

Determination of *Toxoplasma gondii* parasitic load in balb/c mice immunized with ESA of RH strain using real time Q-PCR

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Introduction: *Toxoplasma gondii* is an obligatory intracellular parasite in different cells of human beings and animals. The aim of this study was to evaluate presence and movement trend of *T. gondii* tachyzoites in different tissues of Balb/c, after immunization with Excretory Secretory Antigens (ESA).

Material and Methods: This experimental survey has been performed on 24 Balb/c mice in case and control groups. For immunization of mice, two times, in intervals of two weeks, case group (n=12) received 40 µL ESA+40 µL Adjuvant and control group got 40 µL PBS+40 µL Adjuvant.

Two weeks after the second immunization, mice were challenged with 1×10^4 alive and the active tachyzoites of *T. gondii* RH strain and on days 1, 2, 3 and the last day (before death) after challenge, different tissues (eye, muscle, kidney, heart, brain, spleen, blood and liver) of 3 mice from each group were prepared and DNA extraction, parasite load of tissues has been evaluated by real time Q-PCR.

Results: *Toxoplasma* after intraperitoneal injection, in both case and control groups were able to move to various tissues. In the case group receiving Excretory Secretory Antigens (ESA), parasite load in eye, kidney, brain, blood and liver was less than control group.

Conclusion: Hence, ESA reduced the parasite load, but could not inhibit the distribution and presence of *Toxoplasma* in different tissues.

Keywords: Movement trend, *Toxoplasma gondii*, tissue, Balb/c, immunization, Excretory Secretory Antigens (ESA), real time Q-PCR.

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