AIM: To find out the role of prolactin in fetal lung maturation.

STUDY DESIGN: Prospective pilot study, where 75 random antenatal patients between 32 weeks to term were selected. During delivery cord blood of about 3ml collected and prolactin levels measured. And the values correlated with Apgar, development of RDS, NICU admissions.

RESULTS: In normal pregnancy (control group) prolactin increases with gestational age. With gestational age 34-37 weeks mean prolactin 280.61ng/ml, compared with gestational age 38-40 weeks mean prolactin 429.50ng/ml. In our study serum prolactin is lower in babies with Apgar 5. Whenever serum prolactin is lower, babies also had low Apgar. In our study, when prolactin is significantly lower, (mean value 147.80 ng/ml) babies developed RDS and all 4 babies were admitted in NICU.

CONCLUSION: Our study clearly indicates role of fetal prolactin in fetal lung maturation. Prolactin direct trigger in lecithin synthesis or in a chain reaction along hypothalamic pituitary adrenal axis and important for lung maturation surfactant synthesis.

Keyword: RDS-respiratory distress syndrome, NICU- neonatal intensive care unit.

INTRODUCTION: Fetal lung maturation is modulated by several hormones. Prolactin is present in amniotic fluid from 24 weeks. 2-10 fold higher levels than in maternal serum levels. Cord serum levels increases with gestational age

- 16-19 weeks - 53+/−16 ng/ml
- 20-34 weeks - 233+/−30 ng/ml
- 35-42 weeks - 371+/−35 ng/ml

Fetal prolactin rises before surfactant synthesis and there are prolactin receptors in lungs. Prolactin -direct triggers in lecithin synthesis or in a chain reaction along hypothalamic pituitary adrenal axis and important for lung maturation and surfactant synthesis.

OBJECTIVE: To find out the role of fetal prolactin in lung maturation.
STUDY DESIGN:
Prospective pilot.

INCLUSION CRITERIA
- Patients with known LMP.
- Patients with known date of quickening.
- Patients with dating USG.
- Willing for study.

EXCLUSION CRITERIA
- Hyperprolactinemia
- Hypothyroidism
- Intrauterine death.

METHOD
3ml of cord blood collected.
Serum prolactin estimated.
Correlated with Apgar, development of RDS and NICU admissions.

CORRELATION OF SERUM PROLACTIN IN HIGH RISK PREGNANCIES - IN OUR STUDY.
In our study of high risk group, prolactin level does increasing with increasing gestation but proportionately lower than the rise in normal pregnancy similar to Dayal M, Malhotra et al study in 2001 on fetal cord prolactin in normal and abnormal pregnancies.

CORRELATION OF SERUM PROLACTIN WITH RDS.
In our study, when prolactin is significantly lower, (mean value 147.80 ng/ml) babies developed RDS and all 4 babies were admitted in NICU.
OTHER STUDIES:
1) GARCIA LEON JF et al in 1995 analysed prolactin levels throughout gestation and evaluated low prolactin level with RDS development. The results of our study corresponded with their literature.
2) A.LUCAS, BAKER et al in 1990 measured prolactin levels and found low levels in babies with low apgar which is similar to our study.
3) ROSA MARIA et al in 1981 studied maternal, fetal and amniotic prolactin in GDM which showed increased prolactin levels with increasing gestation similar to our study and development of RDS in babies with lower prolactin levels.
4) SALTZMAN DH et al in 1986 has studied fetal cord prolactin level in diabetic pregnancy and found decreased prolactin levels in babies of GDM mothers and subsequent RDS development. Our study also had low prolactin levels in RDS babies.
5) P.D.GLUCKMAN et al in 1978 found that prolactin levels were not suppressed in mothers treated prenatally with steroids.

CONCLUSION:
Our study clearly indicates role of fetal prolactin in lung maturation.

REFERENCES: