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Original Research Article

POSTDATED PREGNANCY AND ITS PERINATAL OUTCOME - A CLINICAL STUDY AT A TERTIARY CARE CENTRE

Naorem Sunanda Chanu[1], Ch. Deependra Singh[2], Thingujam Digel Singh[3]

[1]Assistant Professor, Department of Obstetrics & Gynecology, JNIMS, Imphal, Manipur, India.
[2]Assistant Professor, Department of Obstetrics & Gynecology, JNIMS, Imphal, Manipur, India.
[3]Associate Professor, Department of Obstetrics & Gynecology, JNIMS, Imphal, Manipur, India.

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Corresponding Author:
Dr. Thingujam Digel Singh,
Email: digelsingh@gmail.com

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Abstract

Background: Postdated pregnancy is defined as one which has crossed expected date of delivery (beyond 280 days). Pregnancy more than 42 weeks (more than 294 days) is called Post term Pregnancy. The incidence is about 3-14% of all pregnancies. There is increased risk of meconium aspiration syndrome, oligohydramnios, macrosomia, fetal birth injuries, septicaemia, non-reassuring FHR, fetal distress in labour and maternal complications like increased CS rate, CPD, cervical tear, Dystocia, Post-partum haemorrhage (PPH), severe perineal lacerations, operative vaginal delivery. **Materials and Methods:** This prospective observational study was carried out in 150 postdated pregnancies admitted in the Department of Obstetrics & Gynaecology, JNIMS, Porompat, Manipur during a period of 2 years from December 2019 to December 2021, after satisfying the inclusion and exclusion criteria. **Result:** Majority of the patients were below 25 years of age (33.3%) and primigravida (42.0%). More than half of the respondents belonged to rural areas (54.7%) and unbooked (84.7%). Most of the patients were Middle Socio-Economic Status group (93.4%). Majority of these postdated women were delivered by NVD (54.0%), followed by LSCS (29.3%) and Ventose / Instrumental (16.7%). Spontaneous vaginal delivery was seen in 52.0% of postdates, 34% of Induction by Misoprostol and 14% by Dinoprostone. Prolonged labour, PIH and PPH were the commonest maternal complications encountered. **Conclusion:** Fetal complications are more in postdated pregnancy. Hence early intervention should be undertaken in postdated pregnancies to avoid maternal and perinatal complications.

INTRODUCTION

Postdated pregnancy is defined as one which has crossed expected date of delivery (beyond 280 days). Pregnancy more than 42 weeks (more than 294 days) is called Post term Pregnancy (ACOG 1997). The incidence is about 3-14% of all pregnancies.[1] Fetal, neonatal and maternal complication associated with them have always been underestimated. There is increased risk of meconium aspiration syndrome, oligohydramnios, macrosomia, fetal birth injuries, septicemia, non-reassuring FHR, fetal distress in labour and maternal complications like increased CS rate, CPD, cervical tear, Dystocia, Postpartum haemorrhage (PPH), severe perineal lacerations, operative vaginal delivery.[2] Caesarean delivery is associated with higher incidence of endometritis, haemorrhage and thromboembolic disease. Antepartum stillbirth at and beyond term (37-43 weeks) accounts for greater perinatal mortality than deaths from complication of prematurity or sudden infant death syndrome.[3] Increased fetal mortality from post term pregnancy could therefore be prevented by induction of labour at term. However, the negative effects of induction labour like uterine hyperstimulation, failed induction & increased CS rates should be well aware.[4] Post term pregnancy increases costs related to antenatal fetal monitoring & induction of labour and can be a source of anxiety for the pregnant woman. The most frequent cause of prolonged pregnancy is inaccurate dating.[5] The exact etiology of postdates is usually unknown. Common risk factors include primiparity, previous post term pregnancy, male fetus, obesity, hormonal factors and genetic predisposition.[6] The risk of adverse perinatal outcomes may increase as early as 41 completed weeks and postdates are associated with placental insufficiency.[7] Therefore, the study was undertaken in an attempt to evaluate the obstetric outcome, method of induction and complications related to postdated pregnancies with reference to management.[8-10]

