

Expression of CD₄⁺ T cell, Interleukin 2 and Interleukin 4 On Splenectomy Balb/c Mice Post-Exposure *Salmonella typhi*.

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Splenectomy is an organ removal of the spleen due to organ function abnormality. In post splenectomy, patients were vulnerable to infection and require compensation for the amount of lymphocytes to handle pathogens that invade the body. Interleukin -2 (IL-2) and IL-4 are the compensators agents involved in proliferation and development of T lymphocytes. The purpose of this experiment are to determine the effect of *S. typhi* exposure to the levels of IL-4, IL2 and the relative amount of CD₄⁺ T cells of splenectomized BALB/c mice. Factorial experiments (complete random design) with three replication, conducted in four groups as follows: control groups, splenectomized group, *S. typhi* exposed group and splenectomized group followed by *S. typhi* exposure. Splenectomy was performed under Ketamine anesthesia (65 mg/kg BW). Exposure of *S. typhi* was performed by injection of acute doses (10⁹ cell/ml) couple weeks after splenectomy and couple weeks after first injection. IL-4 and IL-2 levels in serum were measured by ELISA ($\lambda = 450\text{nm}$) and the relative density of CD₄⁺ T cells were quantified BD FACSCaliburTM Flowcytometer. The results showed that *S.typhi* exposure in splenectomized and nonsplenectomized mice can increase levels of IL-2, which indicates the existence of the body's immune system in the absence of spleen and it's when exposure by bacteria. Splenectomy or *S. typhi* exposure individually did not significantly alter the levels of IL-4 (1.44-1.84 pg/ml), whereas injection of *S. typhi* on mice splenectomy increased the level of IL-4 up to 1.8 fold (3.25 pg/ml). The analysis results of the number CD₄⁺ T cells showed that *S.typhi* exposure stimulated the relative density of bone marrow CD₄⁺ T cells.

Key words: levels of IL-4 and IL-2, CD₄⁺ T cells mice BALB/c, spleen, *S.typhi*, splenectomy,

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