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Gynecology

MODE OF DELIVERIES AND MATERNAL COMPLICATIONS

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ABSTRACT

Objectives- To determine effect of mode of deliveries and of gestational age on maternal outcome.

Study Design— This was Prospective Study done at Department of Obstetrics & Gynaecology Zenana Hospital, SMS Medical College, Jaipur from March 2015 to February 2016. Mode of delivery were categorized as caesarean section and vaginal deliveries. Gestational age defined as early term births(37 weeks to 38weeks 6days) and full term(39 weeks to 40weeks 6days). Rates of maternal morbidities and mode of deliveries were compared, correlated and statistically analyzed. .Sample size was calculated to 300 subjects in each of the two groups(early term and full term neonates) at alpha error 0.05 & study power 80%.

Result and discussion: maternal morbidities were slightly higher in LSCS and in early term birth group. Duration of maternal hospital stay was (>8 days) 25.67% in early term group and 67.25% in LSCS group. PPH were seen more in early term group(3%) and more in vaginal delivery group(64.28%).genital tract injuries were seen more in vaginal deliveries group(72.72%). Septicaemia was seen moe in early term group(1.67%) and in LSCS group(66.67%).

Conclusion: This study demonstrates that maternal morbidities were more in caesarean section group performed at early term period (37 weeks to 38 weeks 6days) than vaginal deliveries,however, these rates were low. Further larger studies are needed to analyze perfect correlation between maternal morbidities and mode of deliveries.

KEYWORDS :

Introduction

Cesarean delivery rates in industrialized countries continue to rise.1,2 The rates vary widely by country, health care facility and delivering physician, partly because of differing perceptions by health care providers as well as by pregnant women of its benefits and risks.–37 The relative safety of cesarean delivery and its perceived advantages relative to vaginal delivery have resulted in a change in the perceived risk–benefit ratio, which has accelerated acceptance.1,4 Historically, most cesarean deliveries took place because of or in association with obstetrical complications or medical illness. However, rates of elective primary cesarean deliveries with no clear medical or obstetrical indication are rising dramatically.1,5,6 There is, therefore, a pressing need to assess the risks of maternal complications associated with elective cesarean delivery carried out in healthy women. gestational age of delivery also affect maternal outcome.

The main purpose of our study was to compare the risks of cesarean delivery with those of planned vaginal delivery and effect of gestational age on maternal complications.

Material and Method:

Study design – prospective study
Place of study – department of obstetrics & gynaecolony, zenana hospital, sms medical college, Jaipur ,Rajasthan.
Duration of study – march 2015 to February 2016
Sample size – sample size was calculated to 296 subjects in each of the two groups at alpha error 0.05 & study power 80% assuming the proportion of the low birth weight among full term & early term pregnancy to be 0.8% & 5% respectively {as per seed article} hence for study purpose 300 subjects were taken in each of two groups.

Inclusion criteria

- Regular menstrual cycle and sure of dates
- 37 wks to 40 wks 6 days- grouped into two-

1. Early term births-gestational age between 37 weeks to 38weeks 6days
2. Full term- gestational age between 39 weeks to 40weeks 6days

- Spontaneous labour
- Premature rupture of membrane
- Previous two caesarean
- No recorded indication
- Any planned caesarean, eg. Breech, transverse lie

Exclusion criteria

- Difficulty in determining gestational age
- Preterm, late term, post term pregnancy
- Aph
- Multiple pregnancy
- Iugr
- Congenital anomalies
- Medical illness
- Decreased fetal movements

Methodology

Prospective study of women admitting in labour room with gestational age between 37 wks to 40 wks and 6 days at zenana hospital, sms medical college, jaipur was conducted. Exclusion and inclusion criteria applied. Gestational age estimated by lmp or first usg. Mode of deliveries(LSCS and vaginal deliveries) identified.Data of maternal outcomes in early term and full term deliveries were compared,correlated and statistically analyzed. Chi-square test was used to assess statistical significance of association.P-value < 0.05 was considered as statistically significant.

