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Original Research Paper

Gynaecology

COMPARATIVE STUDY OF MATERNAL COMPLICATIONS AND PRECURSOR OF DELIVERIES IN EARLY TERM AND FULL TERM DELIVERIES

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ABSTRACT

Objectives: To determine maternal morbidity rates by precursor leading to delivery in early term and full term deliveries.

Study Design: This was Prospective Study Department of Obstetrics & Gynaecology Zenana Hospital, SMS Medical College, Jaipur from March 2015 to February 2016.. Precursors for delivery were categorized as spontaneous labor, premature rupture of membranes (PROM), indicated, and no recorded indication. Rates of maternal outcome by precursor in term deliveries were compared . Sample size was calculated to 296 subjects in each of the two groups at alpha error 0.05 & study power 80% ,hence for study purpose 300 subjects were taken .

Results: Overall 48% of early term births were indicated, followed by 43.33%% spontaneous in onset, 6.33% with PROM, and 2.34% with no recorded indication. maternal morbidities were more in indicated and early term birth group. Duration of maternal hospital stay was (>8 days) 25.67% in early term group and 16% in indicated group. PPH were seen more in early term group(3%) and (2.33%) more in indicated deliveries. Genital tract injuries were seen more in early term group(2.1%) and in indicated group(1%). septicaemia was seen more in early term group(1.67%) and in PROM group(1%).

Conclusion: This study demonstrates that precursors of deliveries and gestational age remains a predictor of maternal morbidities. Further studies are needed in this regard in order to establish a perfect correlation between precursor of delivery and maternal morbidities.

KEYWORDS : Maternal Morbidity; Precursors For Delivery

Introduction

Early-term deliveries are those that occur between 37 and 38 weeks6days. It is now recognized that maternal and neonatal complications have increased for deliveries that occur at early term gestation. The reasons for the increase in the rate of elective early-term deliveries are unclear but likely involve both patient and physician factors.[1] Both the reason and gestational age at delivery are likely importantfactors contributing to morbidity. Therefore, our objectives were to determine if maternal morbidity differed in during the early term and full term period bydelivery precursor .

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% ,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
- Any planned caesarean, eg. Breech, transverse lie

Exclusion criteria

- Difficulty in determining gestational age
- Preterm, late term, post term pregnancy
- Aph
- Multiple pregnancy
- Medical illness

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. Precursors for delivery were categorized as spontaneous labor, premature rupture of membranes (PROM),indicated, and no recorded indication identified.Data of maternal outcomes in 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 maternal outcomes in 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%).

Observation and discussion:

Table – 1 Distribution According to precursor of deliveries

precursor of Delivery	Early term deliveries		Full term deliveries	
	NO.	**%**	NO.	%
Indicated	144	48.00	126	42.00
Spontaneus	130	43.33	154	51.33
PROM	19	6.33	15	5.00
Not indicated	7	2.34	5	1.67
Total	*300*	*100.00*	*300*	*100.00*

Indicated -x2 = 2.180 d.f. = 1 p > 0.05 NS
Spontaneous -x2 = 3.851 d.f. = 1 p > 0.05 NS
PROM -x2 = 0.500 d.f. = 1 p > 0.05 NS

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

precursor of Delivery	Early term deliveries			Full term deliveries		
	Maternal hospital stay			Maternal hospital stay		
	2-7 days	>8days	**total**	**>2-7days**	>8days	total
Indicated	96 (32%)	48 (16%)	144 (48%)	84 (28%)	42 (14%)	126 (42.00%)
Spontaneus	110 (36.67%)	20 (6.67%)	130 (43.33%)	139 (46.33%)	15 (5%)	154 (51.33%)
PROM	11 (3.66%)	8 (2.67%)	19 (6.33%)	10 (3.33%)	5 (1.67%)	15 (5.00%)
Not indicated	6 (2%)	1 (0.33%)	7 (2.34%)	4 (1.33%)	1 (0.33%)	5 (1.67%)
Total	*223 (74.33%)*	*77 (25.67%)*	*300 (100.00%)*	*237 (79%)*	*63 (21%)*	*300 (100.00%)*

Indicated -x2 = 0, p > 0.05 NS
Spontaneous -x2 = 2.0785, p > 0.05 NS
PROM -x2 = 0.2731, p > 0.05 NS
Not indicatedx2=0.0686, p > 0.05 NS

