

عنوان مقاله:

Thiamine Could Decrease Lactate and Creatinine Level After Coronary Artery Bypass Surgery in Patients with Mild Systolic Dysfunction

محل انتشار:

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خلاصه مقاله:

Background: During cardiopulmonary bypass, oxidative stress happens in the patient's cells due to blood contact with various levels of synthetic materials. It can activate inflammatory process and release factors such as interleukin 6 (IL-6), C reactive protein (CRP) and neutrophilia, which may hurt different organs. In recent years, many efforts have been made to prevent this type of damage; however, no single treatment has been proposed to reduce this risk. Antioxidant substances such as Thiamine is important in cell defense against free oxygen radicals. Regarding this issue, in this study, effect of Thiamine on lactate levels in patients undergoing coronary artery bypass graft (CABG) surgery has been investigated. Methods and materials: In this study, 140 patients, 25 to 65 years with mild systolic dysfunction (EF=45-55%) who were candidates for elective CABG surgery in two groups, control and purpose (patients receiving Thiamine), were examined. All of these patients anesthetized in an identical manner, and subjected to a heart-lung pump. Serum lactate levels were measured before, during and six, 12, 18, 24 hours after surgery. All data collected in a questionnaire recorded and evaluated using SPSS statistical software. Results: Study groups showed no significant differences regarding demographics and underlying diseases. Serum lactate was significantly lower in Thiamine group during the first 24 hours after surgery (except before operation and 2 hours later) ($p < 0.05$). Creatinine level in two groups before surgery was not significantly difference, however, it was significantly lower in case group 24 hours after surgery (1.54 ± 0.14 vs. 1.24 ± 0.19 ; $p = 0.001$). In addition, dose of Inotropes in patients who received Thiamine, was significantly lower than the control group ($p = 0.001$). Extubation was longer in control group (15.4 ± 4.9 vs. 13.15 ± 4.1 ; $p = 0.003$) while intensive care unit stay was not different. Conclusion: It seems that Thiamine administration before cardiopulmonary bypass in patients with decreased left ventricular function could decrease serum lactate as tissue perfusion marker and improve kidney function.

کلمات کلیدی:

Thiamine, Coronary artery bypass graft, Systolic dysfunction, Lactate

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