recommended Glucantime as a cure for it; yet, there exist some constraints in the use of this remedy such as high costs, unexpected complications, the need for frequent injections, and unsatisfactory efficacy. Accordingly, this study surveyed a new approach to the therapeutic efficiency of novel *Scrophularia bavanatia* extract against *Leishmania major*. This study investigated the in vitro anti-*Leishmania* activities of the local *Scrophularia bavanatia* extract against *Leishmania tropica* Promastigotes. **Materials & Methods:** This experimental laboratory trial investigated the efficacy of in vitro anti-*Leishmania* activities of *Scrophularia bavanatia* extract against *Leishmania tropica* promastigotes. The Iranian endemic species including *Leishmania (L) major* [MRHO/IR/75/ER] was proliferated and maintained in the standard culture. Then, the proper densities of *Scrophularia bavanatia* were provided, sterilized, and added to cultures containing the parasites. The parasites were counted and divided among micro plates for cell proliferation and then read by ELISA reader. The data were analyzed and compared to the control group. **Results:** The mean survival percentage of the parasite in various concentrations of *Scrophularia bavanatia* extract and the 25 µg Glucantime concentration in the logarithmic phase at 24 h indicated a statistically significant difference with the control group ($P=0.000$); yet, there was no such a significant difference in the stationary phase ($P=0.855$). Similar to 24 h, there was a significant difference at 48 h in the logarithmic phase ($P=0.007$) though there was no such a significant difference in the stationary phase ($P=0.460$). There was no significant difference in the mean survival percentage of the parasite at various SBE concentrations and at 25 µg Glucantime concentration in either the stationary or logarithmic phases at 72 h compared to the control group ($P>0.05$). **Conclusion:** The results suggested that prevalent *Scrophularia bavanatia* extract had a medical potential similar to Glucantime and induced a better and more tangible effect on promastigotes survival without parasite resistance against it, without any complications compared to Glucantime, and with greater availability. However, further studies are necessary to evaluate the effect in cell culture and in vivo conditions to confirm this.

کلمات کلیدی:

Leishmania major, Cutaneous Leishmaniasis, Scrophularia bavanatia extract, in vitro

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