LATE TERM AND POSTTERM PREGNANCIES: STILL AN OBTETRICIAN'S DILEMMA

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ABSTRACT

Background: Late term and postterm pregnancies include those pregnancies which fails to deliver beyond 40 weeks of gestation, and are associated with significant maternal and fetal morbidity and mortality.

Objective: The present study aims at finding out the incidence,maternal and fetal outcome associated with late term and posterm pregnancies.

Methodology: This prospective cross sectional study was conducted at Gynaecology and Obstetric Department of Mardan Medical complex,Mardan from February 2017 to July 2017.All pregnant women of any age,parity or booking status who sure of dates of their last menstrual period and had their first trimester ultrasound done,and had crossed their expected date of delivery were included in the study.Those with previous uterine surgeries,medical disorders and congenitally anomalous fetuses were excluded.Patients were recruited from antenatal OPD and Labor room.Data was entered in a predesigned proforma and analyzed through SPSS 20.0.

Results: Incidence of pregnancies beyond 40 weeks was found as 2.5%.The most prevalent age group was 20- 25 years,comprising 48(57%)patients.Forty eight(69%) women were primigravidas and 42(50%) had their period of gestation between 41 and 42 weeks.Induction of labor done in 51(60.75%),cesarean was done in 25(29.7%) whereas 8(9.5%) were in spontaneous labor.Most common indication for induction was oligohydramnios and gestational age more than 41 weeks in 23(45%) each whereas commonest indication was cesarean was fetal distress in 7(31%) and failed induction in 6(24%).birth asphyxia and meconium aspiration syndrome were commonest neonatal complications seen in 13(15%) for both.

Conclusion: Incidence of prolonged pregnancies can be reduced by creating awareness regarding regular antenatal visits,and importance of first trimester ultrasound and knowledge of last menstrual period dates.

Key words: Postterm, Neonatal Death, Oligohydramnios, Cesarean Section, Induction.

INTRODUCTION:

A postterm or prolonged pregnancy is defined as the pregnancy which extends to or exceeds 42 completed weeks of gestation or 294 days from the first day of last menstrual period [1].

In 2012, a working group with representatives of American college of obstetricians and gynecologists(ACOG) and some other professional societies recommended that the word "term" should be replaced by early term(37 to 38weeks +6 days),full term(39 to 40 weeks +6 days),late term(41 weeks to 41 weeks +6 days) and postterm(42weeks and beyond) to more accurately describe the period of gestation [2].

The incidence of postterm pregnancy is about 7% of all pregnancies [3].The commonest aetiology of postterm pregnancies is inaccurate dating [4].When prolonged pregnancy truly exists,the cause is unknown in most of the cases. Common risk factors are primigravidity, past history of prolonged pregnancy,male fetus,obesity,hormonal factors and genetic predisposition [5,6].Placental sulphatase deficiency,fetal adrenal insufficiency,fetal anaencphaly are the other rare causes [7].

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Prolonged pregnancy is associated with risks to the mother and baby.There is increased risk of labor dystocia,severe perineal lacerations,macrosomia,operative vaginal delivery and doubling of cesarean section rates [8].Cesarean section is associated with higher risk of endometritis,haemmorhage, and thromboembolic phenomena [9].Fetal morbidity is also increased in prolonged pregnancy.This includes passage of meconium,meconium aspiration syndrome,macrosomia and dysmaturity.It is an independent risk factor for low umbilical cord pH levels,<7 APGAR score at five minutes,neonatal encephalopathy an dinfant death in first year of life [10,11].

The period after 40 weeks is of utmost concern for the patient as well as for the obstetrician.There is more incidence of oligohydramnios,meconium stained liquor,and macrosomia after 40 weeks.Therefore,most obstetricians will prefer to deliver the baby before 42 weeks as the fetal mortality risk is doubled after 42weeks than at 40 weeks [12].

The present study aims to analyze the socio-demographic characteristics of women whose pregnancies got prolonged alongwith the mode of delivery and indications if induction or cesarean section was performed.The fetal outcome is also taken into consideration.It will help the obstetricians to manage the pregnancy once it crosses the expected date of delivery in order to avoid the adverse impact on the health of mother and baby.

