

Intrauterine Death - An Outcome of Post Term Pregnancy at Pakistan Railways Hospital Rawalpindi

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ABSTRACT

Objective: The objective is to determine the frequency of intrauterine death in post term pregnancy at Pakistan Railway Teaching Hospital- Rawalpindi.

Study Design: It is an observational prospective study

Place and Duration of Study: The study included four year data of all the deliveries conducted during 10th January 2005 -9th Jan 2011 at Pakistan Railways Teaching Hospital. Total 6540 deliveries were conducted during this time

Materials and Methods: 104 Pregnant women with gestational age of 294 days or more, who were sure of their LMP were included. Detailed history was taken along with physical & ultrasound examination. All women with associated medical problems were excluded. Data collected about study variables was included in sample. All relevant data was collected using perform, that was developed in the light of objectives and variables. Data was analyzed on computer using SPSS Version 10. Frequency of intrauterine deaths in post term pregnancy was calculated and 95% confidence interval was calculated for it.

Results: The overall prevalence of post term pregnancy was 3.13% which is much less than those in different studies. Maternal and neonatal complications were compared with normal term pregnancy. This comparative study revealed increased risk to mother and fetus as pregnancy advances beyond term.

Key Words: *Post term pregnancy, Apgar score, Intrauterine death, Perinatal mortality.*

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Introduction

The International Federation of Gynaecology and Obstetrics along with World Health Organization have defined the term delivery as that occurring between 259-294 days of pregnancy from the last menstrual period.¹ If the pregnancy exceeds this period it is classified as post term pregnancy (PTP). Although the last menstrual period (LMP) has been traditionally used to calculate estimated date of delivery (EDD). Inaccuracies exist using this method in woman who have irregular cycles, have been on recent hormonal birth control, or who have first trimester bleeding.² Ultrasonographic dating early in pregnancy can improve the reliability of the EDD; however it is

necessary to understand the margin of error reported at various times during each trimester.³ The composite biometric gestational age by a sonogram must be considered an estimate and must take into account the range of possibilities. The reported incidence of post term or prolonged pregnancies approximately 3-14% with an average of about 10%.⁴ The most frequent cause of an apparently prolonged gestation is an error in dating. The management of post term pregnancy, despite of intensive research, remains a controversial issue and varies not only in different countries but also among different clinicians in the same settings.⁵ Identification of prolonged pregnancy for a woman depends on her accurate dates, and preferably a first trimester estimate of crown rump length.⁶ The assessment of the gestational age by early ultrasound examination has reduced the "incidence" of post term pregnancy by 50%. Post term

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pregnancy is a high risk pregnancy.⁷ Management of PTP is a subject of concern due to its known association with increased fetal morbidity and mortality. The women with PTP along with the doctors become anxious for the mode of delivery and outcome.^{1, 2} Induction of labour also has increased risk to mother and the baby. A large survey in 1970 reported the peri-natal mortality following induced labour to be twice as high as that following spontaneous labour.⁸ Various studies have been conducted and data from randomized control trials favor a policy of inducing labour after 41 completed weeks of gestation as induction of labour is not as hazardous as it was claimed in the past, and if performed appropriately, it can reduce the chance of c-section. The post term pregnancy causes multiple risks as reduced amniotic fluid volume; meconium passed in utero, placental changes like calcification, abruption placenta and big baby. Some authors are despite of all these risks claim that the risk is low, where as other studies present the risk as being twice as that in term birth. In the presence of these risks Cardoso still reports that increased fetal monitoring is the most acceptable management of PTP.⁹ Randomized control trials suggest that induction of labour may reduce the PNM.^{8, 9} The calculated risk of still births varies from 37 weeks onwards in 3000 pregnancies, from 42 weeks onwards is in 1000 pregnancies and from 43 weeks onwards is in 500 pregnancies.^{7,8}

Materials and Methods

This was a prospective study conducted at Pakistan Railway Teaching Hospital Rawalpindi. This hospital has 24 hours emergency, 7 days a week routine. The study was carried out from 10th January 2005 to 9th January 2011. One Hundred and four 104

patients were included in the study. Keeping in mind post term pregnancy causing lots of threats to the mother and fetus, we in our hospital, induce patient at 41 weeks to avoid the risks. In this study we tried to find out the prevalence of PTP (pregnancy beyond 42 weeks), it's maternal and fetal outcome and compare the same with term pregnancy (37-42 weeks). To fulfill the required objective we went through the records of out patient and in patient department of obstetrics, labour room, Operation Theater and neonatal unit. Cases with incomplete history, unsure LMP, irregular cycles, multiple pregnancies, mal-presentations, APH, medical conditions like hypertension and heart disease were excluded from both study and comparison groups. We tried to compare the outcome of term and post term pregnancy, such as types of deliveries, maternal complications, birth weight of the baby, Apgar score gain at 5 minutes and admission.

Results

Data was analyzed on computer by using SPSS version 10, chi-square test was applied and P-value of less than 0.05 was considered to show significant relationship. The sturdy group consisted of all deliveries in six year time period from 10th Jan 2005 - 9th Jan 2011. Total number of deliveries was 6540 out of which 104 were post term. The overall prevalence of post term pregnancy came out to be 3.1%.

There was almost equal incidence of normal deliveries. The incidence of normal & instrumental deliveries was almost equal but the incidence of c-section rate was significantly higher.

The results also showed that the incidence of extreme low birth weight (less than 2kg) and big babies (4.1kg & above) is higher in post term group.