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

precursor of Delivery	Early term deliveries			Full term deliveries		
	PPH			PPH		
	PRESENT	ABSENT	**total**	**PRESENT**	ABSENT	total
Indicated	7 (2.33%)	137 (45.67%)	144 (48%)	5 (1.67%)	121 (40.33%)	126 (42%)
Spontaneus	6 (2%)	124 (41.33%)	130 (43.33%)	2 (0.66%)	152 (50.67%)	154 (51.33%)
PROM	3 (1%)	16 (5.33%)	19 (6.33%)	1 (0.33%)	14 (4.66%)	15 (5%)
Not indicated	1 (0.33%)	6 (2%)	7 (2.34%)	0	5 (1.67%	5 (1.67%)
Total	17 (5.67%)	283 (94.33%)	300 (100%)	8 (2.67%)	292 (97.33%)	300 (100%)

Indicated -x2 = 0.1261, p > 0.05 NS
Spontaneous -x2 = 2.8326 p > 0.05 NS
PROM -x2 = 0.672, p > 0.05 NS

Table -4 Distribution According to precursor of Delivery and maternal genital tract injuries

precursor of Delivery	Early term deliveries			Full term deliveries		
	maternal genital tract injuries			*maternal genital tract injuries*		
	PRESENT	ABSENT	**total**	**PRESENT**	ABSENT	total
Indicated	3 (1%)	141 (47%)	144 (48%)	3 (1%)	123 (41%)	126 (42%)
Spontaneus	1 (0.33%)	129 (43%)	130 (43.33%)	1 (0.33%)	153 (51.33%)	154 (51.33%)
PROM	1 (0.33%)	18 (6.00%)	19 (6.33%)	1 (0.33%)	14 (4.66%)	15 (5%)
Not indicated	1 (0.33%)	6 (2.00%)	7 (2.34%)	0	5 (1.67%)	5 (1.67%)
Total	*6 (2.00%)*	*294 (98.00%)*	300 (100%)	*5(1.66%)*	*295 (98.34%)*	*300 (100.00%)*

Indicated -x2 = 0.0274 p > 0.05 NS
Spontaneous -x2 =0.0145, p > 0.05 NS
PROM -x2 = 0.0298, p > 0.05 NS

Table -5 Distribution According to precursor of Delivery and maternal septicaemia

precursor of Delivery	Early term deliveries			Full term deliveries		
	maternal septicaemia			*maternal septicaemia*		
	PRESENT	ABSENT	**total**	**PRESENT**	ABSENT	total
Indicated	1 (0.33%)	143 (47.67%)	144 (48%)	1 (0.33%)	125 (41.67%)	126 (42%)
Spontaneus	1 (0.33%)	129 (43%)	130 (43.33%)	0	154 (51.33%)	154 (51.33%)
PROM	3 (1%)	16 (5.33%)	19 (6.33%)	2 (0.66%)	13 (4.34%)	15 (5%)
Not indicated	0	7 (2.34%)	7 (2.34%)	1 (0.33%)	4 *(1.33%)*	5 (1.67%)
Total	*5 (1.67%)*	*295 (98.33%)*	300 (100%)	*4 (1.33%)*	*296 (98.67%)*	*300 (100.00%)*

Indicated -x2 = 0.009, p > 0.05 NS
PROM -x2 = 0.0403, p > 0.05 NS

Discussion-

In our study 600 subjects were recruited and precursor of deliveries for maximum cases was spontaneous (47.33%) followed by indicated (45%),PROM (5.67%) and not indicated(2.00%).

Duration of hospital stay was was (>8 days) 25.67% in early term group and 16% in indicated 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 postpartum 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 indicated group(2.33%). Heimstad R et al (2006)[4] reported that maternal complications varied with gestational age and PPH was lowest at 39 weeks (odds ratio 1.3 -2.8%).Genital tract injuries were seen more in early term birth group(2.1%) and in indicated group(1%).Stock SJ et al (2012)[3] reported that induction of labour at 40 weeks associated with decreased odds of maternal genital tract injuries(adjusted odds ratio 0.74,99% confidence interval 0.60 to 0.91)
Septicaemia was seen moe in early term group(1.67%) and in PROM group(1.00%).. Cheng YW et al (2008)[2] reported that febrile morbidities seen more in early term neonates(1.37%).

Conclusion

Our study suggest that compared with early term birth group , less maternal risk observed in full term birth group with spontaneous precursor of deliveries . Further larger studies are needed to analyze perfect correlation between maternal morbidities and precursor of deliveries.

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