Clinical evaluation: the recruited group were subjected to: -
Detailed history
Examination
Investigation – routine anc investigations, usg

Results: 600 subjects were recruited on the basis of inclusion and exclusion criteria. A form was completed for each subjects, a detailed medical and obstetric history taken, clinical examination and routine antenatal investigations and USG done. Data of early neonatal outcomes in early term and full term deliveries were compared,correlated and statistically analyzed.

Salient features of this study were: -Mean age of study population 24.12 3.61 years. The urban population constituted major part of study population (68.67%). Majority of study population belonged to middle class (71.67%) and maximum cases were Hindu (83%). Majority of cases could read and write (70%).Early term births were more in primi gravida subjects (43.33%).More early-term infants were delivered by cesarean section compared with term infants (49.33%).

Observation and discussion:

Table – 1 Distribution According to mode of Delivery of early term birth and full term birth

Mode of delivery	early term birth		full term birth	
	No.	%	No.	%
LSCS	148	49.33	130	43.33
VD	152	50.67	170	56.67
TOTAL	300	100.00	300	100.00

x2 = 2.170 d.f. = 1 p > 0.05 NS

Table -2 Distribution According to mode of Delivery and maternal hospital stay

Mode of deliveries	early term birth			full term birth		
	hospital stay (in days)		TOTAL	hospital stay (in days)		TOTAL
	2-7	>8		2-7	>8	
LSCS	120 (40%)	42 (14%)	148 (49.33%)	122 (40.67%)	34 (11.33%)	130 (43.33 %)
VD	103 (34.33%)	35 (11.67%)	152 (50.67%)	115 (38.33%)	29 (9.67%)	170 (56.67 %)
TOTAL	223 (74.33%)	77 (25.67%)	300 (100.00%)	237 (79%)	63 (21%)	300 (100.00 %)

LSCS :x2 = 0.7457 d.f. = 1 p > 0.05 NS
VD :x2 = 1.0959 d.f. = 1 p > 0.05 NS

Table -3 Distribution According to mode of Delivery and maternal PPH

Mode of deliveries	early term birth			full term birth		
	PPH		TOTAL	PPH		TOTAL
	Present	Absent		Present	Absent	
LSCS	3 (1.00%)	145 (48.33%)	148 (49.33%)	2 (0.67%)	128 (42.66 %)	130 (43.33 %)
VD	6 (2.00%)	146 (48.67%)	152 (50.67%)	3 (1.00%)	167 (55.67 %)	170 (56.67 %)
TOTAL	9 (3.00%)	291 (97%)	300 (100.00 %)	5 (1.67%)	295 (98.33 %)	300 (100.00 %)

LSCS :x2 = 0.0935 d.f. = 1 p > 0.05 NS
VD :x2 = 0.3617 d.f. = 1 p > 0.05 NS

Table -4 Distribution According to mode of Delivery and maternal secondary PPH

Mode of deliveries	early term birth			full term birth		
	secondary PPH		TOTAL	secondary PPH		TOTAL
	present	absent		present	absent	
LSCS	3 (1.00%)	145 (48.33%)	148 (49.33%)	1 (0.33%)	129 (43%)	130 (43.33%)
VD	5 (1.67%)	147 (49%)	152 (50.67%)	2 (0.67%)	168 (56%)	170 (56.67%)
TOTAL	8 (2.67%)	292 (97.33%)	300 (100.00%)	3 (1.00%)	297 (99%)	300 (100.00 %)

LSCS: x2 = 0.7721 d.f. = 1 p > 0.05 NS
VD: x2 = 1.6848 d.f. = 1 p > 0.05 NS

Table -5 Distribution According to mode of Delivery and maternal genital tract injuries

Mode of deliveries	early term birth			full term birth		
	genital tract injuries		TOTAL	genital tract injuries		TOTAL
	present	absent		present	absent	
LSCS	2 (0.66%)	146 (48.67%)	148 (49.33%)	1 (0.33%)	129 (43%)	130 (43.33%)
VD	4 (1.34%)	148 (49.33%)	152 (50.67%)	4 (1.34%)	166 (55.34 %)	170 (56.67%)
TOTAL	6 (2.00%)	294 (98.00%)	300 (100.00%)	5(1.66 %)	295 (98.34 %)	300 (100.00%)

