Volume : 5 | Issue : 12 | December-2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 78.46

Original Research Paper

A STUDY ON NEONATAL OUTCOME OF ELECTIVE REPEAT CESAREAN DELIVERIES AMONG LOW RISK PREGNANCIES AT DIFFERENT TERMS OF GESTATION

Gynaecology

KEYWORDS: Elective cesarean section, Low risk pregnancies, Neonatal outcome, Timing

A.Padmaja	Associate Professor, Department of Obstetrics and Gynaecology, Alluri Sitaramaraju Medical College (ASRAM), Eluru, Andhra Pradesh, India
K.Vandana	Professor & HOD, Department of Obstetrics and Gynaecology, ASRAM Medical College, Eluru, Andhra Pradesh, India
N. Partha Sarathy	Professor & HOD, Department of Community Medicine, ASRAM Medical College, Eluru, Andhra Pradesh, India
B.Naveena	Final year Post Graduate, Department of Obstetrics and Gynaecology, ASRAM Medical College, Eluru, Andhra Pradesh, India.
P.Havya	Second year Post Graduate, Department of Obstetrics and Gynaecology, ASRAM Medical College, Eluru, Andhra Pradesh, India.
M. Harika	Second year Post Graduate, Department of Obstetrics and Gynaecology, ASRAM Medical College, Eluru, Andhra Pradesh, India.

ABSTRACT

Background: Traditionally term birth refers to every birth between 37 weeks & 0 days of gestation to 41 weeks & 6 days[1]. However heterogenecity in neonatal outcome led to redefinition of term pregnancy. Those births 37 0/7 weeks through 38 6/7 weeks are now defined as early term and those at 39 weeks 0 days through 40 weeks 6 days are defined as full term2. Therefore it is very important to choose the correct timing for elective cesarean section to prevent unnecessary morbidities. Methods: Design of the study: A Record based Analytical Cross sectional study. Study subjects: Pregnant women who were posted for repeat elective cesarean delivery Conclusions: This study found no significant difference in neonatal outcome of elective cesarean section scheduled at different terms of gestation (early term and full term).

INTRODUCTION:

Traditionally term birth refers to every birth between 37 weeks & 0 days of gestation to 41 weeks & 6 days[1]. However heterogenecity in neonatal outcome led to redefinition of term pregnancy. Those births at 37 $^{0/7}$ weeks through 38 $^{6/7}$ weeks are now defined as early term and those at 39 weeks 0 days through 40 weeks 6 days are defined as full term[2].

Infants born in early term, experience morbidity that are associated with prematurity compared to births at full term. The mean duration of pregnancy is influenced by ethnicity and religion being shorter in Asian women[3]. Therefore it is very important to choose the correct timing for elective cesarean section to prevent unnecessary morbidities.

OBJECTIVES:

To compare the neonatal outcome in women undergoing repeat elective cesarean delivery at early term and full term gestations.

METHODS:

Design of the study: A Record based Analytical Cross sectional study.

Study subjects: Pregnant women who were posted for repeat elective cesarean delivery at ASRAMS.

Study period: From August' 2014 to July' 2015

Methodology:

In this study, the study cohort was selected from the cesarean registry in the department of obstetrics and gynecology of a private medical college hospital by name ASRAMS in Eluru city, West Godavari district of Andhra Pradesh state.

The registry contains detailed, prospectively collected information on consecutive repeat elective cesarean deliveries performed every day. The neonates were categorised into two groups i.e., those who were born from 37 $^{0/7}$ to 38 $^{6/7}$ completed weeks (early term), those who were born from 39 $^{0/7}$ to 41 $^{6/7}$ completed weeks (full term).

All the newborns were attended by pediatrician in the operating room and the neonatal outcome was assessed basing on parameters like birth weight, APGAR score at first and fifth minute, need for NICU admission and also neonatal complications like respiratory morbidity, neonatal jaundice, necrotizing enterocolitis, sepsis, hypoglycemia, HIE and pneumonia.

Inclusion criteria:

1. Singleton pregnancy
2. Gestational age established by first trimester USG
3. Repeat elective cesarean deliveries between gestational age of 37 $^{0/7}$ weeks to 40 $^{6/7}$ weeks.

Exclusion criteria:

1. Women delivered by emergency cesarean section

2. Antenatal women with maternal medical or obstetrical morbidities that could effect the neonatal outcome.

3. Multiple gestation.

4. Elective cesarean delivery after spontaneous rupture of membranes or signs of labour.

5. Congenital anomalies of the fetus.

Statistical analysis:

Data analysis was done by using MS excel 2007 software. Chi-square

Volume : 5 | Issue : 12 | December-2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 78.46

test and Fisher's exact test (two tailed) were used to test the statistical significance. Probability value < 0.05 was considered as significance.

RESULTS:

In our study the number of patients who underwent early term cesarean delivery were 53 and full term cesarean delivery were 17.

Out of 70 total deliveries, 7 neonates had 1 minute APGAR score less than 7.

Table 1:

	APGAR 1 MIN <7	APGAR 1 MIN ≥7	TOTAL
Early Term	6	47	53
Full Term	1	16	17
TOTAL	7	63	70

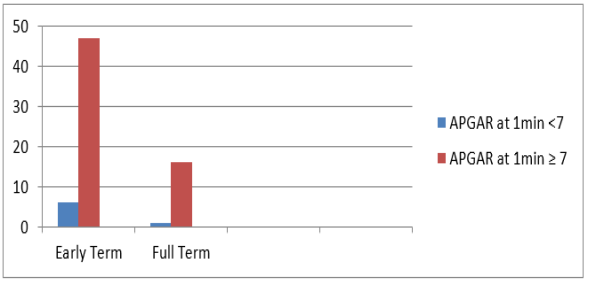


Fig 1:

Chi-square value (Yates correction): 0.035, df: 1, p value: 0.8526

The association between APGAR at one minute and period of gestation at delivery is considered to be not statistically significant.

Table 2:

	APGAR 5 MIN <7	APGAR 5 MIN ≥7	TOTAL
Early Term	2	51	53
Full Term	1	16	17
TOTAL	3	67	70

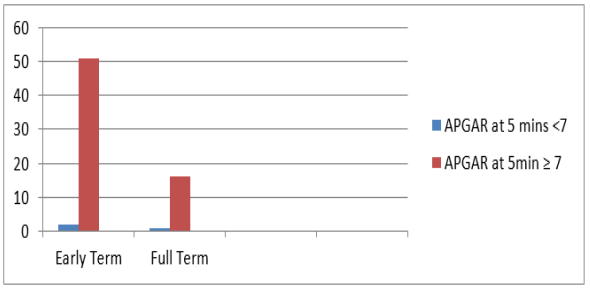


Fig 2:

Chi-square (Yates correction) value: 0.140, df: 1, p value: 0.7087; Fisher's exact test: p value: 1.00

The association between APGAR at 5 min and period of gestation at delivery is considered to be not statistically significant.

Table 3:

	NICU ADMISSION YES	NICU ADMISSION NO	TOTAL
Early Term	16	37	53
Full Term	5	12	17
TOTAL	21	49	70

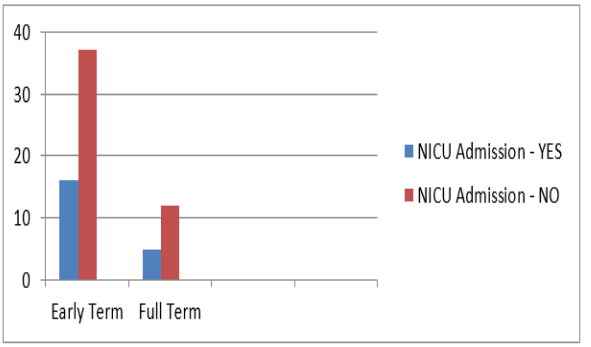


Fig 3:

Chi-square value: 0.004, df: 1, p value: 0.9515

Hence, there is no statistical significance observed between early term and full term NICU admissions.

