



FETOMATERNAL OUTCOME IN CASES OF PRETERM LABOUR

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ABSTRACT

Background: Prematurity is one of the most important causes of perinatal mortality and morbidity. Prematurity is associated with neonatal death, cerebral palsy, mental retardation, visual and hearing impairments, and poor health and growth. **Methods:** It was a prospective intervention study carried out in Department of obstetrics and gynecology, 250 cases of risk for preterm labour out of total of 12778 delivered cases from October 2019-October 2020 in civil Hospital, Ahmedabad. **Result:** The most common causes of preterm birth are previous history of preterm birth, PROM, multiple pregnancy, threatened abortion, infection, preeclampsia and anaemia. 51 babies had NICU admission out of 106 babies delivered preterm. **Conclusion:** Preterm birth is leading causes of perinatal morbidity and mortality worldwide. Patients with risk factor of preterm birth to be assessed and serial USG for measurement of cervical length, so that early detection of risk factor and initiation of appropriate preventive strategies can be taken.

KEYWORDS : Preterm prevention

INTRODUCTION

Preterm or premature birth describes neonates who are born too early with respect to gestational age. Preterm neonates consider to those delivered before 37 completed weeks. Neonates born before term can be small or large for gestational age, but still prematurity by definition. Gestational age can be determined from maternal report of last menstrual period, by ultrasound, especially in the first trimester when variability in fetal development is lowest or by postnatal physical assessment. The most accurate measure for determining gestational age in non-in vitro fertilization pregnancies is by ultrasound (either transvaginal or trans-abdominal). Neonates born before 37 weeks' gestational age are at risk for serious morbidity and mortality. For prevention of preterm birth, risk assessment should be based on a combination of (maternal) risk factors, obstetric history, and screening tools. Cervical length measurements can help identify women at risk. Thereafter, preventive strategies such as progesterone, and cerclage may help prevent preterm birth. In singleton or multiple pregnancies with a short cervix, without previous preterm birth, progesterone might prevent preterm birth. In women with a (recurrent) preterm birth in the past, progesterone and a cerclage may prevent recurrence. The effect of a pessary in these high-risk women is currently being studied. A strong collaboration between doctors, patients' organizations, pharmaceutical companies, and (international) governments is needed to reduce the morbidity and mortality as a result of spontaneous preterm birth.

AIM

1. Early identification of risk factors and causes
2. To assess effectiveness of various preventive strategy in pregnancies at high risk
3. To study the fetometal outcome in pregnancy at risk of preterm labor.

METHODS:

The study was conducted in the department of Obstetrics and Gynaecology, Civil hospital, B.J Medical College, Ahmedabad, which is tertiary care centre. A detailed history was taken including previous obstetrics history and having risk factors of preterm. The age, gravid status, gestational age, menstrual history, obstetrics history, past history were all recorded. General physical examination was done in every case. Obstetrics examination including per abdomen, per

speculum and per vaginal examination. Routine investigations were done. Specific investigations were carried out when required. Trans vaginal sonography for cervical length assessment done serially is a part of risk identification. Progesterone or cervical cerclage and tocolytics are being used in present study starting at 16-24 weeks of gestation Administration of routine medicines like, corticosteroids, antibiotics other than those specified for the study.

RESULT

Table 1: Age Distribution Of The Patients In The Present Study

AGE GROUP(YEAR)	No of Patients (n=90)	Percentage
≤20	11	12.2%
21-25	38	42.2%
26-30	28	31.1%
31-35	13	14.5%

In present study most of women i.e., 42.2% belongs to 21-25 year of age group followed by 31.1% who belongs to 26-30 years age group.

Table 2: Distribution According To The Gravidia Status Of Patients.

Gravidia	No of cases (n=90)	Percentage (%)
Primi	27	30%
Second	35	39%
Third	17	19%
Multi	11	12%

In our study it was found that, 39% of patient were second gravida followed by 30% primigravida.

Table 3: Distribution According To Interpregnancy Interval In Multigravida Patients.

INTERPREGNANCY INTERVAL (IN MONTHS)	No of Patients (63)	Percentage
6-11 months	9	14.3%
12-17 months	23	36%
18-23 months	15	24%
24-59 months	13	21%
>60 months	3	4.7%

In our study patient had short pregnancy interval between 12-17 months (36%), which could be a risk factor for preterm birth.

Lack of knowledge about contraception increase the chances of conception during lactational amenorrhea.

Table 4: Distribution According To Association With Previous Preterm Birth

No of previous preterm	No of cases (n=27)	Percentage (%)
1	15	55.5%
2	07	26%
≥3	05	18.5%

In our study, majority of patients have previous history of single preterm birth followed by 55.5%, 26% patients having two previous preterm deliveries and remaining 18.5% patient having more than three previous preterm deliveries.

