

## ABSTRACT

**Background** Diabetes Mellitus complication that much happen and need attention is diabetic ulcer. Bacterial infection in diabetic ulcer getting worse with the decrease of cellular immunity patient. Development of antibiotic as therapy of diabetic ulcer has not been optimally yet without immunity intervention to the patient. **Objective** : This study is done to evaluate immunity state in diabetes with count lymphocyte in PALS spleen and measure Interleukin-2 cytokine in blood serum then compare both with healty ones. **Material and Method** : Thirty six mice BALB/c strain, sex male, 12 weeks years old, weight 25 – 30 g and healthy was into 2 groups : the control group and the treatment group. The control group had standart diet, while the treatment group had high fat diet with 22,8 % fat to induct diabetes for ten weeks. After that both groups were induced with histamine intraperitoneally with 10 mg/20 g BB dose to show immune respons. Mice were sacrificed for taken the blood and the spleen. The blood serum were used for measuring level of IL-2 with ELISA reader, while the spleen were used for counting lymphocyte cell in the PALS area with made histology preparation H.E staining. **Result** : The IL-2 level of control and treatment both increased cause histamine induced, but the control was significant less than the treatment ( $p < 0,0001$ ). Account of lymphocyte cell in the PALS area shown that the control had significant more than the treatment ( $p < 0,0001$ ). **Conclusion** : the high level of IL-2 induced by high fat diet and the decrease of account of lymphocyte may caused by oksidatif stress in acute diabetes in obese mice. **Keyword** : Diabetes Mellitus, BALB/c mice, Lymphocyte cell of spleen, level of IL-2