“ASSESSMENT OF MYOCARDIAL STATUS IN CRITICALLY ILL CHILDREN IN PICU - A PROSPECTIVE OBSERVATIONAL STUDY”

**ABSTRACT**

**BACKGROUND:**

Myocardial dysfunction remains an important cause of mortality and morbidity in children requiring intensive care and prompt intervention. Cardiac impairment occurs in significant amount of children with no preexisting cardiac illness both congenital & acquired. Often cardiac impairment is overlooked due to lack of sensitive diagnostic tests. Our study aimed at assessment of cardiac status of critically ill children admitted in PICU using various modalities like TROTONIN T as gold standard, ECHO, ECG. Analysis was made regarding the extent of myocardial damage in each illness of various etiology. Mortality, morbidity was analysed in these children

**METHODOLOGY:**

A hospital PICU based prospective analytical study was performed over 112 children over a period of 6 months admitted in our PICU from April 2017-September 2017. Myocardial dysfunction was evaluated using Troponin T quantitative ECLIA test, electrocardiography and bedside echocardiography.

**RESULTS:**

In our study 112 children fulfilling the inclusion criteria were enrolled for the study. 33 children had myocardial dysfunction evident with elevated troponin t levels. 38 children among 112 died. 25 out of 38 non-survivors had elevated troponin t levels. 13 children out of 112 had positive echo findings that included LVEF shortening. All these 13 children had elevated troponin t values. 33 children had positive ECG findings among which 13 had elevated Troponin T levels. There was a statistically significant (<0.005) correlation between elevated Troponin T values and mortality. There was a statistically significant correlation
between morbidity such as ventilation, hospital stay, shock, need for Ionotrope and high Troponin T values. cardiac assessment using Troponin T, ECG, ECHO modalities helps us in early detection of even minor myocardial injury and prompt & early intervention in improving the survival in these children.

CONCLUSION:

Assessment of cardiac status using Troponin T, ECG, ECHO reveals myocardial injury in children of non-cardiac illnesses admitted in PICU. Myocardial injury is evident by early elevation of troponin t levels supported with ECG, ECHO findings. Troponin T is the early and sensitive marker of myocardial injury when compared to ECG, ECHO. This helps in early diagnosis and prompt intervention in improving the outcome in these children.

KEYWORDS: Myocardial injury, TROPONIN T, ECG, ECHO