

BLOOD ZINC LEVELS AND CLINICAL SEVERITY OF DENGUE HEMORRHAGIC FEVER IN CHILDREN

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Abstract. The aims of the study were to investigate the relationship between blood zinc levels and the severity of DHF. A cross-sectional study was conducted involving 51 children at Budhi Asih Hospital, Jakarta, from March to May, 2005. Blood zinc levels were measured with a colorimeter using 5-BR-PAPS. The diagnosis and grading of DHF was determined according to WHO criteria. On analyzing the data, z test, ANNOVA, chi-square, linear regression and coefficient of correlation, were applied appropriately with $p \leq 0.05$. Forty-five samples were obtained consisting of 15 boys and 30 girls, age 75 ± 35 months, body mass index of 15.1 ± 3.2 , pre-admission fever for 4.4 ± 1.6 days, a hematocrit of $38.4 \pm 5.1\%$, a thrombocyte count of $77,200 \pm 32,100/\text{dl}$, and a zinc level of $6.4 \pm 6.3 \mu\text{mol/l}$, of with 34 had low and 11 were high zinc level cases (cutoff point: $9.18 \mu\text{mol/l}$). The clinical severity in the low and high zinc groups were not significantly different. The blood zinc level in DHF grade 4 was not significantly lower than in the other three grades ($p > 0.05$). The numbers of lymphocytes in the four grades were significantly different ($p < 0.01$), between the low and high zinc groups ($p < 0.05$). The association between lymphocytes and zinc levels showed a linear regression of $Y_c: 42.04 + 1.30X$, $p < 0.05$ and a coefficient correlation of $r: 0.47$. Therefore, no association was found between zinc levels and clinical severity of DHF in children.

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