Effect of Ivermectin Cream in Imiquimod-Induced Psoriasis like Inflammation in Mice

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ABSTRACT

Psoriasis is an erythematous, scaly, inflammatory infiltrate with increases thickness of skin lesions. Ivermectin has anti-inflammatory role in T cell disease. It is investigated in psoriasis like model. The objective of this study is to investigate the pharmacological action of ivermectin and its combination with steroid on imiquimod mice model. Thirty-six albino male mice, aged six weeks were used in the present study which are divided into six groups (6 in each group) as follows: Group I is a healthy control group, Group II imiquimod induction group in which imiquimod applied topically once daily five days. Group III, IV, V, and VI were the treatments groups in which Group III Clobetasol 0.05%, group IV Ivermectin, group V Ivermectin with clobetasol combination, and Group VI Glycerin. All treatments used for five days. The immunohistochemistry of interleukin -17 and signal transducer and activator of transcription 3 were done in addition to histopathology reading scores and the results showed that for the interleukin -17 percent, a significant decrease showed when comparing induced group with clobetasol, ivermectin, clobetasol with ivermectin combination groups. A significant change in interleukin -17 intensity and percent between all the treatment groups were found. In conclusion, Ivermectin and ivermectin/ clobetasol combination has a promise role in imiquimod induced psoriasis model.

Keywords: IL-17; STAT3; Imiquimod; Inflammation; Ivermectin; Psoriasis.

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