Nutritional Assessment of Zinc and Ionized Calcium Status among Patients of Acute Myocardial Infarction in Gaza Governorate, Gaza Strip †

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Abstract: Acute myocardial infarction (AMI) is the medical name for a heart attack. A heart attack is a life-threatening condition that occurs when blood flow to the heart muscle is abruptly cut off, causing tissue damage. AMI is a major health problem and is considered the main cause of death and disability globally among males aged 15–59 years old. The mortality rate for AMI is 18.7% in males and 7.7% in females worldwide. The micronutrients zinc and calcium have an important role in the cardiovascular system. The aim of this study was to assess the association between dietary zinc and calcium intake and the risk of AMI and find out the relationship between serum zinc, ionized calcium levels, and cardiac markers. A descriptive and analytical cross-sectional study was conducted on sixty AMI patients admitted to the department of coronary care unit at Al Shifaa Hospital. All patients were interviewed; clinical and anthropometric data were collected through a validated questionnaire. Blood samples were collected to measure serum zinc and ionized calcium levels. SPSS software was used to analyze the obtained data. 91.7% of the study participants were male, and 8.3% were female. A total of 31.7% of patients had less than normal zinc levels, and 33.3% of patients had less than normal levels of ionized calcium. There were no statistically significant correlations between serum zinc, ionized calcium, and cardiac markers (p > 0.05); also, there were no statistically significant correlations between dietary zinc, dietary calcium intake levels, and cardiac markers (p > 0.05). The deficiency in serum zinc and ionized calcium was noticed in several patients, and the association between serum zinc and ionized calcium and the risk of AMI incidence requires additional investigations in a large population study.

Keywords: AMI; serum zinc; serum ionized calcium; cardiac markers; Gaza


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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

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