



FETOMATERNAL OUTCOME IN PREGNANCY BEYOND 40 WEEKS.

**DR AKSHAYA KUMAR MAHAPATRO, ASSOCIATE PROFESSOR.
AND DR SUNITA SAMAL, ASSOCIATE PROFESSOR.**

AT- Department of OBGY MGMC & RI PO- Pillaiyarkuppam, Puducherry, 607402.

ABSTRACT

The purpose of this study was to find out mode of delivery, incidences of oligohydramnios, meconium stained amniotic fluid & perinatal outcome in pregnancy beyond 40wks. This retrospective observational clinical study was conducted in Obstetric Dept. of MGMC & RI, puducherry. The study includes pregnant women who delivered at MGMC & RI labour room after their expected date of delivery. These patients were divided into 3 groups according to their gestational age i.e. 40-41 wks, 41 - 42 wks and \geq 42wks. Different maternal outcome like incidence of oligohydramnios, mode of delivery, incidence of meconium stained amniotic fluid during delivery, perinatal outcome in relation to low apgar score, Nicu admission, Meconium aspiration syndrome & antenatal, intranatal & neonatal death were analysed. Out of 402 cases 320 (79.6%) cases were in 40 -41weeks 70(17.4%) cases were in 41 – 42 wks and ,12(2.9%) cases were beyond 42wks. Most of the cases were primigravida(71.9%) with mean maternal age of 24.19yrs & mean gestational age of 40.51 wks. Out of 402 cases 201 (50%) underwent spontaneous labour & 201(50 %) needed induction of labour. Most common causes of induction were oligohydramnios 88(43.78%) and pregnancy beyond 41 wks 89(44.27%).Most common mode of delivery was vaginal constituting 263(65.42%) cases. Fetal distress was the common indication for caesarean section. 35 (8.7%) babies were admitted to NICU most of the admissions were for transient tachypnoea of new born. Out of 402 cases unfortunately intrauterine fetal demise occurred in 5 cases(1.24%) without any risk factors. Among those delivered babies one baby suffered from erb's palsy and one died during neonatal period. Pregnancy beyond 40wks increases the chance of oligohydramnios & ceasarean section & NICU admission.

KEYWORDS:Expected date of delivery, oligohydramnios, amniotic fluid index, transient tachypnoea of new born. Fetomaternal outcome in pregnancy beyond 40 weeks (wks).



DR AKSHAYA KUMAR MAHAPATRO, ASSOCIATE PROFESSOR.

AT- Department of OBGY MGMC & RI PO- Pillaiyarkuppam, Puducherry, 607402.

*Corresponding author

INTRODUCTION

The timely onset of labour and birth is an important determinant of perinatal outcome. The World Health Organisation defines post-term pregnancy as one that has extended to or beyond 42wks(294days) of gestation.¹It complicates 10% of all gestations and is associated with increased fetal and maternal morbidity in terms of stillbirth, meconium aspiration syndrome, birth injury, macrosomia, caesarean section, perineal injury, postpartum haemorrhage. Even in pregnancy that has crossed the expected date of delivery(post-dated pregnancy), there is increased incidence of these complications due to progressive fetal hypoxia following placental insufficiency. The period after 40 weeks is of utmost concern for the patient as well as obstetrician. There is more incidence of decreased amniotic fluid, meconium passage and macrosomia after 40wks. So ,most of the obstetrician prefer termination of pregnancy before 42wks as the risk of fetal mortality is doubled in pregnancies which has crossed 42wks than the pregnancies at 40wks.^{2,3}Because of these risks, some authoritative organizations recommends induction of labour after 41 weeks gestation⁴. Even a study on mother's attitude mentioned the unacceptance of conservative management beyond 41wks by the pregnant women. So ,the present study was to analyse the outcome of pregnancy beyond the expected date of delivery.

MATERIALS AND METHODS

A retrospective study of 402 pregnant women who had crossed the expected date of delivery was conducted at Mahatma Gandhi Medical College and Research Institute, Puducherry over a period of June 2012 – Nov 2013. The pregnant women those who had completed 40 weeks, booked with regular menstrual cycles, sure of last menstrual period , were not taking any hormonal contraceptives prior to pregnancy and had no maternal or fetal risks

of prolongation of pregnancy beyond 40 weeks and also no contraindication for vaginal delivery,with singleton pregnancy in cephalic presentation were included in the study. Those who had some maternal or obstetrical complications(medical disorders, antepartum haemorrhage, polyhydramnios,premature rupture of membranes, Rh -ve ,etc),with multifetal pregnancy and with congenitally abnormal foetuses were excluded . According to labour room protocol in our hospital, all the patients who had crossed expected date of delivery were monitored till 41 completed weeks by modified biophysical profile twice a week either as a outpatient or inpatient basis and spontaneous labour was awaited. Those who had amniotic fluid index of less than 5cm or non-reactive NST were induced. The patients who did not have spontaneous labour after 41 completed weeks and also who had attended labour room after 41 completed weeks were induced . The results were analysed with regard to mode of delivery, maternal and fetal outcome.

