A study of maternal and perinatal outcome in pregnancies beyond 41 weeks of gestation

Dr N. N.Varma,

Medical Superitendant, Rural Hospital, Manavat

ASTRACT

Objective: Tostudymaternalandneonataloutcomeinpregnanciesbeyond41weeksof gestation.**StudyDesign:**Prospectiveobservationalstudyatatertiarycarehospital.**Results:** Of100cases79(79%)caseswereunder25years,majoritycaseswereprimigravida(72%),rate ofinducedlabouris75%,overallcaesareanratewas30%,fetaldistresswasthemostcommon indicationforLSCS9(30%),fetaldistresswasthemostcommonfetalcomplications,rateof NICUadmissionwas16%.**Conclusion:**Inourstudyweconcludedthatpregnancybeyond 41weeksisahighriskcondition.Patientswillbebenefitedfrommoreaggressiveinduction oflaborорprimarycesareansectioninpresenceofobstetricindication.

Keywords: Fetal distress, postdated pregnancies, primigravida

Introduction

Postterm pregnancy refers to a pregnancythathasreachedorextended beyond420/7weeksofgestationfromthe last menstrual period (LMP), whereasa late-termpregnancyisdefinedasonethat hasreachedbetween410/7weeksand41 6/7weeksofgestation(1).Theetiologyof most postterm pregnancies , however, several risk factors identified by observational studies, including nulliparity, prior postterm pregnancy, carrying a male fetus, and maternal obesity. According to various studies ,the riskofstillbirthincreasesinapost-term pregnancy:At40weeks:1-3per1000,at 41weeks:1-3per1000,at42weeks:4-7 per 1000 and at > 43 weeks: 11.5-14per 1000

AdverseMaternalandPerinatalOutcomes AssociatedwithPosttermPregnancy

Maternal - Oligohydramnios ,Preeclampsia, Cesarean delivery, Dystocia, Fetal jeopardy, Shoulder dystocia ,Postpartum hemorrhage, Perineal lacerations

Perinatal - Stillbirth, Postmaturity syndrome NICU admission Meconium aspirationNeonatalconvulsionsHypoxic-ischemic encephalopathy Birth injuries Childhoodobesity.

Accurateassessmentofgestational ageisessentialtopreventmisdiagnosisof prolongedpregnancy.Thoughmanytimes patientscamewithcompleted41weeks, management of such patients is very difficult due to maternal and fetal risk factors. This study is aimed to study maternal and perinatal outcome in pregnancies beyond 41weeks.

Materials and Methods

Thisstudyincludesbothprimigravidaand multigravidabeyond41weeksofgestation admitted from Janary 2018 to december 2018 in Obstetrics and Gynaecologyward of District Hospital,Parbhani,

Maharashtra. The study was prospective observationalstudy.Durationofstudywas oneyearfromJanary2018todecember 2018. The samplesize was 100.

Inclusion criteria

1. Pregnant women with completed 41weeksofgestation,whetherin labour or not in labour(confirmed bydatesorultrasoundfindings)
2. Maternal age between 18-35years
3. Singletonpregnancy
4. Cephalic presentation

Exclusioncriteria

1. Medical complications as gestational diabetes, anemia , hypertensive disorders of pregnancy, heartdisease
2. History of previous lowersegment caesarean section(LSCS)
3. Malpresentations,
4. Antepartum haemorrhage asplacenta previa,abruption
5. Fetalanomalies.

On admission data was collectedfrom thepregnantfemales,aspertheinclusion and exclusion criterias, after written informedconsent.Patientsgeneralhistory taken, followed by general physical and systemic examination. If patient had spontaneous onset of labor at time of examination, then labour was monitored. If necessary augmentation done accordingly. For patients who were not in labour, decision for induction of labour was done afterrulingoutCPD,fetaljeopardy,and afterwritteninformedconsent.Laborwas monitored closely. Patients with CPD, fetaljeopardyconsideredforLSCS.

Parameters noted as mode of delivery, any operative interference Maternal morbidity as PPH, 4th degree perineal tear, perinatal morbidity by low APGAR score, meconium aspiration syndrome, neonatal intensive care unit (NICU) admission and mortality if any. Maternalandneonatalfollowupkeptfor7 days afterdelivery.

