Kadar vitamin D serum dan derajat keparahan infeksi dengue pada anak = Vitamin D serum level and dengue infection severity in children

Ariesti Karmila, author

Abstrak

ABSTRAK
Latar Belakang. Vitamin D diketahui berperan penting dalam memodulasi sistem imunitas. Defisiensi vitamin D sering dihubungkan dengan peningkatan risiko kerentanan dan keparahan terhadap berbagai penyakit infeksi. Penelitian yang meninjau hubungan antara vitamin D dan dengue sangat terbatas. Dengue adalah penyakit dengan beban kesehatan global yang besar, eksplorasi terhadap faktor imunomodulator yang berpotensi untuk menjadi bagian dari upaya pencegahan dan tatalaksana infeksi dengue termasuk vitamin D masih diperlukan.
Tujuan. Penelitian ini bertujuan untuk melihat apakah ada perbedaan rerata kadar vitamin D serum pada berbagai derajat keparahan infeksi dengue di masing-masing fase infeksi.
Metode. Penelitian potong lintang ini dilakukan dari Oktober 2016-Januari 2018 terhadap 61 pasien dengan infeksi dengue di RSUP dr. Mohammad Hoesin Palembang. Data dikumpulkan melalui rekam medik, hasil pemeriksaan ultrasonografi, kadar 25(OH)D, serta foto rontgen toraks decubitus kanan. Analisis dilakukan dengan uji anova, kai kuadrat, Fisher exact, regresi linear dan logistik dengan interval kepercayaan 95% dan nilai kemaknaan 0.05.
Hasil. Rerata kadar vitamin D serum pada infeksi dengue dengan kebocoran plasma (DD) adalah 24.6 ng/ml. Pada infeksi dengue dengan kebocoran plasma (DBD dan SSD) rerata kadar vitamin D pada fase demam adalah 26.66 ng/ml, 21.91 ng/ml pada fase kritis, dan 25.36 ng/ml pada fase konvalesens. Tidak ditemukan adanya perbedaan dan hubungan bermakna antara kadar serta status kecukupan vitamin D dengan derajat keparahan infeksi dengue. Kadar vitamin serum pada fase akut infeksi dengue memiliki korelasi positif dengan hitung trombosit terendah (p=0.03).
Simpulan. Kadar vitamin D serum pada berbagai derajat infeksi dengue di masing-masing fase infeksi pada anak tidak berbeda bermakna. Kadar vitamin D serum pada fase demam berhubungan dengan hitung trombosit terendah pada kasus dengue.
<hr>
ABSTRACT
Background. Vitamin D has an important role in modulating the immune system. Low level of vitamin D is frequently associated with higher risk of susceptibility and severity to various infectious disease. Studies on dengue infection and vitamin D are still limited. Until today dengue is known to have a high global burden of disease. Therefore, a continouing investigation on potential modulating factors that may be beneficial in the efforts of dengue prevention and management which includes vitamin D is still required.
Objectives. The purpose of this study is to evaluate the difference of vitamin D serum values in various levels of dengue infection severity in children in each phase of disease.
Methods. A cross sectional study was conducted from October 2016 until January 2018 at Mohammad Hoesin Hospital Palembang. Sixty-one children with dengue infection were included in this study. Data

were collected from medical records, ultrasonograpy, 25(OH)D laboratory test, and right lateral decubitus xray. Statistical analysis was calculated with anova, chi-square, fisher exact, linear and logistic regression with 95% confidence interval and 0.05 level of significance.
Results. The mean value of 25(OH)D in dengue infection without plasma leakage (Dengeu Fever) is 24.6 ng/ml, while in dengue infection with plasma leakage (Dengue Hemorhaggic Fever and Dengue Shock Syndrome) the mean value are 26.66 ng/ml in febrile phase, 21.91 ng/ml in critical phase, and 25.36 ng/ml in convalescence phase. No significant difference and association were found between the values and status of vitamin D among various level of dengue infection severity. A positive linear correlation was found between the level of vitamin D in the febrile phase dengue infection and thrombocyte lowest count ($p=0.03$)
Conclusions. There are no difference between the value of vitamin D among children with various levels of dengue infection severity in each phase of disease. Vitamin D serum level during febrile phase may have a role in predicting thrombocyte lowest count during dengue infection.