Cardiac troponin i as a marker of cardiorespiratory morbidity in neonatal respiratory distress

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Neonatal respiratory distress is a major topic of neonatal research,however, no clear cut physiologic parameter exists which enable an earlyidentification of patients who are either at risk to develop myocardialinjury.cardiac abnormalities in neonatal respiratory distress are oftenunder diagnosed and require a high index of suspicion.ECG,Echo andmeasuring CK-MB isoenzyme activity help within limit in earlyrecognition and better management ofthese cases.Troponin I (TnI), an inhibitory protein complex located on the actinfilament of cardiac muscle, has become a specific marker of myocardialdamage. (Bhavsar PK.,1991) Troponin has been studied in a wide rangeof clinical settings. However, many questions are still unanswered,especially in preterm neonates with the most common pathology at birth,such as idiopathic respiratory distress syndrome (IRDS). Cardiac troponinI (cTnI) is structural proteins that acts to regulate muscle contraction it isreleased into the bloodstream from injured muscle cells during cardiacischemia with no overlap with skeletal muscle troponins(Adams JE,Bodor GS, 1994) Multiple studies have demonstrated that cTnI isimportant prognostic indicator in newborn infants presenting withrespiratory distress, even when creatine kinase (CK), MB fraction is notelevated. (Anderson PA, 1991) Previous reports suggested that cardiactroponin I concentration in the cord blood of neonates is unaffected bygestation, birth weight, and sex. Furthermore, increases in-91-summarycardiac troponin I in the cord blood were found to independently predictthe development of respiratory distress syndrome (clark, 2002).This study was conducted in the NICU of Banha university hospital. Thisstudy included 60 preterm neonates (32 male and 28 female). Theirgestational age ranged from (29 weeks to 36 weeks), the studied caseswere divided into two groups :-Group (1) included 15 of healthy preterm.-Group (2) included 45 of preterm with R.D which classified into 3subgroups.Subgroup (a) included 15 cases with mild R.D.Subgroup (b) included 15 cases with moderate R.D.Subgroup (c) included 15 cases with severe R.D.All studied neonates were subjected to:(1) full history taking-mode of delivery - birth trauma - mother illness_ assessment of gestational age according to Daubwitz score(2) full clinical examination-neurological examination-heart examination- chest examination-abdominal examination(3) full investigation: cases and their control will be investigated by.-CBC. -ABG - serum troponin I -ECG- chest xray. --92-English summary(4) Determination ofserum level of troponin I (TnI) by the

immuliteLKTl-1l7pincipale of the procedure: immunometic assay.