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Research Article

**THE MANAGEMENT AND OUTCOME OF PRETERM LABOR
IN PAKISTAN**¹Dr. Samra Ahmed, ²Dr. Tahira Niazi, ³Faiza Babar¹Holy Family Hospital Rawalpindi²Punjab Medical College Faisalabad³Lahore General Hospital Lahore**Abstract:**

Background: Preterm birth is the utmost cause of neonatal mortality and a form a major portion of all birth-related morbidity. Spontaneous preterm labor is responsible for more than half of preterm births(1). With adequate medical care, survival of the neonate exponentially improves as pregnancy progresses, with over 50% of neonates surviving at 25 weeks' gestation, and over 90% surviving by 28 to 29 weeks' gestation (2)Preterm labor is usually defined as uterine contractions accompanied by cervical dilation occurring at less than 37 weeks' gestation because of activation of the normal labor process resulting from a pathologic event. Several theories exist regarding the initiation of labor, including 1) progesterone withdrawal, 2) oxytocin initiation, and 3) premature decidual activation.(3)**Method:** a series of 250 gravidas presenting before 37 weeks of gestation for labour to Bahawal Victoria Hospital Bahawalpur in September to November 2017 were followed from the onset of labour till 6 months post-partum to see management and outcome of the neonates. It was a retrospective study to see the outcomes of preterm labour and its management.**Results:** out of 250 gravidas having preterm contractions all were given bed rest, sedation, tocolytics, antibiotics, steroid cover and were scheduled for delivery. Out of those 250, 175 gravidas had severe low birth weight neonates, fetuses in the breech presentation, especially those less than 32 weeks, when delivered vaginally had cord prolapse, muscle trauma, and head entrapment. 100 of these neonates died within 72hrs of birth due to respiratory distress and remaining 75 due to infections. Rest of the 75 cases were normally delivered without any comorbidities involved postpartum.

Conclusion: preterm labour accounts for major setbacks following delivery. Although the delivery management serves as an adequate tool for survival but the short and long term outcomes of preterm labor is the major contributor of neonatal mortality.

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INTRODUCTION:

A preterm delivery, as defined by the World Health Organization, is one that occurs at less than 37 and more than 20 weeks' gestational age.(1)In spite of advances in obstetric care, the rate of prematurity has not decreased over the past 50 years. in most industrialized countries it has increased slightly. (4). Prematurity remains a leading cause of neonatal morbidity and mortality in developed countries, accounting for 60–80% of deaths of infants without in utero anomalies. Neonatal death rates have decreased in recent years because of improved neonatal intensive care and access to the medical services(5).). Acute morbidities associated with preterm delivery include respiratory distress syndrome, intraventricular hemorrhage, periventricular leukomalacia, necrotizing enterocolitis, bronchopulmonary dysplasia, sepsis, and patent ductus arteriosus.however,chronic causes of neonatal morbidity includes cerebral palsy, mental retardation, and retinopathy of prematurity.(6) TREATMENT offered to the gravidas presenting with preterm contractions include following goals : 1) to reduce the strength and frequency of contractions in order to delay the time to delivery, and 2) to maximise fetal status before delivery. In this regard, many of the therapeutic strategies serving to achieve these goals are reviewed. **Bed Rest** Bed rest represents one of the most common interventions used for the treatment of preterm labor. In fact, it is recommended for a wide range of pregnancy-related conditions. One study found that bed rest was prescribed for at least 1 week for 20% of pregnancies in the Pakistan.(7) Unfortunately, there are no randomized studies that have independently evaluated the importance of bed rest for the prevention of preterm labor or its treatment in preterm labour.

Hydration/Sedation Another very common technique used for the initial treatment of preterm labor is intravenous hydration. It is also used widely to differentiate true preterm labor from false labor (8). Several theories are offered as to why hydration may be effective in treating preterm labor. First, at least in animals, hydration inhibits the release of antidiuretic hormone through the Henry-Gauer reflex. Second, women in preterm labor may have plasma volumes below normal. some studies even have proved the use of hydration in a prospective manner to prevent preterm labour however its not being used as a soe measure to reduce the occurence of preterm but in adjunct.. **Progesterone** Based on the progesterone withdrawal hypothesis of labor initiation, A metaanalysis of six randomized controlled trials of 17-hydroxyprogesterone caproate

used prophylactically to prevent preterm labor revealed a significant decrease in preterm birth (odds ratio 0.5; 95% confidence interval 0.3, 0.85).(9)

