SUMMARY

The aim of this study was to evaluate the effect of maternal anthropometric characters and maternal lipid profile on the neonatal lipid profile of preterm infants.

The study was conducted on 30 neonates suffering from RDS admitted at the neonatal intensive care units of Pediatrics hospital, Benha University ,and their mothers received antenatal care in Gynecology and Obstetrics hospital, Benha University between October 2010 and January 2011 and a group of 20 preterm newborns not suffering from any respiratory disease, and their mothers who received antenatal care in Gynecology and Obstetrics hospital, Benha University between October 2010 and January 2011 were enrolled in this study as a control group .

The study groups included 30 neonates with RDS, their gestational ages ranging from 27 to 36 weeks, and birth weights ranging from 750 to 2600 g. And 20 preterm newborns without RDS, their gestational ages ranging from 31 to 36 weeks, and birth weights ranging from 1200 to 2700 g were enrolled in this study as a control group.

All the mothers and newborns were subjected to detailed medical history, thorough clinical examination and laboratory investigations including serum total cholesterol, HDL-cholesterol, LDL-cholesterol, VLDL-cholesterol and triglyceride.

As regards the clinical maternal characteristics, pre-gravid weight, pre-gravid BMI and weight gain during pregnancy were significantly lower in mothers of preterm infants with RDS when compared to the control group. However, no significant difference of the ruptured membrane > 24 h ,pre-gravid height, age ,parity, and receiving dexthamthasone between the mothers of RDS and mothers of the control group.

Upon examining the neonatal demographic characteristics the gestational age, birth weight, length, head circumference, Apgar score at 5 min were significantly lower in RDS group compared to the control group and no significant difference of the podernal index, sex and Apgar score at 1 min between RDS and control group.

There is a lower significant of total serum cholesterol, HDL-C, LDL-C levels, were significantly lower in neonates with RDS when compared to control group while their serum triglycerides and VLDL showed no significant difference.

As for mothers, there is lower significant of total cholesterol, HDL-C, LDL-C, triglycerides and VLDL-cholesterol levels in mothers of patient when compared to mothers of control group.

In the current analysis correlation studies between neonatal clinical characteristics and their lipid profile showed that ,there are significant positive correlations between gestational age, length, ponderal index ,head circumference and the total newborn cholesterol ,significant positive correlations between gestational age, birth weigth , ponderal index ,and the newborn low density lipoprotein cholesterol(LDL) and significant positive correlations between ponderal index ,and newborn high density lipoprotein HDL-C.

In the current analysis Correlation studies between maternal lipid profile and their neonates lipid profile in infants with RDS ,There are a positive correlation between maternal cholesterol and neonatal cholesterol ,a positive correlation between maternal and neonatal triglycerides , a positive correlation between maternal total cholesterol and newborn HDL ,a positive correlation between maternal triglyceride level and (neonatal total cholesterol, neonatal LDL-C and neonatal VLDL-C), a positive correlation between maternal low density lipoprotein cholesterol, LDL-C and (neonatal Total cholesterol, neonatal TG , neonatal HDL-C and neonatal VLDL-C) and a positive correlation between maternal very low density lipoprotein cholesterol ,VLDL-C and (neonatal total cholesterol , neonatal LDL-C, neonatal VLDL-C and neonatal TG).

Upon studying the association between maternal anthropometric characteristics and their neonates lipid profile we found a positive correlation between maternal pre-gravid weight and (neonatal Total cholesterol, neonatal HDL-C and neonatal LDL-C) , a positive correlation between maternal height and (neonatal Total cholesterol and neonatal HDL-C) and a positive correlation between maternal BMI and (neonatal Total cholesterol and neonatal LDL-C) .

In the view of the predictive ability of the maternal lipid profile we found that the maternal High Density Lipoprotein-Cholesterol HDL-C is the most significant in predicting RDS in neonates.

Upon studying the effect of sex on the measured neonatal lipid profile, no significant difference was found between male and females. .

Upon studying the neonatal ultrasonographic characteristics according to obstetric ultrasound done within 1 week before delivery , we found Bi-parietal diameter, abdominal circumference ,femoral length and, ultrasongraphic weight were significantly lower in RDS neonates compared to non RDS group. that is because RDS neonates have lower gestational age than the control group .

Upon studying the effect of mode of delivery on neonatal lipid profile ,no significant difference was found in lipid profile between infants born vaginally and those born by cesarean section.