LSCS
x2 = 0.2197 d.f. = 1 p > 0.05 NS
VD
x2 = 0.0257 d.f. = 1 p > 0.05 NS

Table -6 Distribution According to mode of Delivery and maternal septicaemia

Mode of deliveries	early term birth			full term birth		
	Septicaemia		TOTAL	septicaemia		TOTAL
	present	absent		present	absent	
LSCS	3 (1.00%)	145 (48.33%)	148 (49.33%)	3 (1.00%)	127 (42.33%)	130 (43.33 %)
VD	2 (0.67%)	150 (50%)	152 (50.67%)	1 (0.33%)	169 (56.34%)	170 (56.67 %)
TOTAL	5 (1.67%)	295 (98.33%)	300 (100.00%)	4 (1.33%)	296 (98.67%)	300 (100.00 %)

LSCS :x2 = 0.0258 d.f. = 1 p > 0.05 NS
VD :x2 = 0.2338 d.f. = 1 p > 0.05 NS

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Discussion

In our study more total LSCS was 46.33% of total deliveries and early-term infants were delivered by caesarean section compared with term infants (49.33%)(table-1). Sengupta S et al (2013)10 reported more early-term infants were delivered by cesarean section compared with term infants, which is a contributor to longer duration of hospital stay and more respiratory morbidity in this population. Ramprakash MA et al (2016)11 also reported 52.2% LSCS in early term birth.

Duration of hospital stay was was (>8 days) 25.67% in early term group and 67.25% in LSCS group. A woman who has had a cesarean delivery typically remains hospitalized longer than one who has had a vaginal delivery and has increased risk for readmission.Patients who delivered abdominally are usually discharged on the 3rd or 4th postpar tum day compared with the 1st or 2nd postpartum day for those who deliver vaginally. The average length of hospitalization may even be longer given some of the complications (eg, postpartum infections) that are more common in women who deliver by cesarean section.

PPH were seen more in early term group(3%) and more in vaginal delivery group(64.28%). Keila Cristina Mascarello et al (2017)9 reported that Six studies have evaluated the presence of postpartum hemorrhage and its complications, such as hysterectomy and blood transfusion, and they have found controversial results. Two studies have found a lower risk of postpartum hemorrhage among women with cesarean section, with similar estimates (RR = 0.60; 95%CI 0.48–0.76 and RR = 0.61, 95%CI 0.42–0.88).

Shiliang Liu et al (2007)8 suggest that The planned cesarean group had an increased risk of most of the complications , although those for hemorrhage requiring transfusion (odds ratio 0.4, p = 0.005) and uterine rupture (odds ratio 0.5, p = 0.048) were lower than those risks in the planned vaginal delivery group.

Genital tract injuries were seen more in vaginal deliveries group(72.72%). Keila Cristina Mascarello et al (2017)9 reported that Only one study has evaluated the presence of obstetric trauma, including perineal and vaginal laceration, other pelvic organ damage and damage to pelvic joints and ligaments, showing that women with vaginal deliveries were more likely to experience this complication when compared to women undergoing cesarean section (RR = 0.09, 95%CI 0.07–0.11).

Septicaemia was seen moe in early term group(1.67%) and in LSCS group(66.67%).

Shiliang Liu et al (2007)8 suggest that with planned cesarean delivery, the risk of major infection in women was about 3 times that with planned vaginal delivery.

Keila Cristina Mascarello et al (2017)9 reported that presence of postpartum infection has been evaluated in four studies. Among them, one has found no association between the type of delivery and the presence of infection (OR = 1.46, 95%CI 0.89–2.40), and the others have found a higher risk of puerperal infection (RR = 3.75, 95%CI 3.12–4.51) and surgical wound complications (RR = 12.50, 95%CI 10.00–15.63) among women undergoing cesarean section compared to vaginal delivery

Conclusion

Our study suggest that compared with vaginal delivery , cesarean delivery poses higher risks of maternal morbidity and less maternal risk observed in full term birth group. The main challenge related to cesarean sections is its best use and its timing, which on the one hand is an important resource for the reduction of maternal and neonatal mortality, but on the other, when used excessively, may be associated with an increased risk of serious maternal outcomes. . Further larger studies are needed to analyze perfect correlation between maternal morbidities and mode of deliveries.

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