Table 4:

	NEONATAL JAUNDICE PRESENT	NEONATAL JAUNDICE ABSENT	TOTAL
Early Term	14	39	53
Full Term	4	13	17
TOTAL	18	52	70

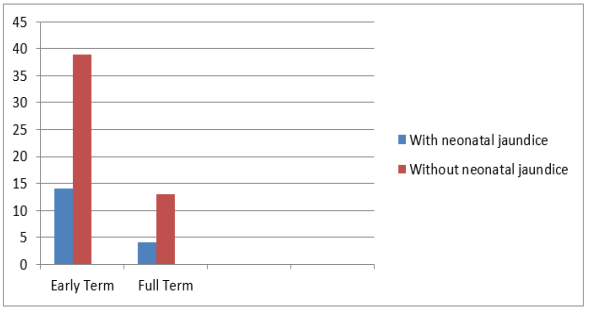


Fig 4:

Chi-square value: 0.056, df: 1, p value: 0.08128

Hence, there is no statistical association observed between neonatal jaundice at early term and full term.

Table 5:

	SEPIS PRESENT	SEPSIS ABSENT	TOTAL
Early Term	5	48	53
Full Term	1	16	17
TOTAL	6	64	70

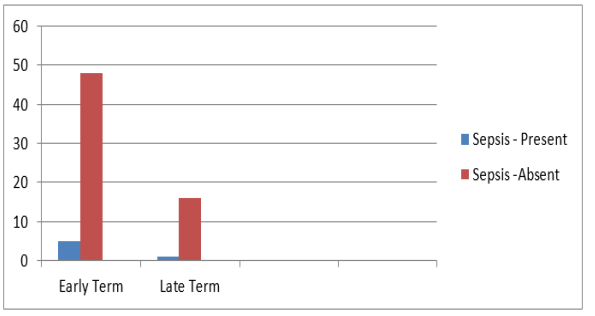


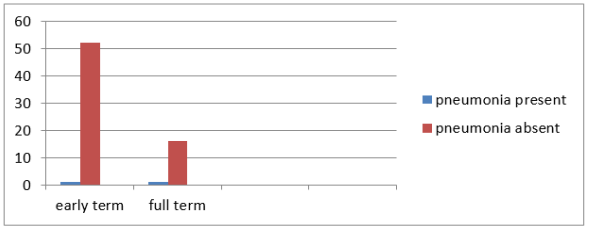
Fig 5:

Chi-square value: 0.207, df: 1, p value: 0.6490

Fisher's exact test: p value: 1.00 Hence, there is no statistical association observed between neonatal sepsis at early term and full term.

Table 6:

	PNEUMONIA PRESENT	PNEUMONIA ABSENT	TOTAL
Early Term	1	52	53
Full Term	1	16	17
TOTAL	2	68	70

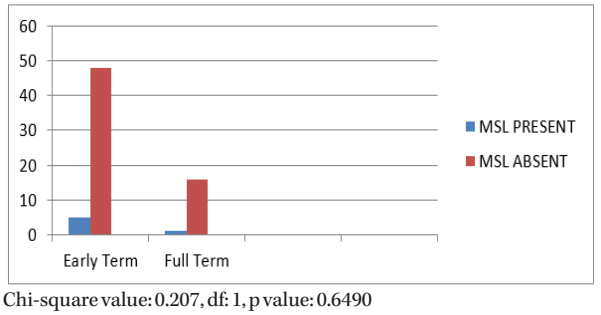


Chi-square value: 0.001, df: 1, p value: 0.9809

Fisher's exact test: p value: 0.4294 Hence, there is no statistical association observed between pneumonia at early term and full term.

Among the total 70 neonates, only 2 neonates suffered RDS and those 2 were born at early term. No neonates of full term suffered RDS.

Table 8:



Chi-square value: 0.207, df: 1, p value: 0.6490

Fisher's exact test: p value: 1.00 Hence, there is no statistical association observed between meconium stained liquor at early term and full term.

Regarding other complications, 1 neonate had hypoglycemia (delivered at early term) and 2 had HIE (delivered at early term). No neonate had NEC. Total Neonatal mortality is 2 out of 70 neonates

DISCUSSION:

In our study, the number of patients who underwent early term cesarean deliveries were 53 and full term cesarean deliveries were 17. Antenatally having chosen repeat cesarean delivery over VBAC after counselling, the uncertainty of transport facilities to reach the hospital or medical college from surrounding villages if they go into labour prior to 39 0/7 weeks was a reason for increased number of admissions for cesarean deliveries in early term period.

