



Letter to the editor

Effect of sacubitril/valsartan on cardiac filling pressures in patients with heart failure: Suggestions for statistical analysis

Sercan Okutucu ^{a,*}, Nurbanu Bursa ^b^a Memorial Ankara Hospital, Department of Cardiology, Ankara, Turkey^b Hacettepe University, Department of Statistics, Ankara, Turkey

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Dear Editor,

We read with great interest the recent article entitled “Effect of sacubitril/valsartan on cardiac filling pressures in patients with left ventricular systolic dysfunction” by Khan et al. [1]. In this paper, authors assessed the change in hemodynamic profiles after sacubitril/valsartan treatment. They enrolled 13 subjects with heart failure with reduced ejection fraction (HFrEF) and CardioMEMS™ device. Transmitted pulmonary artery (PA) pressures from device were averaged and compared for one week before and after initiation of sacubitril/valsartan, after dose increase and at 3-month follow-up. They concluded that sacubitril/valsartan causes an acute reduction in PA pressures after initiation. However, there was no incremental reduction after dose increase and short-term follow-up.

We have some comments regarding a potential problem in the statistical analysis. Clearly, the null hypothesis in this study is that PA pressures will not change when measured before, after sacubitril/valsartan initiation, dose increase or at 3-month follow-up. Instead of comparing all PA pressures during study period, they did a pairwise comparison, in other words, compared them two by two with paired two-sample *t*-test. This method increases the type I errors, therefore, decreases the confidence level of research [2]. For this reason, we suggest the authors use repeated measures ANOVA. However, because they have a small sample size, they should use the Friedman test, nonparametric version of ANOVA [3]. If they reject the null hypothesis, they can use some Post-Hoc group comparison tests to define which periods affect to rejection [4].

Competing interests

The authors report no relationships that could be construed as a conflict of interest.

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* Corresponding author at: Memorial Ankara Hospital, Department of Cardiology, Cankaya, Ankara P.O: 06520, Turkey.

E-mail address: sercanokutucu@yahoo.com (S. Okutucu).