



A Study on Electrocardiography, Echocardiography, and Cardiac Biomarkers in Aluminum Phosphide Poisoning and Their Prognostic Correlation

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Dear Sir,

We read with great interest the article by Harshvardhan Tiwari et al. titled "A Study on Electrocardiography, Echocardiography, and Cardiac Biomarkers in Aluminum Phosphide Poisoning and Their Prognostic Correlation" published in JAPI.¹ The authors should be congratulated for addressing the clinically significant issue of prognostic indicators in aluminum phosphide (AIP) poisoning, which is associated with high mortality in developing countries.

The study highlights the role of electrocardiographic abnormalities, echocardiographic findings, and cardiac biomarkers in predicting mortality. However, we would like to seek clarification regarding certain inconsistencies in the reporting of multivariate analysis results. In the discussion section, the authors report odds ratios for positive troponin-I, global hypokinesia, abnormal ECG, and abnormal PaO₂ as 0.31, 0.42, 0.44, and 0.03, respectively. However, Table 4 reports very different values for the same variables, namely 20.31, 8.42, 6.44, and 9.03, respectively. Since odds ratios below 1 and above 1 carry entirely different clinical implications, clarification regarding the correct estimated value would help to interpret and reproduce the study findings more correctly.

Additionally, the simultaneous inclusion of multiple cardiac biomarkers such as troponin-I, CPK-MB, CPK-NAC, and LDH in the prognostic model raises the possibility of multicollinearity, as all these variables are a reflection of myocardial injury. It would be valuable to know whether the use of collinearity diagnostics or variable selection methods was done before multivariate regression analysis was performed. Identification of the single most predictive and feasible biomarker may be more clinically useful than using multiple independent markers correlating with each other.

We also believe that serial echocardiographic assessment may further help in predicting the prognosis in AIP poisoning, as previous studies have reported the possibility of reversible myocardial dysfunction and transient ventricular stunning.²⁻⁵

Nevertheless, the study makes a valuable contribution to the growing literature on AIP cardiotoxicity and reinforces the importance of early cardiac evaluation in these patients.

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