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Original article

MATERNOFETAL OUTCOME OF POST DATED PREGNANCY: A RETROSPECTIVE ANALYSIS

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ABSTRACT

BACKGROUND: Pregnancy beyond dates is one of the most frequent clinical dilemmas faced by the obstetrician. Postdated pregnancy is a universally accepted indication for antenatal fetal monitoring because of the increased risk of antepartum fetal demise with advancing gestational age. METHOD: This study was a retrospective observational study for one year to analyze the maternal and fetal outcome of postdated pregnancies. Data was collected from hospital record and analyzed. RESULTS: In present study, incidence of postdated pregnancy was found to be 6.23 .46% were spontaneous vaginal deliveries, 30% were induced deliveries. LSCS were done in 21% patients and failed induction being the most common indication for LSCS. Maternal complications were seen in 12 (12%) cases and fetal complications were found in 13 (13%) cases. CONCLUSION: Management protocol for postdated pregnancy is fetal surveillance for prolonged pregnancy, induction of labour, during intrapartum care proper monitoring of labour

Introduction

The term delivery is defined as that occurring between 259 and 294 days of pregnancy from the last menstrual period (LMP).A post-term or prolonged pregnancy is the one which extends to or beyond 42 weeks or 294 days from the first day of the L.M.P and has an incidence of 5% to 10%.1 A postdated pregnancy is the one which extends to or beyond 40 weeks or 280 days from the first day of the L.M.P and has an incidence of 4% to 14%.2 Postdated 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. Prolongation of pregnancy beyond 40 weeks occurs more frequently, in about 1 out of 10 pregnancies.[2]

The following definitions describe the subgroups of term pregnancy 1:

- Post term – ≥42+0 weeks of gestation (i.e., ≥294 days from the first day of the last menstrual period and ≥ 14 days from the estimated day of delivery)
- Late term – 41+0 to 41+6 weeks of gestation
- Full term – 39+0 to 40+6 weeks of gestation
- Early term – 37+0 to 38+6 weeks of gestation

The incidence of postdated pregnancy depends on whether the calculation is based on the history or early pregnancy ultrasonography is also used to find the EDD. 3, 4 Postdated pregnancy is associated with an increased risk of fetal and neonatal mortality and morbidity as well as an increased maternal morbidity.5, 6 Exact etiology is not known but some risk factors are associated with postdated pregnancy like parity, maternal age, past history of post term pregnancy, genetics and obesity.7.8

Postdated pregnancy is associated with an increased risk of postnatal mortality and morbidity including meconium aspiration syndrome, oligohydramnios, macrosomia, fetal birth injuries, septicemia, rate of non-reassuring fetal heart rate, fetal distress in labour and maternal complication increased Cesarean rates, cephalopelvic disproportion, cervical tear, dystocia, post-partum hemorrhage.9 Management protocol for postdated pregnancy is fetal surveillance for prolonged pregnancy, induction of labour, during intrapartum care proper monitoring of labour.10

The perinatal mortality rate at ≥42 weeks of gestation is twice the rate at term, increasing fourfold at 43 weeks, and five- to sevenfold at 44 weeks11 12 13 14 15 16 .Neonates born at ≥ 41 weeks of gestation experience a one-third greater risk of neonatal mortality than term neonates born at 38 to 40 weeks of gestation.17

Perinatal mortality increases as pregnancy extends beyond full term, particularly after 41 weeks, due to increases in both non anomalous stillbirths and early neonatal deaths.17, 18 Intrauterine infections, placental insufficiency due to placental aging, and cord compression leading to fetal hypoxia, asphyxia, and meconium aspiration are thought to contribute to the excess perinatal deaths.19

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MATERIALS AND METHOD

This study was carried out retrospectively in the department of Obstetrics and Gynecology, SMGS, Jammu. A total of 100 patients beyond 40 weeks of gestation admitted in Obstetrics and Gynecology department were selected in the study group cases by lottery method. It was a retrospective observational study for one year from July 2019 to July 2020 willing to participate and fulfilling the inclusion and exclusion criteria in the study period.

Inclusion criteria

· Pregnant women more than 40 weeks of gestation (last three menstrual cycles regular, not used contraceptive pills for the past 3 months, not conceived during lactational amenorrhea)

· Singleton pregnancy with vertex presentation.

Exclusion criteria

· High risk pregnancies like diabetes, antepartum hemorrhage (APH), premature rupture of membranes (PROM) and pregnancy induced hypertension (PIH), heart disease, chronic hypertensive disease, chronic renal disease

· Previous caesarean sections

· Congenital anomalies

· Multiple gestation

· Non-vertex presentation

The data was collected from the hospital records of pregnant females per the inclusion and exclusion criteria. Booking status of cases was also noted. Maternal and fetal outcomes were tabulated.

