

FETO -MATERNAL OUTCOME IN POST DATED PREGNANCY

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Abstract

Background: The risk to the fetus increases after term (>42 weeks) of gestation mainly due to increasing fetal weight, decline in placental function, oligohydramnios which increases the chances of cord compression, and meconium aspiration. Perinatal mortality after 42 weeks is twice as compared to the perinatal mortality at 40 weeks and by 44 weeks the rate is increased up to threefold. In cases of prolonged pregnancy, fetus is more at risk of hypoxia during labor than a fetus at term

Methods: This cross-sectional observational study of fetomaternal outcome in post dated pregnancy (Women beyond 40 weeks of gestation) was carried in department of obstetrics and gynecology SMS medical college jaipur in 40 patients from October 2019 to January 2020.

Results: Majority patients required cesarean section (52%). Among patients who were given induction 48% had successful induction, maximum were induced by dinoprostone gel (50%). 15% of babies delivered required NICU admission.

Conclusion: The present study, we conclude that, the post dated pregnancy can be considered as a high risk factor from the point of view of maternal and fetal outcome as there is more fetal and maternal morbidity

Keywords: Morbidity, Fetomaternal, NICU

Introduction

Post dated pregnancy is defined as gestation longer than 40 weeks or 280 days from the first day of last menstrual period and has a incidence of 4-14%. A post-term or prolonged pregnancy is the one which extends to or beyond 42 weeks or 294 days and has a incidence of 5-10%. Term pregnancy is defined as a pregnancy with gestational age from 3 weeks before and 2 weeks after the estimated date of delivery.(1)

In 2012, a work group including representatives from the American College of Obstetricians and Gynecologists' (ACOG), the Society for Maternal-Fetal Medicine (SMFM) and other professional societies recommended that the label term be replaced by early term, late term, and post-term to more accurately describe deliveries occurring at or beyond 37 weeks of gestation.(2,3)

Post dated and post-term pregnancies always carry a high risk, as there is a possibility of fetal distress and fetal death due to progressive fetal hypoxia following placental insufficiency. Perinatal mortality after 42 weeks of gestation is twice as compared to the perinatal mortality at 40 weeks and by 44 weeks of gestation the rate is increased up to threefold.(4)

The perinatal risks increase with increase in gestational age beyond 40 weeks. In post dated pregnancy, there are chances of fetal hypoxia, asphyxia, intracranial damage, meconium aspiration syndrome (MAS), macrosomia, atelactasis, hypoglycemia and still births. The maternal risk include an increase in labour dystocia, an increase in severe

perineal injury related to macrosomia, an increase in the rate of caesarian delivery and postpartum hemorrhage. The risk to fetus increases mainly due to increasing fetal weight, decline in placental function, oligohydramnios which increases the chances of cord compression and meconium aspiration.(5)

In the present study, maternal and fetal outcome was studied in pregnancy beyond 40 weeks of gestation to find out the frequency of post dated pregnancies, to study the maternal outcome in pregnancies beyond expected date of delivery (EDD) and to know fetal morbidity and mortality.

Methodology

This cross sectional observational study of feto-maternal outcome in post dated pregnancy (women beyond 40 weeks of gestation) was carried out in Department of Gynecology and Obstetrics' in SMS hospital Jaipur from October 2019 to January 2020, willing to participate after informed consent and fulfilling inclusion and exclusion criteria in the study period. Study included 40 post dated women with regular menstrual cycles and known first trimester period or with first trimester sonography. Study included uncomplicated singleton pregnancy with vertex presentation and gestation beyond 40 weeks willing to participate in study.

Exclusion criteria included high risk pregnancies like diabetes, antepartum haemorrhage (APH), premature rupture of membrane (PROM) hypertensive diseases of pregnancy and heart disease. Women with multiple gestation, previous scar, non-vertex presentation and with

irregular menstrual cycles and unknown LMP and not having first trimester sonography were not included in the study

Detailed clinical history like menstrual history, obstetric history, past history, personal history, marital history was noted. Exact gestation age was calculated using Naegele's formula in women with regular menstrual cycles. In case, if a woman has unknown LMP her first trimester sonography report was used for calculation of gestational age.

The patient's general condition, temperature, pulse, blood pressure, pallor, icterus, height and weight were noted. Systemic examination was done. Per abdominal examination was carried out to know the presentation and position of fetus, the amount of liquor amnii and the fetal heart rate. Sterile per speculum examination was conducted to visualize the cervix and the vagina, any discharge per vaginum and leaking or bleeding per vaginum. Sterile per

vaginal examination was done to assess cervical dilatation, cervical length, station, consistency and position of cervix and Modified Bishop's score was calculated

Bishop's score ≥ 6 was regarded as favourable and score < 6 was regarded as unfavourable. Decision for instrumental delivery or caesarian was taken according to the fetal heart rate and progress of labour. Record was kept about mode of delivery and if any postpartum complication that occurred and they were labeled under maternal mortality. The baby was attended by the paediatrician after delivery, APGAR score was noted, baby weight, any gross congenital anomaly, whether there was any necessity for NICU admission was noted.

Results and Discussion

Out of total 40 patients studied majority were in age group 20-35 (95%) and 5% patients were > 35 years of age. Most women with post datism were primigravida (70%).