Tocolytics -Sympathomimetic Agents. There are three types of -adrenergic receptors in bods:beta 1 receptors occur primarily in the heart, small intestine, and adipose tissue; 2 receptors are found in the uterus, blood vessels, bronchioles, and liver; and 3 receptors are found predominantly in adipocytes. -sympathomimetic agents are structurally related to catecholamines and, when injected stimulate all -receptors throughout the body. Stimulation of the beta 2 receptors results in uterine smooth muscle relaxation. Although some -sympathomimetic agents have been said to act as beta 2-selective agents, at the dosages used pharmacologically, stimulation of all receptor types often occurs. Such stimulation results in many of the side effects associated with the -sympathomimetic agents. Of the -sympathomimetic agents, the 2-selective agents (eg, ritodrine, terbutaline) (Table 2) have been the primary drugs utilized for the delay of labor onset.(10) Terbutaline is now the most widely used agent in pregnancy for this purpose. Magnesium sulfate is also given intravenously as an initial bolus of 4–6 g over 30 minutes, followed by a maintenance infusion of 1–3 g per hour.

Prostaglandin Synthetase Inhibitors:indomethacin have also been seen to decrease contractions in gravidas upto 90%.Indomethacin readily crosses the placenta, with fetal levels getting equal with maternal blood levels in about 5 hours of administration. Many fetal side effects have been reported with the use of indomethacin. Fetal urine output has been shown to decrease leading to oligohydroamnios in Long-term administration.(11) Therefore the amniotic fluid index should be monitored while the patient is receiving long-term therapy, and if the amniotic fluid index falls below 5 cm, it is usually discontinued. However, persistent anuria, renal micro cystic lesions, and neonatal death have been reported with indomethacin use.

STEROIDS:dexamethasone cover has proved pivotal in improving neonatal outcomes.it tends to mature the under developed lungs preventing neonatal respiratory distress syndrome. The utilized steroids for this purpose are betamethasone (12 mg intramuscularly every 24 hours, two doses) and dexamethasone (6 mg intravenously every 6 hours, four doses).

Antibiotics Preterm labor, especially at less than 30 weeks' gestation, has been associated with oupper

genital tract infection, capable of eliciting an inflammatory response, which ultimately results in preterm labor and delivery. Antibiotics therefore have

the potential to prevent and/or treat spontaneous preterm labor.

Table 1. Neonatal Survival by Gestational Age and Improvement in Survival by Week .

Gestational age (wk)	Approximate survival (%)	Approximate improvement in survival per week (%)
21	0	-
22	Rare	-
23	25	25
24	50	25
25	70	20
26	80	10
27	86	6
28	91	5
29	94	1
30	95	1
31	96	1
32	98	1
33	99	1
34	99	1
35	99	1
36	99	<1
37	99	<1

STUDY MATERIAL AND METHOD	Neonates having gestational age less than 37 weeks	Neonates having gestational age 37 weeks or more
Gravidas in Victoria hospital Bahawalpur from September to November 2017 were followed up to 6 months post partum.	Neonates having gestational age less than 37 weeks (total 175) were followed up to 6 months post partum.	Neonates having gestational age 37 weeks or more (total 100) were followed up to 6 months post partum.

management and outcome of the neonates. It was a retrospective study to see the outcomes of preterm labour and its management. These patients were followed up in the outdoor department of Victoria hospital as well and outcomes of the neonates collected till 6 months post partum.

RESULTS:

Out of 250 gravidas having preterm contractions, all were given immediate bed rest, sedation, tocolytics, antibiotics, steroid cover and were scheduled for delivery, 175 gravidas had severe low birth weight neonates, fetuses in the breech presentation, especially those less than 32 weeks, when delivered vaginally had cord prolapse, muscle trauma, head entrapment and major set backs leading to early neonatal death. 100 of these neonates died within 72hrs of birth due to Respiratory distress and remaining 25 with sepsis. Remaining of the 75 cases were normally delivered without any comorbid involved postpartum.

CONCLUSION:

Preterm labour accounts for major set backs following delivery for the neonate. Although the delivery management serves as an adequate tool for survival of the neonate but the short and long term outcomes of preterm labor is the major contributor of neonatal mortality and the quality of life.

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