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## Acta Medica Iranica

2009;47(4) : 9-19

### Immunological Effects of Leishmania major Secretary and Excre-tory Products on Cutaneous Leishmaniasis in BALB/c Mice

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#### Abstract:

Background: To evaluate the immunological properties of Leishmania major excreted- secreted (E-S) products on the progress of leishmaniasis in susceptible BALB/c mice. Methods: Promastigotes of the Leishmania major were cultured and E-S products were collected during the culture preiod. Groups of BALB/c mice (n= 12) were immunized with E-S products or whole antigen. Animals were challenged with promastigotes of stationary phase culture, then mortality was followed up to 6 months. In another group of animals drainage lymph nodes cells were removed and cultured for cytokines assay. Results: Activity of acteylcholinesters (AChE) and acid phosphatase (ACP) increased time dependently. Using SDS-PAGE two major protein bands of 110 and 75 kDa were seen on the gel. Wound diameter in group receiving 24 h E-S products was significantly lower than the other experimental groups ( $P < 0.05$ ). During the first 4 months of the follow up no mortality was seen in this group, but mortality was started in the second months of the challenge in other groups. The IL-4 and IL-10 level in whole Ag group were significantly higher than the other groups. In cells from animals receiving 24 h E-S products the IL-2 level was significantly higher than the other experimental groups ( $P < 0.05$ ). Also the IFN  $\gamma$  level was significantly higher both in 24 h E-S and whole Ag groups ( $P < 0.01$ ). Conclusion: The 24 h E-S group corresponded with small wounds, dominant Th1 cytokines response and low level of mortality.

#### Keywords:

Excretory-Secretory proteins , Balb/C Acetylcholinesterase

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