Efek pemberian antioksidan tokoferol alfa terhadap membran sel darah merah talasemia

Gultom, Ferry P., author

Abstrak

Talasemia is blood disorder which is characterized by anemia due to inherited haemoglobine disorder. The anemia is caused by a decreased flexibility of the erythrocyte results in decreased capatibility of required deformability to be able to across through capillary blood vessels. Free radicals with one or more unpaired electron on potential in destroying all the molecule exist in the body of living things like protein, carbohydrate and fat. Tocoferol or vitamin E is an antioxidan essential in elliminating free radicals in the cell membrane by inhibiting the peroxidation process of the cell membrane lipid. The objective of this study is to investigate the severity of the erythrocyte destruction either those with or without oxidative load from the environment. The results of this study showed that the level of malondialdehid in the control erythrocyte was 1,85 ± 1.37 nmol in talasemia and 1.02 ± 0.64 nmol in normal ($p < 0.05$). The addition of 2mM t-BHP resulted in increased malondialdehid level up to 19.59 ± 6.82 nmol in talasemia and 11.42 ± 3.49 nmol in normal erythrocytes ($p < 0.05$). Oxidated erythrocyte with vitamin E supplement ($p < 0.05$). Conclusion: Additional vitamin E (tocoferol) leads to decreased level of malondialdehid both in the normal and thalasemia erythrocytes.