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HEAVY METAL CONTAMINATION MAY HAVE A ROLE IN NEGATIVE CORRELATION BETWEEN SEAFOOD CONSUMPTION AND VISUO-MOTOR DEVELOPMENT OF 1-3 YEAR-OLD CHILDREN IN SUBDISTRICT BULAK, SURABAYA

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Abstract

Nitric oxide (NO) may cause systemic hypotension and apoptosis, contributing to tissue damage and multiple organ failure in severe burn, which increases Nitric Oxide Synthase (NOS) enzyme activity and NO release. Proinflammatory cytokines involves in NOS induction and activation and NO release. Vitamin C suppresses proinflammatory cytokines production, so NO production is inhibited. This study aimed to review intravenous vitamin C 3000 mg effect on NO serum level in severe burn injury. This study used randomized pre-test and post-test controlled group design in 12 severe burns patient at Burn Unit, Dr. Soetomo Hospital, Surabaya. NO was examined in 12 patients who were divided into 2 groups. Control group (K1) received vitamin C 2 x 400 mg/24 hour for 72 hours and treatment group (K2) received intravenous vitamin C 3000 mg for 72 hours. NO was taken from blood serum and observed by Grease method. Results were analyzed by Paired T-Test and statistical assays with $p < 0.05$. NO serum level in K1 showed no significant increase compared to day 1 of the day 4 ($p = 0.21$) and NO serum level had no significant decrease on day 1 than that on day 4 (K2) ($p = 0.06$). NO level decreased significantly in K2 compared to that in K1 ($p = 0.02$). K1 showed no significant result in Blood Gas Analysis, Blood Urea Nitrogen, and Serum Creatinine, while K2 showed significant result in White Blood Cell ($p = 0.01$). In conclusion, intravenous vitamin C administration decreases nitric oxide serum level in severe burn injury. (FMI 2014;50:143-147)

Keyword : vitamin, C, severe, burn, nitric, oxide,

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