Abstract

Vitamin A and zinc are powerful antioxidants with synergy between them, thus protecting the organism against oxidative stress during the pre and postoperative periods. Our aim was to investigate the evolution clinical in patients undergoing coronary artery bypass grafting while receiving vitamin A supplements according to their zinc nutritional status. They were randomly divided into two groups (2:1): Control group (G1 = 60); and Supplemented group (G2 = 30) and subdivided according to the nutritional status of zinc. Serum concentrations of retinol, -carotene, zinc and levels of malondialdehyde were measured prior to (T0) and on the 21st day (T1) following surgery. After surgery, was found a significant difference between G1 and G2 when comparing retinol (G1 = 38.7 ± 17.1 g/dL and G2 = 62.1 ± 20.3 g/dL; p < 0.001) and -carotene (G1 = 12.3 ± 5.7 g/dL and G2 = 53.5 ± 20.9 g/dL; p < 0.001) in the patients with adequate concentrations of zinc. Analyzing the evolution clinical, operative mortality was 8.33% in G1 and 3.33% in G2. Hospitalization time significantly smaller in the G2 was found in the patients who had adequate concentrations of zinc (p = 0.001), as well as time in the intensive care unit both in those with adequate and inadequate levels of zinc (p = 0.047; p = 0.039). Such results may indicate that vitamin A supplementation may have a positive impact in combating the oxidative stress to which these patients are exposed above all in patients with adequate levels of zinc.

Keywords

Vitamin A. Zinc. Coronary artery bypass grafting.