MATERIAL AND METHODS:

This prospective cross sectional study was performed at Gynaecology and Obstetrics Department of Mardan Medical Complex,Mardan from February 2017 to July 2017.Sample size was 84 and sampling technique was simple random sampling.Inclusion criteria was all pregnant women of any age,parity or booking status who crossed the expected date of delivery,who were sure of dates and had done one first trimester ultrasound,with singleton pregnancy and vertex presentation.Exclusion criteria was gestational age more than 44 weeks,previous cesarean section,congenitally anomalous fetuses and high risk pregnancies like women with diabetes, antepartum haemmorhage,prelabor rupture of membranes and pregnancy induced hypertension.

Approval was taken from hospital's ethical committee.Written informed consent was taken from all patients after explaining them the purpose of study.Patients were recruited through antenatal OPD and labor room.Detailed history,general physical,per abdominal and per vaginal examination was performed to evaluate the Bishop score.All baseline haemotological investigations were sent.A baseline ultrasound with biophysical profile was done and Cardiotocography performed.All data was entered in a predesigned proforma.

If the patient was in labor,the fetal heart sound record was kept and partogram maintained.After artificial rupture of membranes,the color of liquor was noted.If liquor was in form of thick meconium,then cesarean section was performed in emergency,but if liquor was only meconium stained then decision was taken in accordance with the fetal heart sounds.For those patients who were not in labor,induction with prostaglandin E2 tablets per vaginally was decided after thorough evaluation.They were monitored for uterine contractions and fetal heart rate.Tablet was repeated after six hours if needed.Again after six hours,evaluation was done and if Bishop score favourable,augmentation of labor with oxytocin started.Failed induction was labeled in case patient failed to go into labor after six hours of last prostaglandin E2 tablet.In induction group,after membranes were ruptured,if meconium was observed,theye were managed in same way as the spontaneous labor group.Patients in whom there was an indication for cesarean section apart from prolonged pregnanacy,surgery was performed.

Fetus after delivery was sent to Neonatologist for examination.The neonatal outcome was measured in form of NICU admission,birth asphyxia,meconium aspiration syndrome,early neonatal death,respiratory distress syndrome and transient tachypnea of newborn.

Data was analyzed through SPSS version 20.0.All numerical variables were calculated using mean and standard deviation,whereas all the categorical variables were calculated using frequencies and percentages,All the data was presented in the form of tables.

RESULTS:

During the study period,there were 3,350 deliveries and out of those 84 patients presented with the diagnosis of prolonged pregnancy,making the incidence of 2.5%.

The patients were divided into four age groups and it was observed that 13(15.4%) patients were less than 20 years age,48(57%) were in

age range 20- 25 years,17(20%) were 26- 30 years age and age of 6(7%) was more than 30 years.Fifty eight (69%) women were primigravidas,17(20%) were multigravidas with gravidity 2- 4 and 9(11%) were grand multigravidas with gravidity 5 and above.Gestational age was 40 to 41 weeks in 39(46%),41weeks +1 day to 42 weeks in 42(50%) and more than 42 weeks in 3(4%) cases.(Table no.I)

Eight (9.5%) women were in spontaneous labor whereas 51(60.75%) had to be induced and 25(29.7%) underwent cesarean section.The indications for induction were oligohydramnios and period of gestation more than 41 weeks in 23(45%) each,prolonged latent phase and previous bad obstetric history in 2(4%) each and intrauterine death in 1(1.9%) patient.(Table no.II)

Indications for cesarean section was fetal distress in 7(31%),failed induction in 6(24%),cephalopelvic disproportion in 5(20%),meconium stained liquor in 4(16%),cervical dystocia in 2(8%) and deep transverse arrest in 1(4%) case.(Table no. III)

Neonatal complications were seen as birth asphyxia and meconium aspiration syndrome in 13(15%) each,Neonatal Intensive Care Unit admissions in 10(12%),respiratory distress syndrome in 10(12%) and transient tachypnea of newborn in 8(10%) babies.Early neonatal death was seen in 7(8%) cases.(Table no. IV)

TABLE NO.I: SOCIO-DEMOGRAPHIC CHARACTERISTICS (n=84)

