ABSTRACT

Effect of Glutamine and Glucose Unhydrate Administration to Total Number of Lymphocyte of Rat Model of PEM

Protein-energy malnutrition condition caused lymphocytes number to decrease which then lead to body's cellular immune system disorders, the condition where patient is more vulnerable to infection. Number of lymphocytes in the body was dependent to some factors are anti-oxidant, glutamine and glucose. Those three substances stimulate proliferation increase of lymphocytes and expected to be able to decrease protein-energy malnutrition. The aim of this research was studied the effect of glutamine and glucose unhidrate administration in rat model of protein-energy malnutrition to the increase of lymphocytes number in the blood. It was an experimental study with completely random design. Subjects malnutrition induced with parched rice for 15 days (n=20), subjects are examined to figure out the lymphocytes number after the rate model experience lack of energy and protein. Subjects divided into four treatment groups: normal diet (control), normal diet+glutamine, normal diet+glucoseunhidrate, and normal diet+glutamine+glucose unhidrate. Total number of lymphocytes measured again after 10 days. The result of the study showed that number of lymphocytes increased significantly (P<0.05) in the four treatment groups after the intervention compared with number of lymphocytes in the malnutrition induced group. Statistical analysis of the four groups with glutamine and glucose unhidrate administered showed significant difference each other (p<0.05). In Conclusion rats given glutamine and glucose unhidrate treatment significantly have higher number of lymphocytes. Therefore people with PEM (Protein Energy Malnutrition) must increase nutrition intake glutamine and glucose unhidrate to improve their immune body

Key Word: Protein-energy malnutrition (PEM), Total Number of Lymphocyte, glutamine, glucose unhidrate