Table I:Types of delivery

Type of delivery	Term pregnancy		Post term pregnancy	
	n	%	n	%
Normal delivery	3200	80%	77	74%
Instrumental delivery	200	5%	4	3.8%
c-section	600	15%	23	22.5%
Total	4000	100%	104	

Table II: Comparison of birth weight

Birth in weight (k g)	Term pregnancy		Post term pregnancy	
	n	%	n	%
Less than 2	120	3%	6	5.7%
2.1 – 2.4	360	9%	4	3.8%
2.5 – 3.5	1360	34%	35	33.6%
3.6 – 4.0	2040	51%	52	50%
4.1 & above	120	3%	7	6.7%
Total	4000	100	104	100%

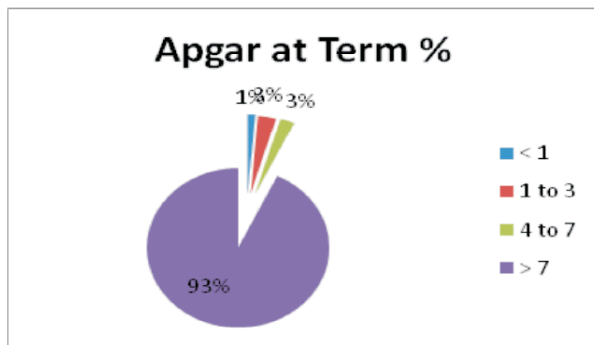


Figure 1: Apgar score at 5 minutes

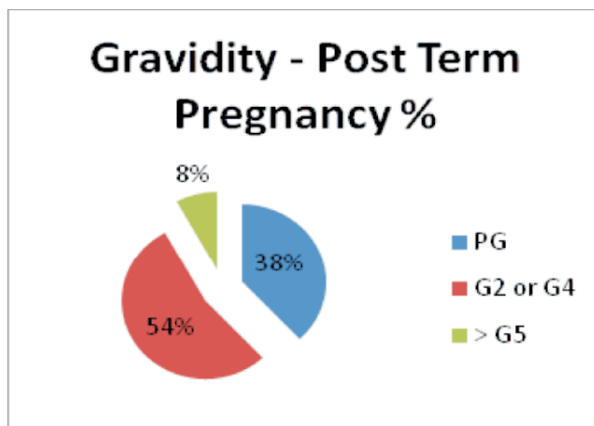


Figure 2: Comparison of Gravidity

Cases were divided into 3 groups according to Apgar score at 5 minutes after birth. Perinatal mortality was 4 intrauterine death and 7 neonate deaths in post term group as compared to 5 per 100 births in term group. Regarding the complications associated with delivery there were 51(1.2%) cases of post partum haemorrhage in term and 7(6.7%) in post term group. Similarly (15) 0.375% cases had cesarean wound infection in term and 3(2.8%) in term group.

Discussion

Still birth at term remains a relevant issue today despite advances in obstetric care.^{9,10} Post term pregnancy poses number of risk to the fetus including meconium aspiration, birth injuries & hyporexia. However the concern that occupies the mind of mothers and attendants is risk of fetal loss.¹¹

These acute events cannot be easily anticipated. Therefore despite advances in neonatal care in salvaging very preterm infants , the rate of sudden fetal demise due to acute events such as abruption or cord accident remains almost constant over the years. Many of these near term stillbirths may be prevented if delivered before the pregnancy continues to a prolonged gestation. Undiagnosed causes such as placental insufficiency probably constitute a propotion of these unexplained stillbirths , and they might be avoided by induction of labour. Induction of labor is method to deliver the baby where we encounter such pregnancies. There are standard protocols of different hospital that supports induction between 41-42 weeks.¹² These protocols are based on consideration about fetal well being and Meta analysis indicating that induction reduces perinatal mortality.

The largest trial to look at this issue showed that elective induction resulted in a lower caesarean section rate(21.2%vs24.5%). This

was primarily due to fewer caesarean sections being performed for non reassuring fetal status. Patient satisfaction was higher in the induction group.¹³

A recent Cochrane review concluded that a policy of labour induction at 41 weeks or beyond was associated with fewer perinatal deaths (relative risk 0.30). There was no evidence of a statistically significant difference in the risk of caesarean section for women induced at 41 and 42 completed weeks of gestation. Women between 37 and 40 weeks of gestation were more likely to have caesarean section with expectant management than those in the labour induction group (relative risk 5.8). There were also fewer babies with Meconium Aspiration Syndrome.¹⁴

In our retrospective study the incidence of post term pregnancy was 3.1% which is less than reported by other studies 8.3% by Ingemarsson and Kallen,¹⁰ 7.6% by Ahanya et al¹¹. Another study conducted by Anner et al in different cities of Komi Republic, Russia showed the prevalence rate of post term pregnancy in an average 3.1%.¹² Zeitin et al¹⁵ found incidence as 0.4-7.1% with an average of 3.7% in different countries of Europe.

In five years study done in Bombay consisting of 3200 deliveries 85 cases showed post dating. These give an overall incidence of 2.6%^{12, 13}. Some variability in these rates may be due to difference in methods for determining gestational age, which has broader implications for international comparisons of gestational age, including rates of post term and preterm births and small for gestational age newborns and it is term group. Similar results were noticed in studies where stillbirth rate was lowest at 40 weeks and gradually increased as pregnancy advanced.

Conclusion

Post term pregnancy is associated with increased frequency of intrauterine death. The maternal and fetal complication increases with increasing gestation age. To avoid intrauterine death the pregnancy should not be allowed to go beyond 42 weeks especially in case where there is poor compliance to foeto-maternal surveillance.

Accurate diagnosis and delivering of term pregnancy require accurate menstrual record keeping; early ultrasound assessment and regular antedated visits. Community awareness through enough media and community based pregnancy involving community workers should be initiated and can be very promising.

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