

A CLINICAL STUDY OF FETOMATERNAL OUTCOME IN POSTDATED PREGNANCY

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INTRODUCTION

The accepted normal duration of pregnancy is 266 days after ovulation. The timing of an ovulatory event may be estimated as occurring 14 days after the first day of the last menstrual period if cycles occur at 28-days interval.

Postdated pregnancy and Post maturity syndrome are not synonymous. Postdated pregnancy is defined as pregnancy extended beyond 40 week of gestation or 280 day. Post-term pregnancy is defined as pregnancy that has lasted at least 42 weeks (294 days) or the expected date of delivery (EDD) plus 14 days.

Stewart H. & Clifford described the Post maturity syndrome and advocated the adoption of a staging system to assess more severe clinical manifestations of placental dysfunction.

When determining gestational age, either by history and physical examination alone or in conjunction with an early pregnancy ultrasound examination, the incidence of a post-term pregnancy is higher or lower. As the precision of dating criteria rises, the incidence of postdatism decreases. The incidence of post-date pregnancy is between 3 and 17%.

When menstrual dating is the major criterion — Incidence of postdated pregnancy is 8.8% is. When early ultrasound and menstrual dating are utilised, the incidence of postdated pregnancies is reduced by around 6.8 percent.

Sonography is most beneficial when we assess the crown-rump length in the first trimester as it is the most reliable measure. Menstrual recall, early palpation of uterine size, and Doppler auscultation of foetal heart sound are less reliable but useful procedures for determining the approximate date of birth. Compared to ultrasound dating, menstrual dating has a bias toward an overestimation of gestational age. Due to patient error in accurately recalling the time of her last menstrual period, it is also less accurate than ultrasound dating. The timing of ovulation and conception is also obscured by amenorrhea brought on by a recent abortion, stopping the pill, or breastfeeding.

The incidence of prolonged pregnancy is higher in primigravida, low socioeconomic status, overweight or obese mothers, and smokers.

Fetal hypoxia, asphyxia, intracranial damage, meconium aspiration syndrome (MAS), macrosomia, atelectasis, hypoglycemia, and stillbirths are possible in post-dated pregnancies.

These perinatal risks increase as the gestational age exceeds 40 weeks. Maternal risks include an increase in shoulder dystocia, severe perineal injury from macrosomia and operative vaginal delivery, and an increase in the rate of caesarean delivery and postpartum haemorrhage.

After 41 weeks, the danger to the foetus increases mostly owing to a rise in foetal weight, a decrease in placental function, oligohydramnios, which increases the risk of cord compression, and meconium aspiration.

After 42 weeks, the perinatal mortality rate is double that of 40 weeks, and by 44 weeks, the rate has increased. In circumstances of prolonged pregnancy, the foetus is more likely to experience hypoxia during childbirth than a foetus at term.

The present study was conducted to study the maternal and fetal complications and to analyse perinatal morbidity and mortality associated with Postdated pregnancy

AIMS & OBJECTIVES

The aim and objectives of the study is to study the maternal and fetal complications and to analyse perinatal morbidity and mortality associated with Postdated pregnancy in our institute during January 2022 to June 2022

MATERIALS & METHODS

STUDY AREA : The study will be conducted among pregnant women with gestational period more than 40 weeks attending obstetrics OPD of Vinayaka Mission's KirupanandaVariyar Medical College & Hospital, Salem.

STUDY PERIOD : JANUARY 2022 to JUNE 2022.

STUDY TYPE : Prospective observational study.

SAMPLE SIZE :50 pregnant women.

INCLUSION CRITERIA

1. Post dated women with regular menstrual cycles and known first day of last menstrual period or with first trimester ultrasonography
2. Singleton pregnancy with vertex presentation.
3. Uncomplicated Antenatal cases beyond 40 weeks of gestation, willing to participate in the study.

EXCLUSION CRITERIA

1. High risk pregnancies like diabetes, antepartum haemorrhage (APH), premature rupture of membranes (PROM) and pregnancy induced hypertension (PIH), heart disease, chronic hypertensive disease, chronic renal disease, Multiple gestation.
2. Previous caesarean section.
3. Irregular menstrual cycles and unknown LMP and not having 1st trimester ultrasonography.
4. Non-vertex presentation, Not willing to participate in the study.

METHODOLOGY

50 pregnant women with post dated pregnancy admitted in our labour room were included in the study. A detailed history regarding age, parity, last menstrual period, lactational amenorrhea, menstrual irregularity (delayed), use of OCP pill, past medical history and first trimester scan were entered in Proforma.