Discussion

This study pregnant females beyond 41 weeks of gestation admitted from Janary 2018todecember2018ininObstetricsand Gynaecology ward of District Hospital, Parbhani,Maharashtra.

Pregnancies beyond 41 completed weeks are associated with adverse outcomes. Hence, the World Health Organization recommends inducing labour forwomenwhohavereached41completed weeks of pregnancy without spontaneous labourpain.(5)

Managing pregnancy beyond 41 weeksisachallengetoobstetricianand careful monitoring & intervention can alleviate maternal anxiety and untoward complications.

Table 1 : Age Wise Distribution:

Age	Number (n =100)	%
19 -20 yrs	21	21
21 -25 yrs	58	58
26 -30 yrs	19	19
Age >30 yrs	02	02

Inourstudymeanagewas24.15+ 2.12.WhilethemeanageinMahapatro's (6) studywas24.19±3.30,whilethemean ageinEden*etal*.'s(7)studywas25.8years.

Table 2 : According to parity

Parity	Number (n =100)	%
Primigravida	72	72
Second gravida	23	23
Third and more gravida	5	5

Inourstudy,majoritycaseswere primigravida (62%) which is similarto

Mahapatro(6)andAlexander*etal.*'sstudy (8).

Thetimelyonsetoflaborandbirth is an important determinant of perinatal outcome. But in pregnancy beyond 41 weeks increased interventions affects maternal & neonataloutcome.

Inourstudy,outof100cases,68 patientshadvaginaldelivery,30whereby LSCS and 2 patients neededinstrumental delivery. Out of 68 vaginal delivery 23 patients had spontaneous onset of labour while 45 patients required induction of labour.

Table 3 : According to mode of delivery

Mode of delivery	Number (n =100)	%
Vaginal delivery (spontaneous orinduced)	68	68
Spontaneous	13	13
Induced	75	75
LSCS	30	30
LSCS - Elective	12	12
LSCS – Emergency	18	18
Instrumental delivery	2	2

Induction was done accordingto per-vaginal examination findings. In the present study, induction of labour was donein55%ofposttermpregnancy.Inthis study percentage for type of inductionfor Cerviprime,Foley'scatheter,Cerviprime+ Foley's catheter and misoprostol(25µg) was 13%, 9%, 69% and9%.

Therateofinstrumentaldeliveryin ourstudywas2%,whereasinotherstudies rate was Mahapatro's (6) - 5.72%,Singhal *etal.*'s(9)-8.6%andKaurD*etal.*'s(10)-10.35%.

Table 4 : According to type of induction

Tpes of induction	Number (n=75)	%
Cerviprime	16	21
Foley's catheter	9	12
Cerviprime + Foley's catheter	41	55
Misoprostol (25mcg)	9	12

Onprimaryevaluationifpatients were not suitable for trial of vaginal delivery, were considered for elective LSCS.

Table5:Indicationsofcesareansection

Indication	Number (n =100)	%
CPD	7	23
Absent Liquor	3	10
Severe Oligohydramnios	2	7
Fetal Distress	9	30
Non Progress Of Labor	4	13
Persistent occipito posterior	3	10
PROM	2	7

Delivery in pregnancies beyond 41 weeks there is increased risks ofperinatal complications such as fetal distressand meconium aspiration syndrome. It also contributes to higher caesarean section rate. In our study, overall cesarean rate was 30%. In other studies cesareanrate wasSinghal*etal.*(9)-16.7%,Mahapatro(6) - 28.9%, Paliulyte et al(11) - 22%. In caesarean section, commonest indication was fetal distress which contributed for 30%. Mahapatro's (6) study, had fetal distressasthemostcommonindicationfor LSCS(65.5%).

Table 7 : According to maternal complications

Complications	Number (n =100)	%
PPH	7	7
Cervical tear	5	5
4th degree Perineal tear	6	6
Shoulder dystocia	2	2
Blood transfusion required to patient	11	11
Septicemia	1	1
No complications	85	85

Present study shows that among maternal complications PPH was 7% and nocomplicationsin85%.Acomparative studydonebyShingeetal.(12)showsrate ofPPHwas3.5%andnocomplicationsin 87.5%. Maternal morbidity like increased rate of caesarian section, PPH, perineal tear, sepsis and cervical tear are more commoninpregnanciesbeyond41weeks. This is attributed by more caesarian section rates and induction of labour. ThesefindingsaresimilarwithPaliulyteet al (11), AB Caughey et al(13).

