

Assessment of serum level of Troponin T in preterm infants with and without ductus arteriosus hospitalised in the neonatal care unit of Fatemieh Hospital

Hossein Ariana, Asadolah Tanasan, Behnaz Basiri, Maryam Shokouhi, Alireza Rastguy Haghi and Azar Pirdehghan



Hamedan University of Medical Sciences, Iran

Abstract

Objective: One of the problems of preterm infant is patent ductus arteriosus (PDA). PDA in preterm infants can lead to a left-to-right shunt and pulmonary congestion, left ventricular volume overload that can exacerbate respiratory symptoms and ventilator dependence, and morbidity and mortality. Advanced echocardiography plays a major role in the diagnosis of neonatal heart disease and myocardial function study, but early diagnostic tools are needed due to unavailability of advanced echocardiography.

Material and Methods: In this prospective cross sectional study, 33 neonates with PDA and 30 neonates without PDA at the age of 3-5 day were selected by simple sampling method from hospitalized neonates in NICU of Fatemieh Hospital in Hamadan. They were examined in terms of PDA and were classified into two groups: with PDA and without PDA. Then they were examined regarding the serum level of troponin T and myocardial function studies by conventional and tissue Doppler echocardiography. Data was analyzed by SPSS software version 21 at 95% confidence level.

Results: The mean and standard deviation of serum levels of troponin T in neonates with and without of PDA were 351.88 ± 413.43 and 302.00 ± 240.90 nanogram / liter (ng/l), respectively ($P = 0.120$) that was not statistically significant but on the fourth day of birth it was 624.67 ± 741 and 316.00 ± 286.90 ng/l, respectively ($P = 0.036$) that is statistically significant. The correlation coefficient between serum levels of troponin with RMPI and LMPI was positive at 0.518 and 0.562 ($P < 0.001$) and with TAPSE index minus 0.015 ($P = 0.906$).

Conclusion: In preterm infants, there is a correlation between right and left myocardial performance with serum troponin T level. Therefore, measuring serum levels of troponin T on the fourth day after birth can be helpful in detecting patent ductus arteriosus.

Keywords: Troponin T, Preterm neonates, patent ductus arteriosus



Biography:

Hossein Ariana is a Pediatric Assistant at Hamedan University of Medical Sciences.

[17th International Conference on Pediatrics and Pediatric Cardiology](#); Webinar; June 18-19, 2020.

Abstract Citation:

Hossein Ariana, Assessment of serum level of Troponin T in preterm infants with and without ductus arteriosus hospitalised in the neonatal care unit of Fatemieh Hospital, Pediatric Cardiology 2020, 17th International Conference on Pediatrics and Pediatric Cardiology; Webinar; June 18-19, 2020 (<https://pediatriccardiology.conferenceseries.com/europe/abstract/2020/assessment-of-serum-level-of-troponin-t-in-preterm-infants-with-and-without-ductus-arteriosus-hospitalised-in-the-neonatal-care-unit-of-fatemieh-hospital>)