General physical examination to note pallor, pedal oedema, pulse and BP is taken from hospital record. Abdominal examination to note fundal height presentation, lie, engagement of presenting part, fetal heart sound and per vaginal examination for calculating modified Bishop score and pelvic adequacy is taken from hospital record. A patient is considered postdated by correlating her LMP (Naegele's), clinical examination and obstetric ultrasound finding.

On the basis of Bishop score if cervix was unfavorable (bishop score < 6) for induction, cervical ripening agents like Dinoprostone gel or Misoprostol tablets or oxytocin are used and if cervix is favorable (bishop score \geq 6), oxytocin augmentation is done after assessing the uterine contraction.

If the liquor is thick Meconium with Fetal distress, or fetal distress were spontaneous vaginal delivery could not be possible, then the decision of LSCS is taken. All these data was taken from patient hospital record. Data pertaining to the onset of labour (spontaneous/Induced), mode of delivery (operative vaginal delivery, Normal vaginal delivery, caesarean section), caesarean section due to fetal distress, meconium stained liquor and for other indication, Modified Bishop score were analysed.

The patient is followed up to discharge after delivery and following perinatal outcome are recorded in terms of birth weight, APGAR Score at 1minute and 5minute, NICU admission rate and perinatal death were analysed.

STATISTICAL ANALYSIS

Data Entry was done using Microsoft excel 2013 and analysis done using SPSS V 16. Qualitative data was expressed in frequencies and percentages and Quantitative data in mean and standard deviation.

RESULTS

In the present study, 20 (40%) belonged to 21 – 23 years age group, followed by 13 (26%) in 18-20 years age group. 10 (20%) are with an age group of 24-26 years and 5 (10%) in 27-29 years age group. 4% of the study population were above 30 years at the time of study.

94% were booked cases and all were primigravida. Based on Gestational age at the time of admission, 40 weeks among 30% of the study participants, 40% were with a gestational age of >40 weeks, and 30% with Gestational age of <40 weeks.

Distribution based on co-morbidities show, 18% had Hypothyroidism, 4% had anaemia corrected and 2 % with severe anaemia. 76% had no observed co-morbidities at the time of study. 4% of the study population presented with active contractions at the time of admission.

78% had a bishops score of \leq 6 and 22% had Bishops score \geq 6. On examination, 98% of the study population had Gynecoid and adequate pelvis.

Induction was planned in 60% of the study population. 66% of the had normal delivery, assisted delivery was performed in 6%. In 28% of the study population, LSCS was done.

Indication for caesarean section include 2nd stage arrest (2%), arrest of labour (2%), Big baby (2%), Cord round the neck tight (4%), failed induction (6%), failed maternal efforts (2%), failure to progress (4%), fetal distress (10%), Mod meconium stained liquor (2%), still birth (2%), thick MSL (4%).

Liquor was clear in 76% of the population. Meconium stained liquor was grade 1 in 6%, grade 2 in 8% and grade 3 in 10%.

APGAR score after 5 min was assessed, score of <4 in 6% of the new born, 4-6 score in 6% and APGAR score of 7-9 in 88% of the new born in the present study.

The new born complications(18%) observed, Large caput(2%), Delayed cry(8%), MAS(4%), Respiratory distress (2%), shoulder dystocia(2%).NICU admissions were 18% and indications for NICU admission were respiratory distress, Delayed cry, Acidosis, HIE, neonatal jaundice

100% of the mother were healthy and 98% of new born were healthy, 2% mortality was observed among new born.

DISCUSSION

In the present study, 20% belonged to 21 – 23 years age group, followed by 13% in 18-20 years age group. 10% are with an age group of 24-26 years and 5% in 27-29 years age group.

Similar findings were observed in the study conducted by Bhriegu¹ et al where 79% cases were of age group 20–25 years, 19% cases were of age group 26–30 years, and only 2% cases were of age group 31–35 years mean \pm standard deviation 23.56 ± 2.75 (20–35 years) Eighty-two percent booked cases and 18% unbooked cases. Dobariya² et al reported that Out of 84 patients in their study, 58 (69.05%) were in the age group of 20-30 years. Vishakha Prakash³ et al in their study on a total 96 patients where the mean age of study participants was 26.34 years.

