

# Fungsi dan Komposisi Air Mata dihubungkan dengan Kadar Ferritin Serum, Durasi, dan Frekuensi Transfusi Darah Pasien Thalassemia Mayor = The Function and Composition of Tear Fluid and Its Correlation with Serum Ferritin Level, Duration, and Frequency of Blood Transfusion in Patients with Thalassemia

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## Abstrak

Penelitian ini bertujuan untuk mengetahui keluhan subjektif mata kering dan gangguan komponen air mata (lipid, akuos, mucin) pada pasien thalassemia mayor dengan riwayat transfusi darah jangka panjang, serta menganalisis hubungan antara kadar ferritin serum, durasi, dan frekuensi transfusi darah dengan masing-masing parameter penilaian komponen lapisan air mata. Penelitian ini merupakan studi potong lintang (cross sectional) pada pasien thalassemia mayor yang sudah berusia dan mengalami transfusi darah selama minimal 10 tahun. Penilaian mata kering terdiri dari pengisian kuesioner OSDI untuk menilai keluhan subjektif, pemeriksaan biomikroskopi lampu celah dan nilai tear break up time (TBUT) untuk menilai tingkat keparahan mata kering, pemeriksaan Schirmer basal, Ferning, dan sitologi impressi konjungtiva untuk menghitung jumlah sel goblet. Data perhitungan tingkat keparahan mata kering, nilai uji Schirmer basal, TBUT, dan jumlah sel goblet dianalisis dan dicari hubungannya dengan kadar ferritin serum, durasi dan frekuensi transfusi. Pada 77 subyek, mata kering terjadi sebanyak 14.3%, penurunan nilai TBUT (39%), nilai Schirmer basal (37.7%), nilai Ferning (24.7%), dan jumlah sel goblet (45.5%). Tidak terdapat perbedaan bermakna antara tingkat keparahan mata kering, nilai TBUT, nilai Schirmer basal, nilai Ferning, dan jumlah sel goblet dengan kadar ferritin serum, durasi, dan frekuensi transfusi. Namun, terdapat hubungan yang bermakna antara tingkat keparahan mata kering dan usia ( $p = 0.014$ ), serta nilai TBUT ( $p = 0.012$ ) dan Schirmer ( $p = 0.014$ ) dengan jenis kelamin. Penelitian ini memperlihatkan 14.3% subyek thalassemia mayor mengalami mata kering berdasarkan kriteria DEWS 2007. Kejadian mata kering pada thalassemia mayor tidak dipengaruhi oleh faktor transfusi dan kadar ferritin serum, melainkan dipengaruhi oleh usia dan jenis kelamin.

.....This study is aimed to understand subjective complaints for dry eyes and disruption of component of tear fluid (lipid, aqueous, mucin) in patients with major thalassemia with a history of long-term blood transfusions and to analyse the correlation between serum ferritin level, duration and frequency of blood transfusion. This study is a cross-sectional study. The subject of this study is patients with major thalassemia age minimum of 10 years old and have had blood transfusion for at least 10 years. OSDI questionnaire, slit-lamp biomicroscopy examination, tear break up time (TBUT), and basal Schirmer test was used to assess dry eyes severity. Ferning and conjunctiva impression cytology examination was used to assess mucin quality and count the amount of goblet cells. The correlation analysis between the result of these assessments and serum ferritin level and duration and frequency of blood transfusion was done. In 77 subjects, the prevalence of dry eyes is 14.3%. There is a decrease in TBUT (39%), basal Schirmer (37.7%), Ferning (24.7%), and goblet cells (45.5%). There is no significant correlation between dry eyes severity and TBUT, basal Schirmer, Ferning, and the amount of goblet cells with serum ferritin level, duration, and frequency of blood transfusion. There is a significant correlation between dry eyes severity and patient s age

( $p = 0.014$ ); TBUT ( $p = 0.012$ ), as well as, Schirmer ( $p = 0.014$ ) with sex. This study showed that 14.3% of patients with major thalassemia suffer from dry eyes with severity level grade 2 according to DEWS 2007. The incidence of dry eyes is not influenced by transfusion and serum ferritin level but is influenced by age and sex.