RESULTS

The total no. of deliveries over one year study period were 23409, out of which 1460 patients were beyond 40 weeks of gestation so the incidence of postdated pregnancy was 6.23% at our center. Of the total 100 patients selected, 64% were in 40wk – 40wk 6D group, 26% in 41wk-41wk 6D group and 10% were in ≥ 42 weeks group.(TABLE 1)

TABLE 1: GESTATIONAL AGE DISTRIBUTION

GESTATIONAL AGE	NUMBER	PERCENTAGE
40 W 40W 6 D	64	64%
41W- 41W 6D	26	26%
>=42 W	10	10%
TOTAL	**100**	**100**

TABLE: 2 DEMOGRAPHIC CHARACTERISTICS

AGE(YEARS)	NUMBER	PERCENTAGE
20-25	66	66%
25-30	16	16%
30-35	13	13%
>35	5	5%
TOTAL	**100**	**100**
PARITY		
PRIMIGRAVIDA	63	63%
MULTIGRAVIDA	37	37%
TOTAL	**100**	**100**
BOOKING STATUS		
UNBOOKED	61	61%
BOOKED	39	39%
TOTAL	**100**	**100**

Majority of patients (66%) were in the age group of 20-35 years age group, only 5% patients were in age group >35 yrs. 63% patients were primigravida while 37% were multigravida in our study. The numbers of unbooked cases were more in this study (61%). (TABLE 2)

At out hospital set up, induction is done at 40+ weeks because of loss of follow up of patients and perinatal complication associated with post term pregnancy.

TABLE 3: MODE OF DELIVERY

MODE OF DELIVERY	NUMBER	PERCENTAGE
SPONTANEOUS DELIVERY	46	46%
INDUCED DELIVERY	30	30%
CESAREAN SECTION	21	21%
INSTRUMENTAL DELIVERY	3	3%
TOTAL	**100**	**100**

Of the total 100 patients beyond 40 weeks of gestation in our study, 46% delivered with spontaneous onset of labour, 30% delivered after induction and 21% had cesarean section.

There were 3(3%) instrumental deliveries in our study. (TABLE: 3)

TABLE 4: TYPE OF INDUCTION

TYPE OF INDUCTON	NUMBER	PERCENTAGE
Tab MISOPROSTOL(25ug)	5	16.6%
Intra cervical Foleys	4	13.4%
FOLEYS + MISO	18	60%
Oxytocin	3	10%
TOTAL	30	100

Out of total 100 patients, 30(30%) patients needed induction of labour, out of which 60% were induced by combined intracervical foley's cather and tablet misoprostol(25ug) , 13.4% with only intracervical foley catheter ,16.6% with tablet misoprostol (25ug) up to 4 doses maximum and 10% patients were induced with oxytocin, according to Bishop score.(TABLE 4)

21 patients underwent casarean section in our study for various indications. Failed induction was the leading (33.3%) indication for caesarean section in our study followed by fetal distress in 19.3% patients. (TABLE 5)

TABLE 5: INDICATION OF LSCS (N=21)

INDICATION	NUMBER	PERCENTAGE
FAILED INDUCTION	7	33.3%
FETAL DISTRESS	4	19.3%
CEPHALOPELVIC DISPROPORTION	2	9.5%
TRANSVERSE LIE	1	4.7%
ABSENT LIQUOR	2	9.5%
NON-PROGRESSION OF LABOUR	3	14.2%
SEVERE OLIGOHYDRAMNIOS	2	9.5%
TOTAL	**21**	**100**

Among all patients (3 %) who needed instrumental delivery, 2 (66.6%) participants delivered by assistance of outlet forceps and 1 (33.3%) participant needed assistance of vacuum. (TABLE 6)

TABVLE 6: INSTRUMENTAL DELIVERIES

TYPE	NUMBER	PERCENTAGE
OUTLET FORECEPS	2	66.6
VACUUM	1	33.4
TOTAL	**3**	**100**

FETAL COMPLICATIONS

TABLE 7: BIRTH WEIGHT

BIRTH WEIGHT(KG)	40W-40W6D (n=64)	41W-41W6D (n=26)	>42W (n=10)
<2.5	4 (6.2%)	3(11.5%)	2(2)
2.5-3.5	58(90.6%)	22(84.7%)	5(50)
>3.5	2(3.2%)	1(3.8%)	3(30)
TOTAL	64(100%)	26(100%)	10(100)

The majority of the babies born to participants weighed between 2.5 to 3.5 kg in our study. (TABLE 7)

In the present study, 13 neonates were admitted to NICU after delivery. The primary reason was respiratory distress with meconium stained liquor (MSL) in 7 babies followed by low birth weight in 3 babies , respiratory distress syndrome in 2 babies and hyperbilirubinemia in 1 baby. There was 1 neonatal death and 2 still births (Table 8).