Vishakha Prakash³ et al study shows 69.8 percent of the participants had a gestational age between 40 weeks and 40+6 weeks. 27.1% patients had gestational ages 41- 41+6 weeks, whereas only 3 (3.1%) patients had gestational ages greater than 42 weeks, comparable to the present study's findings. In lata et al study reported that 3% of pregnancies extended beyond 42 weeks.⁴

A pre-labour scoring system i.e. Bishops score to assist in predicting whether induction of labour is required and also assess the likelihood of spontaneous preterm delivery was used in the present study.

In our study, 78% had a bishops score of ≤ 6 . Similar findings were reported by Vishakha Prakash³ et al where Poor Bishop's score is associated with induction failure and decreased likelihood of vaginal delivery. In their research, the majority of patients had a Bishop's score of less than 4, necessitating induction of labour with Tab. Misoprostol or Dinoprostone gel or augmentation of labour with oxytocin infusion following artificial rupture of membranes (ARM). Due to failure of induction and foetal distress, the majority of patients with a Bishop's score 4 had caesarean procedure.

Dakshanamurthy⁵ et al in their study observed that Among the 100 cases only 20 had meconium staining of liquor. In our study, Liquor was clear in 76% of the population. Meconium stained liquor was grade 1 in 6%, grade 2 in 8% and grade 3 in 10%.

Based on mode of delivery, Bhriegu¹ et al reported that The overall number of FTNDs was 64, with 57 instances occurring between 40 weeks 1 day and 41 weeks and 7 cases occurring between 41 weeks 1 day and 42 weeks. 34 caesarean sections were performed, with 29 instances occurring between 40 weeks 1 day and 41 weeks and 5 cases occurring between 41 weeks 1 day and 42 weeks. There were just two instrumental births between 40 weeks 1 day and 41 weeks of gestation.

Dobariya et al reported that Fetal distress was the most frequent cause of caesarean sections in 27 (32.14%) of the patients, followed by failure to progress in 22.22% of cases.²

In Lata⁴ et al study reported an overall number of FTNDs was 63, with 46 instances occurring between 40 weeks 1 day and 41 weeks and 17 cases occurring beyond 41 weeks. The overall number of Caesarean sections was 32, with 18 instances occurring between 40 weeks 1 day and 41 weeks and 14 cases occurring after 41 weeks. There were only five instrumental births, four of which occurred between 40 weeks and 1 day and 41 weeks, and one after 41 weeks.

Vishakha Prakash³ reported that At the time of admission, a maximum of 55 (57.3%) patients were not in labour, whilst 41 (42.7%) patients were in labour. Among the 55 patients who were not in labour, 45 were induced, and 35 (36.5 percent) gave birth vaginally. Majority, or 45 patients (46.9%), experienced natural labour and vaginal delivery, while 16 patients (16.7%) required caesarean section.

In our analysis, the most common reason for a caesarean section was foetal distress, followed by failed induction. Lata et al. reported comparable results, with 37.5% of cases indicating failure of induction, 25% indicating foetal distress, 21.87% indicating nonprogress of labour, 9.37% indicating prior LSCS, and 6.25% indicating CPD.⁴

Similar findings were reported by Bhriegu¹ et al where In 23.53 percent of cases, the indication was meconium-stained fluid with foetal distress, and in 20.59 percent of cases, it was induction failure.

Majority of the new born presented with normal APGAR score at 5 min which is identical with the study conducted by Patel⁶ et al where Majority of babies 50(70%) were having Apgar score >7.

Patel⁶ et al observed in their study that perinatal morbidities like neonatal asphyxia, MAS, RDS were 32.46%, 70.12% and 64.93% respectively. Maternal morbidity like prolonged labor, PPH, fever, wound infection were 68.27%, 40.94%, 13.74% and 7.14% respectively

Study by Dobariya² et al reported that IUFD, neonatal asphyxia, MAS, and RDS incidence rates were 4.76 percent, 9.52 percent, 7.14 percent, and 3.57 percent, respectively. The incidence of maternal morbidity, including prolonged labour, PPH, fever, and wound infection, was 10.71%, 5.95%, 3.577%, and 3.577%, respectively.

CONCLUSION

As there is higher foetal morbidity, post-dated pregnancy is a high-risk factor for foetal outcome, according to the findings of the current study. The majority of women with post-dated pregnancies had a Bishop's score of 6. At 41 weeks of gestation, induction of labour may be safely performed. Fetal distress and Failure of Induction were the most frequent indications for caesarean delivery..

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