Table 5: Distribution According To The Risk Factors In Present Pregnancy

Risk factors	No of patients
Past history of PRETERM BIRTH	27(30%)
Past history of second trimester abortion	3(3.3%)
Multiple pregnancy	16(17.8%)
Polyhydramnios	4(4.4%)
GDM/DM	7(7.7%)
PIH/ Preeclampsia/ Eclampsia/ chronic HTN	9(10.00%)
Infection	10 (11.1%)
Cardiac disease	1(1.1%)
Anaemia	7(7.7%)
Threatened abortion	12(13.3%)
Uterine anomaly	2(2.2%)

There are multi factors associated with aetiology of preterm labor. It was found that most common association of preterm birth was previous history of preterm birth, seen in 30% patients. Another risk factors of preterm birth are seen in multiple pregnancy that are 17.8% of cases followed by threatened abortion which constitute about 13.3% of total cases.

Table 6: Distribution According To The Preventive Measure Used

PREVENTIVE MEASURE USED	NO OF PATIENTS (n=90)
Progesterone	40
Cervical cerclage	12
Tocolytics	38

In our study, among the 90 patients undergone preterm delivery in which different preventive strategies were used. In 40 patients vaginal progesterone therapy was given, 12 cases had surgical intervention like cervical cerclage was done and 38 cases tocolytics like Isoxsuprime were given.

Table 7: Association With Preventive Measures And Gestational Maturity At Delivery

Gestational Maturity	Progesterone	Cervical Enclage	Tocolytics
<28 weeks	2	1	1
28-31 weeks	11	3	12
32-33 weeks	9	2	11
34-36 weeks	18	6	14
>37 weeks	40	23	79

In our study, 90 patients delivered preterm, of these the description of the intervention and gestational maturity at delivery is as follows The patient who given progesterone therapy.

Table 8: Distribution According To The Gestational Maturity At Delivery And Survival Of Preterm Infants

Gestational age	No of infant(n=106)	Live birth	NICU	PNM
Late preterm (34-36 week)	46	46	10	1

Early preterm (32-33 week)	26	26	14	6
Very early preterm (28-31 week)	29	29	22	11
Extreme preterm (<28 week)	5	5	5	5

Neonatal mortality rate is more with extreme preterm birth and least mortality are found in late preterm.

Table 9: Distribution According To The Cause Of Neonatal Mortality

Cause of neonatal mortality	No of infants(n=23)	Percentage
Respiratory distress syndrome	14	60.8%
Septicaemia	6	26.08%
Necrotizing Enterocolitis	2	8.6%
Prematurity+DIC+Respiratory failure	1	4.3%

In our study it was found that most common cause of neonatal mortality was Acute respiratory distress syndrome in 60.8% of new-borns followed by 26.08% septicaemia. Necrotising enterocolitis were seen in 2 cases and respiratory failure with DIC was seen in 1 case causing neonatal mortality.

Table 10: Distribution According To The Birth Weight And Mortality

Weight (Kg)	No of infant	No of mortality	Percentage of mortality	Shaveta et al (2017)
<1	8	8	100%	100%
1-1.49	34	13	38.2%	66.66%
1.5-2	57	2	3.5%	24%
≥2	7	0	0	0%

In our study it was found that in cases of neonates born with weight < 1 kg has 100% neonatal mortality and neonates born with > 2 kg weight has no mortality.

DISCUSSION

- Total 250 patients had risk of preterm birth out of 90 patient delivered preterm from October 2019 to October 2021. Among these there are 106 preterm birth babies out of which 83 were live.
- patients had shorter interpregnancy interval between 12-17 months which was found to be one of the risk factors of preterm birth.
- It was found that patients had past history of preterm birth with 55.5% having past history of 1 preterm birth.
- There are multi factors associated with aetiology of preterm labour. It was found that most common association of preterm birth was previous history of preterm birth, multiple pregnancy followed by threatened abortion.
- Patients were assessed appropriately and serial USG was done for cervical length Measurement.
- Progesterone, cerclage, tocolytics were used as prevention. The treatments were started in most patients at 16-24 weeks of gestation and continue till delivery. 90 patients of preterm deliveries, 40% patients were given progesterone, in 12% patients cerclage was done and in remaining 38% patients tocolytics were given.
- All patients who have risk of preterm delivery, are administered corticosteroid for newborn lung maturity.
- It was found that in cases of neonates born with weight < 1 kg has 100% neonatal mortality, and neonates born with > 2 kg weight has no mortality.

CONCLUSION

- Preterm birth is leading causes of perinatal morbidity and mortality worldwide. Patients with risk factors such as previous history of preterm birth, multiple pregnancy, infection, threatened abortion and medical disorder need to be identified earlier and to prevent preterm labour with good antenatal care, improving the socio-economic standards and early intervention will help to reduce the

incidence of preterm labour.

- Patients with risk factor of preterm birth to be assessed and serial USG for measurement of cervical length, so that early detection of risk factor and initiation of appropriate preventive strategies can be taken.

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