RESULTS

A total of 402 cases were included in the study after satisfying the inclusion and exclusion criteria. Out of 402 cases 320 (79.6%) cases were in 40 -41wks,70(17.4%) cases were in 41 – 42 wks and ,12(2.9%) cases were beyond 42wks. Table -1 shows the distribution of cases according to their age, parity & gestational age at delivery. Table-2 shows about type of labour, mode of delivery. Table -3 shows different indications of induction of labour. Table-4 shows different indications of LSCS. Table -5 shows about neonatal birth weight, number of NICU admissions & apgar score <7 in 1 minute & 5 minutes at birth. Table-6 shows different causes of Nicu admissions. Table -7 shows over all comparison of maternal & fetal outcome according to GA in cases.

Table 1
Distribution of cases by Age, parity & gestational age at delivery.

Age in years	No. of patients	%
≤20	51	12.7
21-25	222	55.2
26-30	114	28.4
≥31	15	3.73
Mean±SD	24.19±3.30	
Parity		
Primigravida	289	71.9%
Multi gravida	113	28.1%
Gestational Age in wks		
40-41	320	79.6%
41-42	70	17.4%
≥42	12	2.9%
Mean±SD	40.51±0.50	
Total	402	100.0

Table 2
Comparison of type of labour and Mode of delivery.

Type of Labour	No of cases	Mode of delivery		
		SVD	IVD	LSCS
Induced	201(50%)	117(58.22%)	11(5.47%)	73(36.31%)
Spontaneous	201(50%)	146(72.63%)	12(5.98%)	43(21.39%)
Total	402(100%)	263(100%)	23(100%)	116(100%)

P=0.004*.

Table 3
Indications of induction.

oligohydramnios	88
Pregnancy ≥ 41 wks.	89
Non-reactive NST	16
Prolonged latent phase	03
Previous term IUD.	04
Intrauterine death	01
total	201

Table 4
Indications for LSCS

Indications for LSCS	No. of patients (n=116)	%
FD	76	65.51
CPD	21	18.10
Failed Induction	5	4.31
Thick /Mod MSL	4	3.44
NRN ST	1	0.86
cervical dystocia	8	6.89
Deep transverse arrest(DTA)	1	0.86

Table 5
Birth weight in kg, apgar score & Nicu admissions .

Birth weight(kg)	No. of patients	%
<2.5	30	7.46
2.5-3.5	341	84.8
>3.5	31	7.7
Mean birth wt	3.00	
Apgar score(<7)		
1 min	27	6.71%
5 min	13	3.23%
NICU admission	35	8.70%

Table 6
Neonatal complications.

Neonatal complications	No. of patients (n=35)	%
Total Nicu admission	35	8.70%
• HIE-2	05	14.28%
• MAS	03	8.57
• MAS with complication	03	8.57
• PND	6	17.14
• RDS	4	11.42
• TTN	11	31.42
• Erbs palsy	01	2.85
• Term IUGR	02	5.71

Table 7
Comparison of Maternal and fetal outcome in pregnancy beyond 40 wks.

Gestational age in weeks	Number of patients	SVD	IVD	LSCS	MSL	IUD	NICU	ND
40-41	320(79.60%)	214(66.87%)	20(6.25%)	86(26.87%)	41(12.81%)	04	24(7.5%)	0
41-42	70(17.42%)	40(57.14%)	3(4.28%)	27(38.57%)	21(30%)	01	11(15.71%)	01(1.42%)
42	12(2.98%)	9(75%)	0	3(25%)	03(25%)	0	0(0%)	0
Total	402	263(65.4%)	23(5.7%)	116(28.9%)	65(16.16%)	05	35(8.7%)	01

*Incidence of NICU admission is not statistically associated with Gestational age with P=0.324.
Gestational age is not statistically associated with Mode of delivery with P=0.299.*

DISCUSSION

Risk of perinatal mortality increased 4 to 5 times when pregnancy with placental insufficiency prior to term allowed to continue. Fetal morbidity & mortality almost doubles comparing delivery beyond 42wks & between 37-41wks. The postdated incidence of meconium passage⁵ is also 19% at 40 wks & increased to 27-40% at 42wks. Incidence of MAS is 0.6% at 40wks & 1.6% at 42 wks. Incidence of MSAF /1000 birth at 40,41,& 42 wks are 175,215 & 250 respectively⁶. Incidence of MAS at 40,41, &42 wks/1000 births are 2.9 ,5.1 & 4.7 respectively. Perinatal mortality 0.86 to1.61 /1000 birth at 40 wks ,1.27-1.78 at 41wks & 1.55 to 1.94 at 42wks respectively. A study of mother's attitude suggested that most pts were unwilling to accept conservative management of prolonged pregnancy after 41 wks⁷. After 41 wks Acog recommends routine induction. In our study out of 402 cases 222(55.2%) cases were between the age 21-25yrs , 114 (28.4%) cases were 26-30yrs & the mean age was 24.19±3.30, while the mean age in Eden etal⁸ study was 25.8 yrs. In our study most of the cases are primigravida (71.9%) which is similar to Alexander et al⁹ study. In this present study 50% cases were induced & 50% of cases underwent spontaneous labour. Rate of lower segment caesarean section was more in induced group 73(36.31%) compared to spontaneous group 43 (21.39%) but in Prabha singh et al¹⁰ & Devinder Kaur et al¹¹ study the rate of LSCS was 26% & 30% respectively. The over all LSCS rate in our study is 116 (28.9%) which was 16.7% in prabha singh et.al¹⁰study. The increased LSCS rate may be due to increased rate of

