Summary

Respiratory distress syndrome (RDS) representing the single most important cause of mortality and morbidity in preterm infants. RDS results from deficiency of alveolar surfactant, a mixture of proteins and lipids, aiming at reducing surface tension and promote alveolar stability, thus minimizing the work of breathing and permits alveoli of different size to exist in equilibrium.

Lipid metabolism has an important role in fetal development during late stages of gestation. A potentially critical aspect of fetal lipid metabolism may be the requirement for EFA, especially the LC-PUFA. A deficiency of EFA and/or LC-PUFA or reduced transport of these fatty acids to rapidly growing fetal tissue could inhibit normal fetal growth and maturation, one effect of which would be delayed development of the fetal lungs, which could be lead to RDS postnatally.

The aim of this study is to assess and compare between both cord and maternal lipid profile in preterm infants who developed and did not develop DRS and their mothers.

This study was conducted on 100 preterm infants and their mothers. They were divided into (3) groups. ***Group A*** included 35 preterm infants (21male and 14female) who developed RDS and their mothers. ***Group B*** included 35 preterm infants (15male and 20female) who did not develop

RDS and their mothers. ***Group C*** included 30 healthy full term infants (12male and 18female) and their mothers.

In this study all groups were subjected to full history taking, full clinical examination. We exclude: mothers whose pregnancies were complicated by hypertension or toxemia of pregnancy, endocrine disease, neonates SGA, LGA, with any congenital anomalies or asphyxia at birth

We measured serum total, HDL cholesterol and triglyceride and calculated LDL, VLDL cholesterol levels.

The results of this study revealed that;

- Lipid profile of preterm infants with RDS and their mothers was lower than lipid profile of preterm infants without RDS and their mothers.
- Maternal lipid profile was significantly positively correlated to lipid profile of preterm infants with or without RDS regarding LDL, HDL and VLDL cholesterol.
- Maternal weight gain during pregnancy of preterm infant with RDS is significant lower compare to mothers of preterm infant without RDS.

Conclusion, RDS is accompanied with lipid alteration in infants and their mothers and weight gain during pregnancy might have a prognostic significance in the prediction of RDS.

We may recommend: Appropriate maternal weight gain during pregnancy to decrease morbidity in neonatal period. Pregnant women should follow dietary regimen that help their lipid profile to be optimum for fetal growth thought healthy diet rich in omega-3 and omega-6 PUFA in ratio 4:1.

We may use Lipid profile of pregnant women for prediction of incidence of RDS for prenatal management.