Lampiran C2

HUBUNGAN ANTARA KADAR VITAMIN D DENGAN TES FUNGSI GINJAL PADA PASIEN ANAK DENGAN TALASEMIA MAYOR

Dyah Chandra Rahmadinda Kuncoro Putri*, Nyoman Suci Widyastiti, Dwi Retnoningrum****

*PPDS-I Patologi Klinik, Fakultas Kedokteran Universitas Diponegoro/RSUP Dr. Kariadi Semarang

**Staf Bagian Patologi Klinik, Fakultas Kedokteran Universitas Diponegoro, Semarang

ABSTRAK

Latar belakang. Talasemia mayor memerlukan transfusi darah rutin dan terapi kelasi besi. Kondisi ini menyebabkan overload besi dan kerusakan organ ginjal. Defisiensi vitamin D cukup prevalen pada populasi ini, yang diduga akibat deposisi besi pada organ. Komplikasi lain berupa disfungsi ginjal, yang dapat dinilai dengan kadar cystatin-C dan laju filtrasi glomerulus (eGFR). Penelitian ini bertujuan untuk mengetahui hubungan kadar vitamin D dengan kadar cystatin-C dan nilai eGFR pada pasien talasemia mayor.

Tujuan. Membuktikan bahwa mengetahui hubungan kadar vitamin D dengan kadar cystatin-C dan nilai eGFR pada pasien talasemia mayor.

Metode. Penelitian cross-sectional pada 74 pasien anak dengan talasemia mayor di RSUP dr. Kariadi yang telah mendapatkan lebih dari 10 transfusi darah. Kadar vitamin D dan *cystatin-C* serum diperiksa dengan enzyme linked immunosorbent assay (ELISA), nilai eGFR dihitung menggunakan rumus Schwartz. Uji korelasi dengan tes Spearman (p<0,05).

Hasil. Nilai median (min-maks) vitamin D, *cystatin-C*, dan eGFR berturut-turut 28,6 (8,50 - 71,30) ng/mL ; 0,63 (0,39 – 5,63)ng/mL ; dan 180,46 (91,14 – 385) ml/min/1,73 m2 . Hubungan antara kadar vitamin D dengan nilai eGFR (r = -0,255; p = 0,028). Hubungan kadar vitamin D dengan kadar *cystatin-C* (r = -0,002; p = 0,985).

Simpulan. Terdapat hubungan negatif lemah antara vitamin D dengan eGFR, tidak ada hubungan antara kadar vitamin D dengan kadar *cystatin-C.*

Kata kunci: Vitamin D, *Cystatin-C*, eGFR, Talasemia mayor.

THE CORRELATION BETWEEN VITAMIN D LEVELS AND KIDNEY FUNCTION TEST IN CHILDHOOD PATIENTS WITH THALASSEMIA MAJOR

Dyah Chandra Rahmadinda Kuncoro Putri*, Nyoman Suci Widyastiti, Dwi Retnoningrum****

*Clinical Pathology PPDS-1, Medical faculty, Diponegoro University/RSUP Dr. Kariadi, Semarang

**Department of Clinical Pathology, Medical Faculty, Diponegoro University, Semarang

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ABSTRACT

Background: *Thalassemia major requires routin blood transfusions and iron chelation therapy. This condition causes iron overload and kidney damage. Vitamin D deficiency is quite prevalent in this population, which is thought to be due to iron deposition in the organs. Another complication is renal dysfunction, which can now be assessed with cystatin-C. This study aims to determine the relationship between vitamin D levels and cystatin-C and glomerular filtration rate (eGFR) in thalassemia major patients.*

Methode. *A cross-sectional study was conducted on 74 pediatric patients with thalassemia major at RSUP dr. Kariadi who has received more than 10 blood transfusions. Vitamin D and cystatin-C levels were measured using enzyme-linked immunosorbent assay (ELISA), and eGFR values were calculated with the Schwartz formula. The Spearman correlation test was used ($p < 0.05$)*

Results*: Median value (min-max) vitamin D, cystatin-C, and eGFR respectively 28,6 (8,50 - 71,30) ng/mL ; 0,63 (0,39 – 5,63)ng/mL ; and 180,46 (91,14 – 385) ml/menit/1,73 m2 . The correlation between vitamin D levels and eGFR values ($r = -0.255$; $p = 0.028$). The correlation between vitamin D levels and cystatin-C levels ($r = -0.002$; $p = 0.985$)*

Conclusion: *There is a weak negative relationship between vitamin D and eGFR, there is no correlation between vitamin D levels and cystatin-C levels.*

Keywords*: Vitamin D, Cystatin-C, eGFR, Major thalassemia*