VARIABLES	FREQUENCY	PERCENTAGE
Age		
<19 years	13	15.4%
20- 25 years	48	57%
26- 30 years	17	20%
>30 years	6	7%
Gravidity		
Primigravidas	58	69%
Multigravidas	17	20%
Grandmultigravidas	9	11%
Gestational Age		
40- 41 weeks	39	46%
41+1- 42 weeks	42	50%
>42 weeks	3	4%

INDICATIONS FOR INDUCTION OF LABOR. (n=51)

INDICATION	FREQUENCY	PERCENTAGE
Oligohydramnios	23	45%
➢ 41 weeks	23	45%
Prolonged latent phase of labor	2	4%
Past bad obstetric history	2	4%
Intrauterine death	1	1%

TABLE NO. III: INDICATIONS FOR CESAREAN SECTION.(n=25)

INDICATION	FREQUENCY	PERCENTAGE
Fetal Distress	7	31%
Failed Induction	6	24%
Cephalopelvic Disproprtion	5	20%
Meconium Stained Liquor	4	16%
Cervical Dystocia	2	8%
Deep Transverse Arrest	1	4%

TABLE NO. IV: NEONATAL COMPLICATIONS.

COMPLICATION	FREQUENCY	PERCENTAGE
Birth Asphyxia	13	15%
Meconium Aspiration Syndrome	13	15%
NICU admission	10	12%
Respiratory Distress Syndome	10	12%
Transient Tachypnoea of Newborn	8	10%
Early Neonatal Deaths	7	8%

DISCUSSION:

Prolonged pregnancies are associated with significant maternal as well as perinatal morbidity and mortality.Risks due to prolonged pregnancies have been underestimated in the past for the reason that the pregnancies actually were not prolonged.Secondly,the stillbirth definition previously did not included the undelivered babies,which automatically reduced the stillbirth rate as the fetus was not at risk of death due to placental insufficiency once it was delivered [13].

According to our analysis,the most vulnerable age group for prolonged pregnancies is 20- 25 years age group where 57% of our patients fell.This is in accordance with a study done at India in 2015 where 55% of their patients were in this age group [14].Primigravidas were in majority comprising 69% of our study population,this finding is consistant with the results of study done by Alexander M et al [15].The gestational age of most of our patients was between 41 and 42 weeks,similar to the gestational ages of women who were included in a study done at Gujrat,India in 2017 [16]

Olighydramnios and period of gestation crossing 41 weeks was the most common indication for the patients with prolonged pregnancies,with both of these responsible for 90% of all inductions.This is in accordance with the study done by Akshay et al who reported 43.8% of their inductions for oligohydramnios and 44.27% for gestational age crossing 41 weeks [14].Oligohyramnios in prolonged pregnancies is mainly due to uteroplacental insufficiency as the pregnancy advances beyond term.

The cesarean section rate in our study was 29.7%,just close to few other international studies where this rate was observed as 26%,28.9% and 32.14% [17,14,16].The most common indication for the cesarean section in our study population was fetal distress.Fetal distress was also observed as the most common indication in research done by Heimstad R et [18].Filed induction was responsible for performing 24% of cesarean section ,whereas it was the main indication of cesarean in analysis conducted by Dobariya et al [16].

Regarding the neonatal complications,birth asphyxia and meconium aspiration syndrome were seen as commonest complications being present in 15%(for each).Meconium aspiration syndrome is a form of respiratory compromise with tachypnea,cyanosis and reduced pulmonary compliance in those fetuses who

are exposed to meconium in utero,and it is seen in higher rates in postterm fetuses [20].These findings are supported by findings of Caughey et al 19.Respiratory distress syndrome was seen in 12% of our babies whereas it was observed in 12.5% cases in another study [16].

There were several limitations in our study.Firstly,the sample size was small.Secondly.the follow up period was short for both the women and neonates and thirdly,Mardan Medical Complex was taken as the only study place.Inclusion of other hospitals from this locality would have given better impression about outcomes in this specific area.

CONCLUSION:

The incidence of prolonged pregnancy can be reduced with regular antenatal visits and awareness amongst the women regarding the importance of obstetrical scans and knowledge of last menstrual period dates.Confirmation of diagnosis of prolonged pregnancy is important and the only tool is first trimester ultrasound as most of women in our setup are illiterate and are unable to remember exact dates or correlate with some event.Owing to the risk to both mother and fetus,timely diagnosis and intervention should be performed to avoid morbidity and mortality related to this condition.

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