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MATERIALS AND METHODS

The prospective observational study was conducted in 150 post-dated pregnancies admitted in the Department of OBG, JNIMS, Porompat during a period of 2 years from December 2019 to December 2021, after taking informed consent for participation in the study. Approval of the Institutional Ethics Committee, JNIMS was also obtained and confidentiality was maintained during the study period. EDD was calculated by Naegele's rule. The criteria for diagnosing postdated are correlation of menstrual history, clinical findings and USG. Those patients who have completed 40 weeks of GA, who were sure of LMP with regular menstrual cycle, with 1st trimester USG scan were included. Those without consent, not sure of LMP, irregular menses without 1st trimester USG scan, multiple pregnancy were excluded. Detailed clinical examinations were done to find out obstetrical or systemic complications. Intrapartum record of uterine contractions, FHR, progress of labour, mode of delivery and Apgar Score were noted. The patients were followed upto 7 days after delivery and any maternal & fetal morbidity & mortality was recorded.

RESULTS

Majority of the patients were below 25 years of age (33.3%) and primigravida (42.0%). More than half of the respondents belonged to rural areas (54.7%) and unbooked (84.7%). Most of the patients were Middle Socio-Economic Status group (93.4%). Majority of these postdated women were delivered by NVD (54.0%), followed by LSCS (29.3%) and Ventouse / Instrumental (16.7%). Spontaneous vaginal delivery was seen in 52.0% of postdates, 34% of Induction by Misoprostol and 14% by Dinoprostone. In case of Vaginal Delivery (VD), spontaneous delivery was high (70.4%) as compared to Misoprostol induction (19.8%) & Dinoprostone gel induction (9.9%). In case of LSCS and Ventouse, Misoprostol induction was common in 50% of cases. This finding was statistically significant (P-value of 0.000567 by Chi Square Test). Meconium-stained liquor and Non-Reassuring (NR) NST were the commonest indication for LSCS. Respiratory Distress Syndrome (RDS) was the most common neonatal complication (8.7%), followed by Meconium Aspiration Syndrome (6.0%). Majority of the baby were average birth weight (82.0%) with AS of more than 7 at 5 minute (94.7%) and NICU admission was seen in 7.3% only. There was no maternal and neonatal death.

Table 1: Distribution of cases by Age & Gravida

Age in years	**Frequency**	**Percentage**
20-25	50	33.3
26-30	42	28.0
31-35	44	29.3
36-40	14	9.4
Total	150	100.0
Mean ± SD (min-max)	29.21 ± 4.45 (23-38)	
Gravida	Frequency	Percentage
G1	63	42.0
G2	53	35.3
G3	29	19.3
G4 & Above	5	3.4
Total	150	100.0

Table 2: Distribution by address & Booking Status

Address	**Frequency**	**Percentage**
Rural	82	54.7
Urban	68	45.3
Total	150	100.0
Booked Status	Frequency	Percentage
Unbooked	127	84.7
Booked	23	15.3
Total	150	100.00

Table 3: Distribution by Mode of Delivery (MOD)

Mode of delivery	**Frequency**	**Percentage**
NVD	81	54.0
LSCS	44	29.3
Ventouse	25	16.7
Total	150	100.0

Table 4: Distribution by baby's weight & Period of Gestation in Weeks (POG)

Weight of baby in Kg	**Frequency**	**Percentage**
<2.5	24	16.0
2.5-3.5	123	82.0
>3.5	3	2.0

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Total	150	100.0
Period of Gestation (Weeks)	Frequency	Percentage
>40-41	114	76.0
>41-42	24	16
>42	12	8.0
Total	150	100.0

Table 5: Distribution by Method of induction

Method of induction	Number (%)	Vaginal delivery (%)	LSCS (%)	Ventouse (%)	Chi-square test
Spontaneous	78(52.0)	57 (70.4)	15 (34.1)	6 (24.0)	P-value- 0.000567
Misoprostol	51(34.0)	16(19.8)	22 (50.0)	13 (52.0)	
Dinoprostone	21(14.0)	8(9.9)	7 (15.9)	6 (24.0)	
Total	150 (100.0)	81(100.0)	44 (100.0)	25 (100.0)	

