

comparative efficacy of topical Garlic extract and Hana extract in the treatment of cutaneous leishmaniasis in Balb/c mice

RostamiRad Sh, Yavari B, Kazemizadeh A, Norbakhsh V.
Faculty of Medicine, Islamic Azad university of Najafabad

Introduction & Objectives:

Leishmaniasis contains two kinds: cutaneous and visceral that is reported in Iran. Cutaneous leishmaniasis is an endemic disease in Isfahan, although it is a self limited disease, long term duration and scar formation are two major problems and easy effective available topical treatment has not yet established for it. Continuous efforts of prevention and control of CL has already been unsuccessful. Glucantime, the first line agent in drug treatment has been seen to cause some changes in ECG, Pancreatitis and hepatic, GI, and Renal side effects. Natural garlic and Hana might have therapeutic effect in some protozoa, fungi and bacteria. Then the aim of this study was determination of efficacy garlic and Hana extract in the treatment of cutaneous leishmaniasis in Balb/c mice.

Material & Methods:

30 female Balb/c mice aged 6-8 weeks that carried out on 5 groups each with six mice. The groups are: Control, placebo, Garlic extract, Hana extract, compound Hana - Garlic extract. The mice subjected to 3×10^6 promastigotes and allowed to induce a lesion. The mice were treated topically with above compounds twice a day for 30 days. The diameters of the sores were measured on days 5, 10, 15, 20, 25, 30, by caliper (0.01mm). After this time the mice were controlled for 15 days for determination death rate in groups. The data were analyzed by SPSS10 soft ware and Doncan Test.

Results:

The results of this study is very encouraging and show that these therapy are effective ($p < 0.05$). The results indicated that the diameter of sores in all of treatments groups was smaller than placebo ($p < 0.05$). Also Garlic extract is more effective than other treatments on test groups and the diameter of sores in this group was very small. Also death rate of mice was less than other groups. After Garlic extract, Hana-Garlic extract compound and then Hana extract respectively was more effective than placebo groups.

Discussion & Conclusion:

It has been previously demonstrated that Garlic Extract can stimulate Nitric Oxide (NO) release by peritoneal macrophages in response to leishmania promastigote. There are also reports showing the effect of Hana on Fungi and bacterial disease. Our results showed that utilization of Garlic and Hana extract have caused significant cure effects in the test groups. In general and because of good characters of these extract for the treatment of cutaneous leishmaniasis topical therapy could be considered as a possible efficient therapeutic alternative in the management of these disease.