APGAR at 1 min reflects the need for immediate resuscitation and 5 minutes score has prognostic significance for neonatal survival4. In our study, among the 3 neonates with APGAR score <7 at 5 min, 2 were born at early term and one at full term. Among the 2 early term neonates, one had prolonged NICU stay of 10 days and suffered HIE. The other neonate also had HIE and expired on day 2 of life. However the 'p' value was > 0.05. The association between APGAR at 5 min and period of gestation is considered to be not statistically significant.

Coming to NICU admissions, 30.1% neonates in early term and 29.4% in late term were admitted in NICU. The NICU admission rate was quite high compared with those of other studies. Glavind J et al study on 1294 pregnant women comparing the neonatal outcomes in cesarean deliveries at 38 and 39 weeks, NICU admission rate is 13.8% in 38+3 weeks group and 11.9% in 39+3 weeks group. These high rates of NICU admission in our study might be a consequence of small sample size. Of 6 neonates with Meconium stained liqour, 5 delivered at early term and 1 at full term. Among 5 early term neonates, 4 had NICU admissions and 2 went into sepsis and also had HIE. These features here are more suggestive of hypoxic insult rather than maturity. With no indication for antenatal fetal surveillance in low risk women, the above neonates with in-utero hypoxia benefited by cesarean delivery at early term (by early recognition of MSL and its associated morbidity).

In our study, 2 neonates (1 in early term and another in full term) developed pneumonia. 2 neonates at early term developed RDS. However, statistical association is not present between respiratory morbidity and period of gestation. Glavind J et al study also had similar outcomes where respiratory morbidity is not statistically significant between early term and full term deliveries5.

CONCLUSION:

In conclusion, our study revealed no benefit in neonatal outcome when compared between early term and full term repeat elective cesarean deliveries. However the study sample is small and inequality of sample size in both the groups (early term and full term) which was dependent on the patient and system characteristics could be the reason of insignificant statistical analysis.

REFERENCES:

1. Obstetrics and gynaecology clinics of North America. March 2012; vol39 page89- early term births: considerations in management- Lusia Wetta MD, Alan T.N tita MD PhD
2. Williams text book of obstetrics. 24th edition, page :830
3. Bhat R A, Kushtangi P. A re-look at the duration of human pregnancy. Singapore Med J 2006;47(12):1044-1048
4. Williams text book of obstetrics. 24th edition,page :627
5. Glavind J, Kindberg S, Uldberg N,Khalil M, Moller A, Mortensen B, Rasmussen O, Christensen J, Jorgensen J, Henriksen T . Elective cesarean section at 38 weeks versus 39 weeks : neonatal and maternal outcome in a randomized controlled trail. BMJ 2013;120:1123-1132
6. Hansen AK, Wisborg K, Uldberj N, Henriksen TB. Risk of respiratory morbidity in term infants delivered by elective cesarean section: cohort study. BMJ 2008;336:85-7
7. Yee W, Amin H, Wood S. Elective cesarean delivery, neonatal intensive care unit admission, and noeanatal respiratory distress . Obstet Gynecol 2008;111:823-8
8. Tita AT, Landon MB, Spong CY, Lai Y, Leveno KJ, Warner MW, et al. timing of elective repeat cesarean delivery at term and neonatal outcomes. N Engl J Med 2009;360:111-20
9. MacKay DF, Smith GC, Dobbie R, Pell JP. Gestational ade at delivery and special educational need : retrospective cohort study of 407,503 school children. PLos Med 2010;7:e1000289
10. Ghartey K, Coletta J, Lizarraga L, Murphy E, Ananth CV, Gyamfi-Bannerman C. Neonatal respiratory morbidity in the early term delivery. Am J Obstet Gynecol 2012;207:292.e1-4.
11. van den Berg A, van Elburg RM, van Geijn HP, Fetter WP. Neonatal Respiratory morbidity following elective cesarean section in term infants. A 5 year retrospective study and a review of the literature. Eur J Obstet Gynecol Reprod Biol 2001;98:9-13

*****