Table 1: Demographic variable

| DEMOGRAPHIC DATA | | NUMBER OF PARTICIPANT | PERCENTAGE |
|------------------|--------------|-----------------------|------------|
| AGE GROUP | 20-35 | 38 | 95% |
| | > 35 | 2 | 5% |
| GESTATIONAL AGE | 40-40WK6DAYS | 27 | 67.5% |
| | 41-41WK6DAYS | 12 | 30% |
| | > 42 WK | 1 | 2.5% |
| GRAVIDITY | PRIMIGRAVIDA | 28 | 70% |
| | MULTIGRAVIDA | 12 | 30% |

Table 2: Clinical parameters (Mother)

| CLINICAL PARAMETERS | NO.OF PARTICIPANTS | PERCENTAGE |
|-----------------------------------|--------------------|------------|
| PRESENTATION ON ADMISSION | | |
| IN LABOUR | 9 | 22.5% |
| NOT IN LABOUR | 31 | 77.5% |
| 2.MODE OF DELIVERY | 12 | 48% |
| SUCCESSFUL INDUCTION | 7 | 17.5% |
| SPONTANEOUS VAGINAL | 21 | 52.5% |
| CAESAREAN SECTION | | |
| 3.TYPE OF INDUCTION | 20 | 50% |
| DINOPROSTONE PGE2 | 5 | 12.5% |
| GEL | | |
| OXYTOCIN INFUSION | | |
| 4.INDICATION OF CAESAREAN SECTION | 9 | 42.8% |
| FAILED INDUCTION | 7 | 33.33% |
| FETAL DISTRESS | 4 | 19% |
| MECONIUM STAINED LIQUOR | | |

Majority patients included in study were in the group of gestational age 40 week to 40 week 6 days. Most patients required caesarian section (52%) and the most common indication was failed induction. Among patients who were given induction 48% had successful. 15% of babies required NICU admission.

Table 3: Clinical parameters(Newborn)

| CLINICAL PARAMETERS | NO.OF PARTICIPANTS | PERCENTAGE |
|----------------------|--------------------|------------|
| BIRTH WEIGHT | 1 | 2.5% |
| < 2.5 kg | 37 | 92.5% |
| 2.5-3.5kg | 2 | 5% |
| > 3.5 kg | | |
| APGAR SCORE AT 1 MIN | 8 | 20% |
| 4-7 | 32 | 80% |
| > 7 | | |
| NICU ADMISSION | 6 | 15% |
| YES | 34 | 75% |
| NO | | |

According to age of patient

In the present study maximum patients were in age group 20 – 35 years of age .It seems that there is no correlation with maternal age and postdated pregnancy. Similar results were shown by Paululyte V et al who studied age distribution among pregnancy beyond 41 weeks of gestation and found no age relation (6).Mahapatro AK et al, observed in their study on pregnancy beyond 41 weeks of gestation that 55% cases were in the age group of 21 to 25 years.(7)

According to gestational age of patient

Studies conducted by Francis S et al and , Patel N et al , showed that maximum patients were between 40 to 40 week 6 days which is similar to our study where 67.5 % patient were in same gestational age.(8,9)

According to gravidity of the patient

Nulliparity increases risk of prolonged pregnancy, but in various recent studies incidence of late term and postern is equal or slightly increased in multigravida .Similar to our study Mahapatro et al ,(7) in his study found that maximum patients were primigravida (72%).However Amina FN et al , in their study found (54%) maximum patients were multigravida .(10)

According to mode of delivery

In our study maximum patients required caesarian section .Similar to our study Singh S et al observed that the prevalence of postdated pregnancy was 17.6% and among them LSCS rate was 56.50%.(11)

Punya BS et al. also reported that the gestational age increases after 40 weeks, maternal morbidities increases and lead to emergency LSCS, postpartum hemorrhage and instrumental delivery.(12)

However Caughey AB et al studied that maximum patients (68%) underwent spontaneous vaginal delivery and 14% required caesarian section.(5)

According to mode of induction

In the present study dinoprostone PGE2 gel was most commonly used mode of induction. In the study conducted by Kandalgaonkar et al , maximum induction was done by dinoprotone gel (57.78%) followed by augmentation with Oxytocin Infusion after artificial rupture of membranes in 15 patients(33.3%) and least by tab misoprost in 4 patients.(13)

In the present study, most common indication for caesarian section was failed induction (42.8%) followed by fetal distress.

As per Caughey AB et al the incidence of caesarian section was 23.5% and 21.4% for fetal distress and CPD respectively (5)

As per Akhtar P et al casesarian section was done in 32% cases of fetal distress and. 25.3% for non progress of labour and 24% cases in failure of induction. (14)

According to NICU admissions of babies

In the present study 15% of the neonates were admitted ti NICU after delivery. The primary reason was respiratory distress syndrome and respiratory distress with meconium

stained liquor . Various studies have shown that NICU admission rate increases in postdated pregnancy due to ologohydraminos and fetal hypoxia due to placental insufficiency commonly seen in postdated pregnancy and most common indication for NICU admission is asphyxia neonatorum.

Conclusion

From the present study we conclude that , the postdated pregnancy can be considered as a high risk factor from the point of view of maternal and fetal outcome as there is more maternal and fetal morbidity.

Considering the increased chances of maternal and fetal morbidity, most of the women can be benefited by correctly indentifying and more aggressive induction of labour beyond 40 weeks of pregnancy.

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