The adverse outcome can be reduced by making accurategestational ageanddiagnosisofposttermgestationas well as recognization and management of riskfactors.

Table 7 : According to NICU requirement .

Perinatal outcome	Number (n =100)	%
IUD	0	0
NICU admission	16	16
Good-Not required NICU	84	84

In our study, we observed pregnancy beyond41weeksincreasesrateofNICU admission.

Table 8 : According to fetal complications

Complications	Number (n =100)	%
Meconium Aspiration Syndrome	7	7
Asphyxia	6	6
Jaundice	18	18
Neonatal convulsions	3	3
Birth injuries	0	0
No complications	73	73

In our study, we found that prolonged pregnancy was associated with significant risk of perinatalcomplications suchasfetaldistress,meconiumaspiration syndrome, neonatal jaundice and neonatal convulsions. So more vigilant and careful fetalmonitoringisrequiredinpregnancies beyond 41weeks.

CONCLUSION

1. Pregnancy beyond 41weeks is a highriskcondition.Patientswillbe benefited from more aggressive induction of labor or primary cesarean section in presence of obstetricindication.
2. Importance of regular ANC checkup, confirmation of EDD (ExpectedDateofDelivery),ANC exercises should be highligtened duringpregnancy.

References

1. Spong CY. Defining "term" pregnancy: recommendations from the Defining "Term" Pregnancy Workgroup. JAMA 2013; 309:2445–6.
2. Kistka ZA, Palomar L, Boslaugh SE, DeBaun MR, DeFranco EA, Muglia LJ. Risk forpostterm

delivery after previous postterm delivery. Am J Obstet Gynecol 2007;196:241.e1–6.

3. Divon MY, Haglund B, Nisell H, Otterblad PO, Westgren M. (1998.) Fetal and neonatal mortality in the postterm pregnancy:The impact of gestational age and fetal growth restriction. Am J ObstetGynecol 1998;178:726–31.
4. Olesen AW, Westergaard JG, Olsen J: Perinatal and maternal complications related to postterm delivery: a national register-based study, 1978–1993. Am J Obstet Gynecol 189:227,2003
5. Mya et al. Managementof pregnancy at and beyond 41 completed weeks of gestation in lowrisk women: a secondary analysis of two WHO multi-country surveys on maternaland newborn health, Reproductive Health (2017) 14:141 DOI 10.1186/s12978-017-0394-2
6. Mahapatro A. Fetomaternal outcome in pregnancy beyond 40 weeks. Int J Pharm Bio Sci 2015;6:53-8
7. RobertD.Eden.,LarryS.Seifert., Ann Winegar MPH., et al., : Perinatal characteristics of uncomplicated pregnancies. Obstet & Gynaec, 1987; 69:296.
8. Alexander JM, McIntire DD, Leveno KJ. Forty weeks and beyond: Pregnancy outcomes by week of gestation. Obstet Gynecol 2000;96:291-4.
9. Singhal P. Fetomaternal outcome following postdate pregnancy. A prospective study. J Obstet Gynecol India2001;51:89-93.
10. KaurD,SainiAS,KaurJ.Maternal and fetal outcome in postdated pregnancies. J Obstet Gynecol India1997;47:331-4.
11. Paliulyte V, Ramasauskaite D. Labour induction in postdate pregnancy.Whentostartat40or 41 Gestaion? Acta Medica Lituanicia.2010:17(1).
12. Nanda Shinge, Vijay Kumar.M.M, Prashanth.S. “Comparative Study of Material & Fetal Outcome in Pregnancies of Gestational Age 40 Completed Weeks and Beyond”. JournalofEvolutionofMedicaland Dental Sciences 2013; Vol2, Issue 25,June24;Page:4509-4515.
13. Caughey AB, Bishop JT. Maternal complications of pregnancy increase beyond 40 weeks of gestation in low-risk women. J Perinatol.2006;26(9):540-5.