Latifynia Afshineh et al., J Vaccines Vaccin 2014, 5:5
http://dx.doi.org/10.4172/2157-7560.S1.020

OMICS Group Conferences
Accelerating Scientific Discovery

4th International Conference on
Vaccines & Vaccination
September 24-26, 2014 Valencia Convention Centre, Spain

Post challenging effects of new formulation of leishmania major antigen in Balb/c mice

Latifynia Afshineh[1] and **Gharagozlou M J**[2]
[1]Tehran University of Medical Sciences, Iran
[2]University of Tehran, Iran

Background/Purpose: Cutaneous leishmaniasis (CL) is a zoonotic disease transmitted between rodents and canines, mainly induced by phelebotomus sand flies. In southern of Iran, the incidence of this protozoan disease has doubled over the last decade. Human leishmaniasis is distributed worldwide, but mainly in the topics and subtropics, with a prevalence of 12 milion cases and an approximated incidence of 0.5 milion cases of VL and 1.5 milion cases of cutaneous leishmaniasis (CL). The aim of this study was comparing the protective effects of a candidate cocktail vaccine encoding various leishmania major antigens in highly susceptible (Balb/c) mice after challenge with live leishmania. In this regards we selected two previous study's successfull doses (100 & 200 µg/o.1ml), three injection groups : Leishmania plus BCG (LB), Leishmania plus Teucrium Polium as a new adjuvant [LT], leishmania plus BCG and Teucrium Polium (LBT), and one type susceptible mice (Balb/c) which measured expansion of white pulp size after challenge with live leishmania.

Methods: A new formulation antigen evaluated in susceptible mice (Balb/c).Leishmania major promastigotes which cultured and harvested at different growth stagesThese harvested organisms modified and combined of five different methods to produce cocktail crud Antigen antigen. It was tested for sterility and protein levelsmeasured by Lowry method. This crud antigen injected intradermally to Balb/c mice. We have one injection both two same booster doses with one week interval. After 20 days after third leishmania injection challenge or re-exposure was performed with live Leishmania. The protective response was evaluated by observation of inducing lesion, and progress of it or another critical signal, at least survival of injected mice for every week, over 70 days. After this all mice were euthanized with diethyl ether, their spleens removed and prepared Histological sections of them and stained with hematoxylin & eosin. After that expantion of spleeny white pulp (SWP) were studied microscopically.

Results: Our results show control group white pulps compared with others, have different structure and size. The SWP size increases is dependent on the injection group. There was a remarkable expansion of lymphoid follicles in the treated groups in Balb/c mice.

Conclusion: This new formulation antigen was able to stimulate and expand the lymphoid constituents of spleen tissue after challenge with live leishmania. The SWP is where immune responses and antibodies are produced. Therefore, the effect of antigen preparations on secondary immune responses, adaptive immunity, and antibody production is important in determining the susceptibility of mice to cutaneous leishmaniasis and the induction of immunity lead to protectivity encounter to challenge with live Leishmania major.

alatifynia@tums.ac.ir; afltn52@yahoo.com