

# Correspondence: Predictors of Mortality in Paediatric Myocarditis

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Dear Editor,

We read with great interest, the original article by Abrar S et al., in the June, 2016 issue of your journal [1]. At first, we would like to commend the authors for their endeavour but at the same time feel that few clarifications are required and also would like to make the following comments which would benefit the general readers of JCDR:

1. The authors fail to mention whether informed consent was obtained from the patients/ their legal guardians for enrolment and obtaining clearance from Institute/ University Ethical Committee for the study.
2. It is mentioned that "Children with known cardiac lesions, congenital or acquired, presenting with heart failure were excluded. This raises concern whether, cases of known heart disease presenting with Congestive Heart Failure (CHF) were only excluded.
3. The authors used Expanded criteria for diagnosis of myocarditis [2], which mentions a cut off of >0.1 ng/ml of Troponin I to denote evidence of 'Troponin I release' but the [Table/Fig-1] shows a cut off level >0.02 ng/l of Troponin I.
4. [Table/Fig-1] shows a total 14 patients having New York Heart Association (NYHA) class IV symptoms while [Table/Fig-2] reveals only 12 such patients (six survivors and six non-survivors). This is of special interest as NYHA class IV symptoms were subsequently found to be an independent predictor of mortality.
5. According to [Table/Fig-2] total number of males in the study were 32 (26 survivors and eight non-survivors) out of 62 cases, which makes the male:female ratio 1.06:1 but [Table/Fig-1] mentions the same ratio to be 1.2:1.
6. The authors have used NYHA (New York Heart Association) classification for grading dyspnea in the studied children. But it is not appropriately applicable for the paediatric age group [3]. Rather they could have used other classification system such as Modified Ross Classification or New York University Paediatric Heart Failure Index, which are designed for use in paediatric population.
7. The authors could demonstrate that high Troponin I, high Brain Natriuretic Peptide (BNP), and low left ventricular ejection fraction were significantly associated with mortality in paediatric myocarditis with the last two parameters being independent predictors of mortality. But it would have been really helpful clinically if the authors could give the most statistically useful cut-off with best sensitivity and specificity with the help of Receiver Operating Characteristic (ROC) curve for these risk factors for predicting mortality.

## REFERENCES

- [1] Abrar S, Ansari MJ, Mittal M, Kusshwaha KP. Predictors of mortality in paediatric myocarditis. *J ClinDiagn Res.* 2016;10:SC12-16.
- [2] Liu PP, Schultheiss HP. Myocarditis. In: Braunwald's Heart Disease: a textbook of cardiovascular medicine. (Volume 2). Libby P, Braunwald E (Ed.), W. B. Saunders, Philadelphia, 2008; 1784-85.
- [3] Hsu DT, Pearson GD. Heart failure in children: part I: history, aetiology, and pathophysiology. *Circ Heart Fail.* 2009;2:63-70.

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