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Serum zinc level and congenital acyanotic heart diseases in Egyptian pediatrics with heart failure

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Background: Congenital Heart Diseases (CHD) with heart failure are growing health problem in Egypt. Nutritional status, especially micronutrients as zinc (Zn), in this group of patients is affected by many factors as impaired absorption, deficient intake, and use of medications that affect serum zinc level as diuretics and Angiotensin Converting Enzyme Inhibitors (ACEI).

Objectives: To assess serum zinc levels in pediatric patients with congenital acyanotic heart diseases in comparison to healthy controls, to examine the correlation of heart failure severity, pneumonia and anti-failure medications with serum Zn level.

Methods: Cross sectional descriptive study was conducted on 100 patients with congenital acyanotic heart diseases, with various stages of heart failure. Cases were compared to 50 age and sex matched control group. Clinical assessment of growth and stage of heart failure using ROSS classification for those ≤ 2 years of age and NYHA staging for those more than 2 years of age, measurement of serum Zn level using flame atomic absorption spectrophotometer and transthoracic color Doppler Echocardiography were done.

Results: mean serum Zn level was significantly lower in patients (76.71 ± 19.74) than controls (132.33 ± 20.96), p value < 0.001 . It was significantly lower in advanced stages of heart failure (p value < 0.001 for ROSS) and p value 0.009 for NYHA stages. There was no significant correlation between serum zinc level and echocardiographic parameters or anti-failure medications.

Conclusion: Serum zinc level was low in congenital acyanotic heart, with no significant correlation with use of diuretics or ACEI

Biography

Gehan Hussein Ahmed Abdelgalil is the Professor of Pediatrics, Faculty of Medicine, Cairo University, Egypt (from 2009). She has completed his Graduation in 1990, Master Degree in Pediatrics in 1994 and MD Degree in Pediatrics in 1998. She has worked in Pediatric Cardiology Division (1995 till now). In addition to general pediatric experience, she has special interest in pediatric echocardiography for congenital and acquired heart diseases in pediatrics, post-operative care for pediatric cases after palliative and/or corrective cardiac surgery as well as interventional cardiac catheterization for 11 years (2005 to 2016), worked as unit head of inpatient pediatric cardiology department in new children hospital, Cairo University (2016-2017).

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