Summary

Respiratory distress syndrome is one of the most common lung disorders in preterm infants, where RDS represents the single most important cause of mortality and morbidity.

Fibrin deposition and many inflammatory factors have been demonstrated in the pulmonary microcirculation and in the small airways. Many studies showed that activation of the clotting system is involved in the pathogenesis of RDS. Clotting factors such as protein C, protein S have been known to play a role in the coagulation process in RDS.

Recently, protein Z which is a vitamin k dependent protein, was added to these factors.

So, the aim of this study was to evaluate protein Z levels in preterms suffered from RDS and compare it with its level after recovery.

This study was conducted on 57 newborn infants who were recruited from Neonatal Intensive Care Unite ,Benha Children Hospital.

They were divided into 3 groups:

Group (I) patients group: comprised 17 preterm newborns who developed RDS.

Group (II) 20 healthy full term control newborns comprised. (CFT).

Group (III) 20 healthy preterm control newborns (CPT).

For each newborn included in the study, an umbilical cord sample was withdrawn before vitamin K administration. For premature newborns suffered from RDS, another sample was withdrawn to assess protein Z levels after the recovery of the patients group (by one or two days from recovery).

The results of this study revealed lower levels of protein Z in preterm newborns with RDS compared to preterm controls, protein Z levels were found to be significantly lower in preterms control group than in fullterm controls. Lower levels of protein Z in RDS group could be due to :

- Activation of the coagulation system, in RDS patients.
- Reduced protein Z synthesis.

A significant increase in protein Z levels in patients' group was noticed after their recovery from RDS, where it reached near normal levels in full term controls.

As regards the effect of gender, gestational age and mode of ventilation on protein Z levels no influence was detected.

No significant correlation existed between protein Z levels and either blood gases or complete blood picture parameters except with platelets count where a significant negative correlation was present between both in patients' group.