Lactic Acid Profile in Controlled and Uncontrolled Diabetes Mellitus Patients

Abstrak:

Lactic acid is an intermediate product of carbohydrate metabolism. Increment of plasma lactic acid level usually correlated with aerobic metabolism defect which caused by hypoperfusion or hypoxia, that can be happened in DM (Diabetes Mellitus) patients. Diabetes Mellitus is a risk factor of lactic acidosis. Determination of glycated Hb (HbA1c) is a parameter to monitor the blood glucose. The aim of this study is to compare the mean lactic acid level between uncontrolled and controlled DM patients and their correlation between lactic acid and HbA1c level. The research carried out by cross sectional study which was done at the Clinical Pathology Laboratory of Sardjito Hospital between September–October 2007. Inclusion criteria of samples were diabetic patients who had HbA1c examination. Statistical analysis was done by independent t test and Pearson correlation test. Twenty one patients were included in this research. They were divided into two (2) groups, group I are those who had HbA1c ≤ 7%, they consist of 10 patients, group II are patients who had HbA1c ≥ 7.1%, they consist 11 patients. The mean of lactic acid of group I was 1.85 mmol/L and group II was 1.74 mmol/L (p = 0.574). There wasn’t any significant correlation between HbA1c level and lactic acid. (r = -0.179, p = 0.437). The mean of lactic acid level in uncontrolled DM was lower than the controlled one but not significant, and there was no significant correlation between HbA1c level and lactic acid. It is suggested to continue this study but with larger sample to know the correlation between lactic acid and HbA1c in DM patients who had metformin therapy.

Keyword:

Lactic acid, HbA1c, diabetes mellitus