Table 6: Distribution by indication of LSCS

Indication of LSCS	Frequency	Percentage
Meconium-stained liquor	15	10.0
NR NST	10	6.7
Failure of induction	9	6.0
CPD	4	2.7
Previous LSCS	3	2.0
Cervical dystocia	2	1.3
Severe Oligohydramnios	1	0.7
Total	44	29.4

Table 7: Distribution by fetal complications

Fetal complications	Frequency	Percentage
Respiratory distress syndrome	13	8.7
Meconium aspiration syndrome	9	6.0
IUGR	7	4.7
Hyperbilirubinemia	5	3.3
Macrosomia	1	0.7
Neonatal death	0	0.0

Table 8: Distribution by NICU admission & Apgar Scores

NICU Admission	Frequency	Percentage
Yes	11	7.3
No	139	92.7
Total	150	100.0
Apgar Score at 5 mins	Frequency	Percentage
<4	2	1.3
4-7	6	4
>7	142	94.7
Total	150	100.0

DISCUSSION

In this study, there was increased incidence of postdated pregnancies in the younger age group. This is consistent with the findings of Zwerdling and Bischer et al. However, Phelan et al reported no significant relationship between maternal age and the incidence of postdated pregnancy.[11-13] Our mean age was 29.21 years with a SD of 4.45 years and this finding was in concordance with the study by Bishnoi S et al, Singh N et al and Bhriegu R et al. More than half of the cases were from rural areas (54.7%). This may be due to its location and accessibility.[14,15] Most of the women were from the middle socio-economic class (93.4%) and majority were primigravida (42.0%) which is similar to finding in Bishnoi et al, Bhriegu R et al, Sonali et al, Kumar GVA et al, Singh N et al and Sinha AL et al. Majority of the postdated women were having >40-41 weeks POG (76.0%) and this was in consistent with the study by Sinha AL et al. Similar finding was noted in the study by Singh N et al where 81% of postdates had POG >40-41 weeks, 14% had POG >41-42 weeks and 5% had POG >42 weeks. Majority of the cases were delivered by NVD (54%), LSCS (29.3%) and Ventouse (16.7%).[16-21] Almost similar finding was noted in the study by Sonali et al , Singh N et al. However in the study by Marahatta R et al, LSCS was the commonest (81.4%) followed by VD(15.7%) and instrumental delivery (2.7%). Spontaneous delivery was seen in 52% postdated women, induction by Misoprostol (34%) and Dinoprostone (14%). In case of VD, spontaneous delivery was high (70.4%), Misoprostol induction (19.8%) and Dinoripe (9.9%). In case of LSCS and Ventouse (Instrumental Vaginal Delivery), Misoprostol induction was common in 50% of cases and this finding was statistically significant ($p<0.05$). The rate of LSCS was higher in the group where induction of labour was done in the study by Sinha AL et al which was also noted in our study. Meconium stained Liquor was the commonest indication of LSCS which is similar to the study by

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Singh N et al. RDS and MAS (Meconium Aspiration Syndrome) were the commonest neonatal complication in our study which is at par to Singh N et al, Dobariya PV et al. Majority of the BW were normal (82%) which is similar to Singh S et al. Maximum of the neonate had APGAR score at 5 min >7(94.7%) which is in concordance with Singh S et al, Dobariya PV et al and Kandalgaonkar VP et al. NICU admission was seen in 11 cases (7.3%) only which was in concordance with the study by Kandalgaonkar VP et al. Induction of labour was recommended as one of the methods for preventing postmaturity. Hence hosptalisation along with close monitoring for fetal/maternal complications and stringent supervision during labour is a must.

CONCLUSION

This study concludes that in postdated pregnancies the fetuses are at greater risk during pregnancy & labour. This can be effectively reduced with early detection and proper management. Rate of vaginal deliveries has increased due to effective prostaglandins and their easy availability.

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