



## A PROSPECTIVE STUDY OF SPONTANEOUS VERSUS INDUCED PRETERM DELIVERIES AND NEONATAL OUTCOME.

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### KEYWORDS :

#### INTRODUCTION:-

Preterm Labor is defined as one where the labor starts before 37 completed weeks (<259 Days) counting from LMP which is associated with regular contractions of the uterus resulting in changes in the cervix – such as effacement and dilatation so that foetus can enter the birth canal. In spite of great advancement in obstetric management preterm delivery still poses a great challenge. Preterm delivery which is associated with morbidity and mortality represents an unsolved problem in obstetrics. Conservative management of these patients until at least 34 weeks when estimated foetal weight is around 2 kg will reduce neonatal morbidity and mortality at the cost of neonatal care. According to R.C.O.G guideline the rate of antenatal steroids betamethasone has been proved beyond 34 weeks as it helps in lung maturation. So that incidence of R.D.S, I.V.H, NEC are minimized. This is beneficial when delivery is delayed beyond 48 hours of first dose. Role of tocolytics and antibiotics are controversial according to RCOG (2002). Tocolytics should be better to be avoided.

#### OBJECTIVE:-

To evaluate the factors that influence the neonatal morbidity and mortality in preterm babies. A prospective analysis of preterm birth was done from August 2019 to July 2020 in P.M.C.H Obstetrics and Gynecology department for a period of one year. Patients have been categorized in two groups. Group A and Group B. Group A patients were spontaneous preterm labor and Group B patients were electively induced for obstetrics indications. 52 Patients were spontaneous preterm labor in Group A and 28 patients were in Group B. Antenatal steroids (Betamethasone) was given to women. MgSO<sub>4</sub> was used to inhibit labor in Group A to achieve benefit of steroids. Women who delivered between 28-37 weeks were included in the study on admission. Detailed history and examination were recorded.

Gestational age was determined from LMP and Clinical examination are better supported by U.S.G for purpose of analysis. We classified our patients into 2 distinct groups.

Group A – were in spontaneous preterm labor in whom uterine contractions were associated with cervical changes (52 Cases).

Group B – were electively induced for obstetrical complications like severe PIH, IUGR and APH (28 cases).

All the patient in group A has the following investigation done. Complete blood count, Routine examination of urine, endocervical swab for aerobes and anaerobes USG for foetal physical profile (foetal wt, liquor volume and anomalies).

In Group B apart from clinical findings USG and Doppler were the main diagnostic tool used to time the delivery.

Initial management consisted the following,

Group – A	Group – B
Complete Bed Rest	Treatment of obstetric complications and steroids.
Steroids	
Tocolytics (MgSO <sub>4</sub> )	
Antibiotics with PROM	

Standard dose recipient of corticosteroids two dose of corticosteroids 12 mg of betamethasone given at interval of 12 hours delivery taking place after 24 hours and within 7 days of second dose of steroids. When these criteria were not satisfied.

It was considered as non standard dose. MgSO<sub>4</sub> was used for tocolytic. Maternal and foetal monitoring were done at regular interval.

#### OBSERVATION AND RESULT :-

There were 80 preterm birth out of total deliveries. 65 % of women 52/80 were in spontaneous labor at the time of admission in Group A. 35% (28/80) were electively induced for obstetric complications PIH, IUCR, APH (Group B) electively. All women received antenatal steroids except for 2 in Group A who had lethal foetal anomalies. Out of 78 who received standard dose of steroids 70% and 10% received non standard dose.

In Group A 23 out of 50 progressed to deliver within 24 hours of steroids while 27 out of 50 delivered after 24 hours of steroids.

In group B all the patients delivered after 24 hours of steroids as they were induced.

#### Mode Of Delivery:-

Group A :- Vaginal – 32/52 -61.5%  
Instrumental – 3/52 -5.76%  
Caesarean – 17/52 -32.69%

Group B :- C.S was common 21/28 (75%) compared to vaginal delivery 7/28 (25%)

**Table :- 1 C.S Indication**

INDICATION	Group A (17/52)	Group B (21/28)
Severe IUGR	0	2
Foetal Distress	4	7
Failure to Progress	5	3
Breech	3	1
Non vertex 1 <sup>st</sup> Twin	2	1
Severe PIH	2	5
APH	1	2

**Table :- 2 Neonatal Morbidity Causes Table**

Causes	Group A No. – 43	Group B No. – 20	Total No. – 63
Hyperbilirubiremia	29	15	44(69%)
RDS	14	7	21(33%)
Necrotizing enterocolitis	7	3	10(16%)
Sepsis	5	3	8(13%)
Intraventricular hemorrhage	3	1	4(6%)
Feeding Difficulties	7	5	12(20%)

There were 18 perinatal death among 80(22.5%) of which 7 were fresh still birth and 11 were NND. In my study about 79% perinatal death were in 28-32 week. Large number of babies from both the groups were between 1500-2000 gms (LBW). Severe IUGR with VLBW mainly accounted for fresh still birth. RDS accounts for large number of neonatal deaths <(18-88%). In my study it was observed that lesser the gestational age greater is the perinatal mortality, more the gestational age lesser the perinatal mortality.

#### DISCUSSION:-

Incidence of preterm birth is 10.23% in my study. Incidence of preterm delivery was 18% which is high, this is most likely due to referral pattern to a tertiary care centre. Spontaneous preterm labor was 56% with variation in frequency depending socio-economic status and other factors. Premature rupture of membrane 22%, twin 3/50, Breech 5/50, anomalies 22 % where deliberate intervention was needed either for foetal or maternal indication.

Severe PIH, Severe IUGR, APH are the most common risk factors for preterm birth. 1<sup>st</sup> trimester bleeding associated with 40% of total preterm birth. On analyzing the neonatal outcome, hyperbilirubinemia

is seen 80% of babies born between 28-32 weeks of gestational and RDS in 49% of them. Overall neonatal mortality in our study is 20.48% of which maximum is 55.53% is between 28-32 weeks of pregnancy.

#### CONCLUSION :-

Mostly the risk factors of preterm birth are modifiable and preventable therefore preconceptional counselling has a great role to bring down the incidence of preterm labour. Foetal outcome was good 63 out of 77 survived and were discharged in good condition –

1. In Uterotransfer of preterm babies.

2. Antenatal Steroid.

The ACOG clinical management guidelines for Obstetrics and Gynecology for the management of preterm labor estimates that relative distribution of etiology of preterm birth <34 weeks gestational age is 30% PROM 40% preterm labour.

Based on our study it was also concluded that mode of delivery does not influence mortality and morbidity of preterm infant. If there were no obstetric indication favoring a particular mode we believe CS cannot be recommended as the routine mode of delivery for preterm babies unless there are other maternal and fetal indication.

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