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Comparison study on Band 3 Mutation and Fragility of Erythrocytes in β Minor Thalassemia

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Abstract: Thalassemia is a hereditary hemolytic anemia which is caused by globin gene disorder (mutation). Thalassemia is widely distributed in Mediterranean and around the equator area. In Indonesia, thalassemia is the most common cause of hemolytic anemia intracorpuscular. Stability of erythrocytes is influenced by state and function of cytoskeleton proteins.It is also influenced by band 3 protein.Band 3 protein mutation lead the damage of erythrocytes while circulation in narrow capillaries. Therefore, thalassemia with band 3 mutation lead the early erythrocytes destruction and anemia. This study was carried out to find β minor thalassemia and to compare of band 3 mutation and erythrocytes fragility on thalassemia and non thalassemia β minor. This was an analytic descriptive study with cross-sectional approach. Population of this study were students of University of Sumatera Utara with Mentzer Index value < 13. Band 3 protein mutation was detected by PCR .
Prevalence rate of β minor thalassemia was 32% andβ minor thalassemia with band3 mutation was 2%. Band 3 mutation was found in one of 16 subjects with and β minor thalassemia with erythrocytes fragility was increased. It needs specific and sensitive method for screening and diagnosed of and β minor thalassemia.
Keywords : Band 3 protein, fragility test, Mentzer Index, thalassemia β minor.

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