induction. The rate of LSCS beyond 41 wks is 30 (36.58 %) in our study which was 21.1% by Kaplan et.al¹² study. This high rate maybe due to induction of all cases after 41 wks. The prevalence of instrumental delivery in the present study is 23(5.72%), where in Prabha Singh et.al¹ & Devindra kaur et.al study the rate of instrumental delivery was 8.6% & 10.35% respectively. The prevalence of oligohydramnios in our study is 21.89% compared to Morris JM et.al¹³ study which was 7.98%. In the present study the prevalence of meconium stained amniotic fluid beyond 40wks pregnancy is 65(16.16%). The prevalence of Meconium stained amniotic fluid beyond 41 wks is 24 (29.26%) which was 38 % in Kaplan et.al study. The risk of Meconium aspiration syndrome is 6 (9.23%) beyond 40 wks ,4.16% after 41 wks in our study but that was 5.7% in usher et.al¹⁴ study. The mean birth weight in our study is 3.00 kg. The NICU admission in our study is 8.70%, which is similar to Alexander et.al & caughey¹⁵ et.al study. Rate of Nicu admission also increases with advanced gestational age i.e 7.5% at 40-41 wks & 15.71% at 41-42wks. Caughey et.al reported the prevalence of NICU admission 5% at 40-41 wks & 5.4 % at 41-42 wks. In our study there was total 6 (1.49%) perinatal deaths in pregnancy beyond 40 wks out of which five were unexplained intrauterine fetal demise without any risk factor & one was early neonatal death.

CONCLUSION

Management of postdated pregnancy is a challenging to obstetrician and a careful

advice & monitoring can alleviate maternal anxiety & untoward complications. Pregnancy beyond 40 wks needs frequent amniotic fluid index monitoring as in our study we induced more cases for oligohydramnios. In our study

we observed Pregnancy beyond 41 wks increases rate of caesarean section & NICU admission .A larger prospective study is needed to draw more firm conclusion.

REFERENCES

1. International Statistical Classification of Diseases and Related Health Problems, 10th revision. Geneva (CH): World Health Organisation, 2006.
2. Grant JM. Induction of labour confers benefits in prolonged pregnancy. *Br J Obstet Gynecol.* 101:99-109.,(1994)
3. Grubb DK, Rabella YA, Paul RH. Post term pregnancy fetal death rate with antepartum surveillance.*Obstetrics and Gynecology.*79:1024-1026. (1992);
4. Royal college of gynecologists and obstetricians.Induction of labour. Evidence based clinical guideline.London, RCOG Press:24-26 2001
5. Ahanya SN, Lakshmanan J, Morgan BLG, Ross MG. Meconium passage in utero: mechanism consequences and management. *Obstet Gynecol Surv.*; 60:45–55,(2004).
6. Guideline for management of pregnancy beyond 41 wks of gestation issued: June 2000.Revised: June 2011.
7. Roberts LJ, Young KR. The management of prolonged pregnancy – an analysis of women’s attitude before and after-term. *Br. J. of Obstet & Gynecology*; 98: 1102-1106.,(1991).
8. Eden RD. Gergely RZ, Schiffrin BS, Wade MF. Comparison of antepartum testing schemes for the management of post-date pregnancy. *Am. J. Obst & Gyn.* 144: 683,(1982).
9. Alexander, James M, Donald D. McIntre and Kenneth J. Leveno; “forty weeks and beyond” pregnancy outcome by week of gestation “*obstet & Gynaec*, 96: 291-94.(2000a)
10. Prabha Singhal et al fetomaternal outcome following postdate pregnancy. A prospective study *J. of Obst & Gyn of India Vol-51. No. 5. 89-93.sept,(2001).*
11. Devinder Kaur, A.S. Saini, Jagjeet Kaur, Maternal and fetal outcome in postdated pregnancies *J. of Obst & Gyn; Of India 47(4): 331-334,(1997)*
12. Kaplan et al, The outcome of post-term pregnancy a comparative study *J. perinat. Med 23: 183-189.,(1995.)*
13. Morris JM, Thompson K, Smithey G, Gaffney I Cook et al. The usefulness of ultrasound assessment of amniotic fluid in predicting adverse outcome.Usher et al. Assessment of risk in post-dated pregnancy. *Am. Journal of Obstetrics & Gynecology 158: 259,(1998)*
14. Aaran B Caughey, Thomas J Musci, Complications of term pregnancies beyond 37 weeks of gestation. *Obst & Gynecol 103 (1): 57-62.,(2004).*