TABLE 8: OTHER FETAL COMPLICATIONS

FETAL COMPLICATIONS	NUMBER
APGAR < 6	5
IUGR	3
MECONIUM ASPIRAION SYNDROME(MAS)	7
NICU ADMISSION	13
STILL BIRTH	2

TABLE 9: INDICATIONS FOR NICU ADMISSION (n=13)

INDICATION	NUMBER
MECONIUM ASPIRATION SYNDROME(MAS) with RDS	7
LBW	3
RDS	2
HYPERBILIRUBINEMIA	1
NONE	87
TOTAL	100

Maternal complications were present in 12 cases. Postpartum haemorrhage was found in 5 (5%) cases, perineal tear was present in 3 (3%) and wound infection was found in 2 (2%) cases and shoulder dystocia was found in 2 (2%) cases. There was 1 neonatal death in this study due to meconium aspiration syndrome and 2 stillbirths in our study. (TABLE 10)

TABLE 10: MATERNAL AND PERINATAL MORBIDITY

MATERNAL	NUMBER(12)
PPH	5
PERINEAL TEAR	3
SHOULDER DYSTOCIA	2
WOUND INFECTION	2
NONE	88
PERINATAL	**NUMBER(3)**
SRILL BIRTH	2
NEONATAL DEALTH	1

DISCUSSION

The present study was conducted to find out the incidence of maternal complications, perinatal mortality and morbidity in postdated pregnancies. Total cases were 100 which were enrolled based on inclusion and exclusion criteria.

In our study ,majority of patients (66%) were in the age group of 20-35 years age group,. 63% patients were primigravida and number of unbooked cases were more in this study (61%).These were similar to studies conducted by Verma v et al27 and Kandalgaonkar VP et al .28

Induction of labour was done at 40+ weeks because of loss of follow up of patients and perinatal complication associated with post term pregnancy in our hospital. Of the total 100 patients beyond 40 weeks of gestation in our study,30% delivered after induction and most common means of induction was by combined intra cervical Foley's and misoprostol(25ug).36.5% patients were induced in the study done by Kandalgaonkar VP et al 28.

In these study maximum women 64% were in between 40+1 to 41 weeks of gestation age, 26% were in between 41-42 weeks of gestation age and 10% were in between more than 42 weeks of gestation age similar to study conducted by Singh N et al 29. No. of

patients who underwent cesarean section were 21 in our study and most common indication for cesarean section was failed induction (33.3%) similar to studies conducted by Kandalgaonkar VP et al 28 and Singh N et al 29. In the study by Akhtar P et al 30, caesarean section was done in view of fetal distress in 32% cases, non-progress of labour in 25.3% cases and failure of induction in 24% cases.

Pregnancies that reach 41+0 weeks of gestation can be induced or managed expectantly with ongoing fetal assessment and intervention if spontaneous labor does not occur by a predefined gestational age or fetal assessment is not reassuring. In the low-risk postdated pregnancy, both of these approaches are associated with low absolute rates of adverse outcome.20 Patients should be counseled about what these approaches involve (labor induction with/without cervical ripening agents, type and frequency of antepartum fetal and maternal monitoring) and the maternal and fetal benefits and risks of both approaches.

Expectant management is the alternative to induction. Expectantly managed pregnancies typically undergo twice-weekly fetal assessment beginning at 41+0 weeks (or shortly thereafter), with intervention if spontaneous labor does not begin by a predefined gestational age or fetal assessment testing is abnormal .21 22 Either a nonstress test plus assessment of amniotic fluid volume or the biophysical profile can be used for antenatal monitoring; there is no convincing evidence that one method is superior to the other 23 American College of Obstetricians and Gynecologists recommendation to induce labor by 42+6 weeks of gestation in all pregnancies.24

After one postdated pregnancy, the risk of a second postdated birth is increased two- to fourfold; the risk of recurrence is even higher after two prior postdated pregnancies.25 26.

In this study most common (5%) complication was post-partum haemorrhage (PPH) similar to study conducted by Singh N et al 29.There was no maternal mortality. There was 1 neonatal death in this study due to meconium aspiration syndrome and 2 stillbirths in our study.

Though the correct choice of management remains controversial, according to the present study it seems reasonable to induce labour at 40+ weeks of gestation with strict intrapartum monitoring as maternal and perinatal complications were lesser as compared to induction later than this period of gestation. It is also done because of loss of follow up of patients and perinatal complication associated with post term pregnancy.

CONCLUSION

Postdated pregnancies require early identification, effective and proper planned management .The adverse outcome can be reduced by counseling for antenatal checkup and follow up during pregnancy and proper monitoring during labour. More trainings of peripheral health worker are required for calculation of accurate dating, making diagnosis and proper management to reduce its incidence. Postdated pregnancy is associated with fetal, neonatal and maternal complications including morbidity and perinatal mortality. The use of routine ultrasound for dating in the first trimester has decreased the overall rate of postdated pregnancy.

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