Summary & Conclusion

Respiratory distress syndrome (RDS) secondary to surfactant deficiency is a common cause of morbidity and mortality in premature infants.

Increasing evidence suggests that vascular endothelial growth factor (VEGF) may contribute to surfactant secretion and pulmonary maturation. However, differences in cord blood VEGF concentrations in infants with and without respiratory distress syndrome have not been reported.

We hypothesized that premature infants with higher VEGF levels in cord blood had a lower risk of developing RDS.

Cord blood samples were obtained from preterm infants born at 36 weeks of gestation or earlier. Infants were excluded if there was evidence of prenatal maternal infection or any infection within the first 3 days of life. Cord blood VEGF levels were measured using an enzyme-linked immunosorbent assay (ELISA).

In this work we evaluated VEGF level as a marker of lung maturity in neonates with respiratory distress syndrome. The study was carried out on (50) neonates consequently admitted to Neonatal Intensive Care Unit (NICU) of Mansoura general hospital and to the (NICU) of Mansoura University Children Hospital (MUCH) from the period of March 2009 till December 2009.

All neonates were subjected to :

A. Complete history taking including:

1. Antenatal history of maternal diseases, maternal fever, maternal use of antenatal steroids with its type, dose and time of administration, ..etc.

2. Natal history of mode of delivery, premature rupture of membranes,..etc.

B. Complete clinical examination to assess:

gestational age by Ballad score, Apgar scores at 1&5 minutes, degree of respiratory distress syndrome using Downes score.

C. Chest X. ray .

D. Laboratory investigations included:

1. Arterial blood gases (ABG).
2. Cord blood VEGF level using (ELISA) method .

All babies were followed in the neonatal intensive care unit *(NICU)* for possibility of developing RDS .

Babies who did not develop respiratory distress syndrome (RDS) were classified into **group I *(control group)*** , they were 10 preterm infants.

While babies who developed RDS were classified into **group II** (40 preterm infants).

Accorrding to our results we found that cord blood VEGF level was significantly lower in preterm infants with RDS as compared to preterm infants without RDS.

No relation was found between cord blood VEGF levels and birth weight, gestational age, sex, mode of delivery, maternal use of antenatal steroids and premature rupture of membranes in the studied preterm infants .

Severe cases of RDS had significantly lower cord blood VEGF levels, gestational ages, birth weights, Apgar scores at 1&5 minutes, and longer durations on mechanical ventilation.