Potassium and magnesium – Essentials for cardiac performance

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Potassium and magnesium are essential electrolytes for optimization of cardiac function, especially when the heart is stressed by physical demands, structural abnormalities, or emotional situations. A seminal case study of the tragic interplay of these factors will be described in a young runner, beginning at the molecular level. From the molecular level, the effects on the electrical performance of the heart will be characterized as the gateway to life-threatening arrhythmias, including numerous ectopic beats (premature ventricular contractions), prolongation of the corrected QT interval, and high dispersion of the QT intervals evident in the electrocardiogram. Medical guidelines from the National Council on Potassium in Clinical Practice and diagnostic criteria for long QT syndrome related to the case study will be described. Attention will be drawn to the diurnal variation of potassium levels as a masking-factor for life-threatening arrhythmias. Ultimately, data from studies in potassium-depleted animals will show that cardiac lesions characteristic of morphological injury to the heart, namely foci of heart-cell necrosis infiltrated by mononuclear cells and having early evidence of fibrosis, occurred with potassium depletion in the case study. This harmful effect on the heart is not well known. The present case study demonstrates the general need for more attention to electrolytes in cardiac function, especially to depletion of potassium and magnesium. Factors leading to depletion of these electrolytes will be surveyed. These include diuretic medications, intense exercise in hot climates and diets lacking foods rich in potassium and magnesium.

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Level of knowledge among cardiac health care professionals regarding sexual counseling of post-MI patients in three tertiary care hospitals of Karachi, Pakistan

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Despite the widely acknowledged significance of health care professionals’ role in providing sexual counseling to post MI patients, this sensitive area has often remained neglected in practice and research. The current study aimed to measure the level of knowledge among cardiac HCPs regarding sexual counseling of post-MI patients. The study also aimed to explore the level of knowledge amongst physicians and nurses, between male and female HCPs, between experienced and novice HCPs, and between those working in private and government hospitals. This descriptive cross-sectional study was conducted on 225 HCPs at three hospitals between April and June, 2013. Data was collected through a structured questionnaire, The Aga Khan University Cardiovascular Diseases 8th Health Sciences Research Assembly 2013 on HCPs’ level of knowledge regarding sexual counseling. The findings of the present study revealed that the mean total knowledge score for sexual counseling of post MI patients was significantly higher among physicians than among nurses. The level of knowledge among HCPs working in private healthcare settings was higher than those working in the government setting. The study also found significant differences in terms of study specific questions. Nurses have better knowledge in areas such as frequency of sexual activity after MI, resumption of sexual activity and use of nitroglycerin if chest pain occurs during sexual activity; while physicians have better knowledge about effects of cardiac drugs on sexual function. This study concludes that the mean level of knowledge regarding post-MI sexual counseling is higher among physicians than nurses, and both the groups have different knowledge scores on study.

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