SUMMARY

Thyroid hormones are steroid hormones released from follicular cells of thyroid gland under the effect of TSH which released from pituitary gland. Thyroid hormones play an important role in maturation of heart, lungs, other organs and tissues.

Premature delivery is one of the most important causes of serious illness among newborn infants. Recent reductions in infant mortality rates have occurred primarily through more effective treatment of prematurely born infants. Even for the most premature infants, the outlook is improving.

Respiratory distress syndrome is of the most common causes of respiratory distress in newborn it occurs primarily in premature infants its incidence is inversely proportional to gestational age and birth weight.

A variety of hormones, including glucocorticoids and thyroid hormones, are considered to influence pulmonary development and lung surfactant production.

In this study we used TSH and total T4 levels as a biochemical marker to detect whether there's significant correlation between RDS and T4, TSH or not.

This work was carried out on **60** preterm neonates (**40** male and **20** female). Their gestational age ranged from (**28** weeks to **36** weeks) and their weight ranged between (**1000** gm to **2600** gm) they were collected from neonatal intensive care unit, Benha university hospital during the period from August ,**2008** to April , **2009**. They were divided into two groups:

Group I (control): included **20** cases of healthy preterm neonates who do not have respiratory distress (**11** male and **9** female).

Group II (cases): included **40** cases of preterm neonates with respiratory distress syndrome (**25** male and **15** female). In our study group II was classified into two categories divided by gestational age as follows **28 - 32** wks and **33 - 36** wks, and by birth weight as follows **<1500**gms and **>1500**gms.

We were found that there was a significant correlation between TSH and gestational age. Also we found that there was significant correlation between TSH and birth weight with P value **<0.05**.

We reported that the TSH level in infants delivered by cesarean section was significantly higher than that of infants delivered vaginally with P value **<0.05**.

There was no significant correlation between TSH, Apgar score at **1** min, Apgar score at **5** min or between TSH and sex with P value **>0.05**.

There was no significant correlation between T4 and gestational age P value **>0.05**, But we found that there was significant correlation between T4 and birth weight.

There was no statistical significant correlation between T4 and Apgar score at **1** min, Apgar score at **5** min or between T4 and sex distribution or mode of delivery with P value **>0.05**.

In our study we revealed that:-

There was statistical significant correlation between incidence of RDS and gestational age, mode of delivery, Apgar score and birth weight with P value **<0.05** .But there was no statistical significant correlation between incidence of RDS and TSH, T4 or gender with P value **>0.05**.