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Original Research Article

To Know the Perinatal and Maternal Outcome in Preterm Labour in Micronized Progesterone Treated Group

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Abstract:

Background & Method: The aim of the study is to know the perinatal and maternal outcome in preterm labour in micronized progesterone treated group. Emergency cases admitted in department of Obstetrics and Gynaecology with high risk history of recurrent abortions, history of preterm labour, prophylactic circlage or a uterine malformation.

Result: There was significant reduction in perinatal morbidity and mortality in study group. The percentage of perinatal mortality in cases was 1.21 and in control group 8.33%. The percentage of perinatal morbidity was almost similar in both groups 17.07 in study and 18.7 in controls group but there was significant difference in birth weight of labour born. In controls about 45.83% babies born weight more than 2.5 kg while 60.97% babies were above 2.5 kg in study group. The nursery stay was shorter in study group. Perinatal mortality was 12.53% and 1.21% in controls and cases respectively.

Conclusion: Prevention of preterm labour has become one of the major objectives of perinatal and maternal medicine. Micronized progesterone use for prevention of preterm labour and for prolongation of pregnancy has been in phase III trial and the results have been very encouraging and it has opened a new chapter in field of medicine.

Keywords: perinatal, maternal, outcome & preterm labour.

Introduction

Preterm labour is defined by W.H.O. as presence of contractions of sufficient strength and frequency to effect progressive effacement and dilatation of cervix between 20 and 37 week of gestation [1]. Overall incidence of preterm labour worldwide is 6-10% out of which spontaneous are 40-50%, premature PROM are 25-40% and obstetrically indicated are 20-25%.

Prior to 1872 infants were not even weighted at birth whether full term or premature. Prematurity became nationally visible as the most frequent cause of death in infancy when in USA countrywide statistics became available with the 1949 revision of the birth certificate, which specified gestational age and birth weights [2]. Preterm births are implicated in at least two thirds of these early infant deaths.

Much research has been directed at identification of women in whom preterm labour is likely to occur so that prevention could be addressed [3]. It is imperative that such a screening tool, for use in a random population of pregnant women, be sensitive and specific and have high predictive value in a population where the incidence of the condition is low[4]. Such a screening test must also be safe and cost effective because it will be applied to a large number of individuals. Numerous methods of screening for preterm labour have been proposed but none has fulfilled all the necessary criteria.

These methods include risk scoring, cervical assessment, uterine activity monitoring, cervicoviginal fibronectin, biochemical markers and mediators of inflammation and infection [5].

Material & Method

Present study conducted at Venkateshwara Institute of Medical Science, Gajraula, U.P. from July 2021 to July 2023 on 32 patients of control out of 96 & 16 cases out of 82 total preterm labour cases, high risk cases seen in OPD and admitted in emergency in department of Obstetrics and Gynaecology.

Emergency cases admitted in Department of Obstetrics and Gynaecology with high risk history of recurrent abortions, history of preterm labour, prophylactic circlage or a uterine malformation.

Evaluation of Efficacy:

1. Missed follow up
2. PROM or Therapeutic preterm labour
3. Cervical dilation more than 4 cm.
4. Coexisting maternal disease including eclampsia, preeclampsia, seizure disorder, thromboembolic and liver disease.
5. Fetal distress and chorioamnionitis.

Inclusion criteria for cases:

1. Singleton pregnancy.
2. History of either a preterm labour, prophylactic circlage, a uterine malformation or currently suffering from premature pains.

Exclusion criteria for cases:-

- Gestational age at which patient delivers
- Number of days or weeks gained in case of premature pains after treatment
- Perinatal morbidity and mortality with respect to birth weight and nursery admissions.

Results

Table 1: Percentage of Perinatal Mortality is Control Group

Total labour	Live births	Still births	%
96	88	12	12.53%

Table 2: Percentage of Perinatal Mortality in Cases

Total cases	Perinatal mortality	%
82	1	1.21

Table 3: Distribution of Cases According to High Risk

S. No	High risk	Number
1	McDonald in situ	22
2.	Premature pain	41
3.	Bicornuate uterus	03
4.	Unicornuate uterus	01
5.	History of preterm labour	19
6.	Bad obstetric history	15

Table 4: Distribution of Control According to High Risk

S. No.	High Risk	No. of patients
1.	BOH	54
2.	Mcdonald in situ	16
3.	History of recurrent abortion	10
4.	Premature pain	16
5.	IUGR	08
6.	Oligohydromnios	06
7.	Grand multiparity	07
8.	PIH	08
9.	Anaemia	04
10.	Rh negative	06
11.	Bicornuate uterus	03
12.	Unicornuate uterus	02
13.	Pre-eclampsia	03
14.	Candidiasis	01
15.	Jaundice	01
16.	Pyrexia	01
17.	Breech	05
18.	History of preterm labour	03
19.	Vaginal septum	03
20.	GDM	01
21.	APA positive	01

Table 5: Percentage of Preterm Labour in Cases with Premature Pain

Total cases	Preterm labour	%
41	15	36.5

26 cases i.e. about 63.41% patients reached maturity. There was significant reduction in perinatal morbidity and mortality in study group. The percentage of perinatal mortality in cases was 1.21 and in control group 8.33%. The percentage of perinatal morbidity was almost similar in both groups 17.07 in study and 18.7 in controls group but there was significant difference in birth weight

of labour born. In controls about 45.83% babies born weight more than 2.5 kg while 60.97% babies were above 2.5 kg in study group. The nursery stay was shorter in study group. Perinatal mortality was 12.53% and 1.21% in controls and cases respectively.

Discussion

Preterm labour was 54.9% in placebo group and 36.3% in progesterone treated group. They concluded that preterm birth probably has many causes and that recurrent preterm labour may be related to a problem for which progesterone treatment is particularly efficacious [6]. Daily vaginal administration of 100 mg of progesterone caused significant reduction in frequency uterine contraction and preterm birth. The rate of preterm birth between progesterone and placebo were 13.8% and 28.5% respectively ($p < 0.05$) [7&8].

In our study it was found that number of days of NICU stay was significantly reduced in infants delivered to progesterone treated mothers though the morbidity was similar in both groups the perinatal mortality was significantly reduced [9]. Perinatal mortality rate was 5% in progesterone treated and 25% in non-progesterone group. These findings he said suggested that progesterone block theory has important mechanism affecting preterm delivery in high risk population.

In our study the perinatal mortality rate was 1.21% in progesterone treated and 12.53% in control group [10]. Dr. Meis et al in his study found that infants to progesterone treated mothers had significantly lower rates of necrotizing enterocolitis, intraventricular hemorrhage & need for supplemental oxygen [11]. Jodie M Dodd et al found that patients receiving progesterone were statistically significantly less likely to give birth before 37 weeks also found that infants with IVH were very less in progesterone treated group[12].

Conclusion

Prevention of preterm labour has become one of the major objectives of perinatal and maternal medicine. Micronized progesterone use for prevention of preterm labour and for prolongation of pregnancy has been in phase III trial and the results have been very encouraging and it has opened a new chapter in field of medicine.

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