

عنوان مقاله:

Neutralizing effects of polyvalent antivenom on severe inflammatory response induced by Mesobuthus eupeus scorpion venom

محل انتشار:

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خلاصه مقاله:

This study evaluated the effects of Mesobuthus eupeus (Me) scorpion venom on inflammatory response following injection. Additionally, the present study examined whether immunotherapy at specific time intervals would be effective on inflammatory response after Me venom inoculation. Animals were divided randomly into four groups: the first group received LD₅₀ of venom and the second and third groups of animals; immunotherapy was performed in different time intervals and fourth group was considered as control group. Me venom inoculation is caused respiratory perturbations such as respiratory distress, respiration with open mouth, crepitation and finally respiratory arrest. Me inoculation is resulted in increased pro-inflammatory cytokines including TNF- α and IL-1. Venom injection also induced inflammatory response, characterized by significant increase in serum white blood cells and neutrophils at 30, 60 and 180 min following envenomation. Simultaneous administration of antivenom and venom prevented entirely clinical signs, cytokines and hematological changes. Delayed immunotherapy gradually ameliorated clinical features, cytokines changes and hematological abnormalities related to the envenomation. In conclusion, our observations indicate injection of M. eupeus scorpion venom induces severe inflammatory response which can be one of the causes of clinical complications. Additionally, immunotherapy beyond 1 h after envenomation with appropriate dose and route in victims with severe inflammatory response related to the M.eupeus scorpion envenomation is beneficial.

کلمات کلیدی:

Mesobuthus eupeus scorpion venom, inflammatory cells, Cytokines, immunotherapy, Rabbit

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