SUMMARY AND CONCLUSION

The aim of the present study is to characterize the relationship of ET-1 levels in plasma with the degree of severity of respiratory distress in babies suffering RD.

All subjects enrolled in study were classified into two main groups.

Group I: It include 10 normal full term newborns infant 5m & 5f; delivered either normally or by cesarean section.

Group II: it include 35 premature newborns infants 20m & 15f 23 newborns delivered by C.S & 12 newborn delivered by normal vaginal. This group composed of 20 newborns infants with severe RDs & 10 newborns infants with moderate RDs & 5 newborns infants with mild RDs.

Samples were withdrown from the newborns in group I, II 1st sample was withdrown immediately after birth and 2nd sample withdrown 18-40h after birth.

All babies were subjected to full medical history, through clinical examination, laboratory tests including, complete blood count, C-reactive protein, serum electrolytes, blood gases analysis, chest x-ray study, as well as estimation of ET-1 levels in plasma.

Plasma ET-1 levels were significantly higher in babies with various degrees of respiratory distress syndrome compared to control,

being highest in those with severe and decreased with decreasing severity ($p<0.001$).

Among babies with RDS, a statistically significant negative correlation was found between plasma ET-1 levels and gestational age ("r" = -0.794, P<0.01), birth weight ("r" = -0.911, P<0.01). Apgar score at 1 minute ("r" = -0.912, P<0.01) while statistically significant positive correlation was found between plasma ET-1 and and FiO_2 ("r" = +0.864, P<0.01).

CONCLUSIONS:

Plasma level of endothelin-1 during the second day of life in cases of respiratory distress syndrome is higher than its level in cases of respiratory distress due to transient tachypnea of the newborn or meconium aspiration syndrome. So, it can be used in differentiating cases of RDS from other common causes of respiratory distress in neonates.

Estimation of plasma level of ET-1 on the second day of life can be used a specific marker for acute lung injury in neonates with respiratory distress.

Higher plasma ET-1 levels are indicative of the severity of neonatal respiratory distress in the early course of the disease and can be used as a predictor of poor outcome especially in those who are mechanically ventilated.

RECOMMENDATIONS:

Plasma endothelin-1 may be helpful in differentiating cases of RDS from other common causes of respiratory distress in neonates as transient tachypnea of the newborn or meconium aspiration syndrome beside clinical and radiological examination.

Estimation of plasma endothelin-1 may be used as a marker of severity of respiratory distress in neonates. It also can be used as an indicator of prognosis of cases of respiratory distress in neonates.

Further studies should be done to elucidate the long term effects of endothelin-1 on the airways as well as pulmonary hemodynamics in neonates with respiratory distress.

We recommend also further studies to measure ET-1 in different body fluids as urinary ET-1 in asphyxiated neonates to judge the degree and to evaluate the prognosis of renal injury.