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Letter to Editor

Can atrial natriuretic peptides measurement diagnose heart failure at different age groups?

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With interest, I read the article by Khalilian et al.[1] entitled "Relationship between echocardiographic findings and laboratory serum biomarkers in patients with and without low cardiac output" that recently published in your valuable journal. We know that in adult patients, atrial natriuretic peptides (ANP) and brainnatriuretic peptides (BNP) have been used for diagnosis, monitoring of treatment effects, and estimating the prognosis of systolic and diastolic heart failure.[2] Furthermore, ANP would remain quite stable during storage in plasma at −80 °C for even 12 months.[3] I would like to attract the authors' and readers' attention to some points that can be helpful in conducting future studies.

First, it is known that patient characteristics, such as age, gender, weight, and glomerular filtration rate (GFR) may influence the ANP and BNP plasma levels.[4] Therefore, it was better if the case and control groups were matched in gender, just similar to what was performed for age. In addition, the authors should have selected end-stage renal disease (ESRD) patients with normal systolic heart function as the control group for comparing with the case group.

In this study, the highest BNP and ANP plasma concentrations were found in children and adolescence with systolic heart failure. However, elevation of BNP and ANP plasma levels were higher in patients with significant volume overload than those with isolated pressure overload. These findings were consistent with the results reported by Westerlind et al.[5]

Also, I would like to get your attention to an interesting point. Westerlind et al. showed a linear correlation between ANP plasma concentration and left ventricular ejection fraction (LVEF) in children and adolescentsand Zolty et al. reported such correlation in adult patients (aged 31–62 years).[3]But surprisingly, Rutten et al. reported that the BNP, and not the ANP plasma level increased progressively with the LVEF decline in geriatric outpatients (older than 65 years).[4] This suggests that measurement of ANP plasma level in these patients may have no additional value compared with measurement of the BNP level. Thus, further studies are required for evaluation of this difference among the age groups.

Allahyar Golabchi[1]

Conflict of Interests

Authors have no conflict of interests.

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1- Cardiologist, Health Research Center, Bagiyatallah University of Medical Sciences, Tehran, Iran.
E-mail: golabchi@edc.mui.ac.ir

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