Available online at www.journalijmrr.com

INTERNATIONAL JOURNAL OF MODERN RESEARCH AND REVIEWS

ISSN: 2347-8314

Int. J. Modn. Res. Revs.

Volume 2, Issue 9, pp 304-307, September, 2014

ORIGINAL ARTICLE

POST TERM PREGNANCY AND ITS MATERNAL AND FETAL OUTCOME

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Article History: *Received 1st September,2014, Accepted 29th September, 2014, Published 30th September,2014*

ABSTRACT

OBJECTIVE(S): Here is a study to evaluate the association between Bishops score, AFI, APGAR, Baby weight and post term pregnancy. Indications for caesarean and it's maternal & fetal outcome in post term pregnancy. **DESIGN:** A prospective randomized controlled study. **SETTING:** In a single hospital.**METHOD(S):** This was a prospective study of 100 antenatal women who crossed 40 weeks and beyond, booked at Rajah Muthiah Medical College & Hospital during the year 2012 -2014.The women's history, clinical examination recorded and bishops score were measured and the maternal and fetal outcome was compared between two groups.**STATISTICAL ANALYSIS:** Determined by Chi – square test and p value.**RESULT(S):** The mean bishops score, Apgar score at 5 mins showed statistically significant difference and association between post term pregnancy with its favourable scores.**CONCLUSION:** From this study we conclude that the most common indication for LSCS and spontaneous is fetal distress. By early detection and proper diagnosis the post term pregnancy maternal and fetal complications can be reduced.

Keywords: Post term pregnancy, Mode of delivery, Bishops score, Cesarean section, APGAR score.

1.INTRODUCTION

Pregnancy and childbirth are two of the events in the life of a woman which is anxiously expected not only by her but by the near and dears and even by the community but, are the two which is dreaded more for its unknown then its known upshot and consequences. Unfortunately, for the mother alone, as she is the only one who can experience the realities of going through the particular pregnancy and confinement. These physical discomforts and mental expectations turn into agony and dreadful mental torture once the baby is not delivered within the expected date. It is not uncommon to find anxious women seeking assurance that delay in delivering by a day or two is not harmful to them or to the baby. When the pregnancy is prolonged by few weeks as happens in post term pregnancies, the individual's agony and those added on by the 'well-wishers' becomes too much to drive both the mother-to-be and her obstetrician to the very brim of sanity.

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In all these confusions, both clinicians and patients alike are concerned about the risks of induction of labour including uterine hyper stimulation, failed induction and increased caesarean section rates.

Incidence

The incidence of post term pregnancy is about 7% of all pregnancies(Martin et al.,2007) From their review, Divon and Feldman - Leidner (2008) report that the incidence of post term pregnancy ranges from 4 to 19 percent of all pregnancies.As per Western standards (Martin and colleagues, 2009) 6 percent of 4 million infants born after 42 weeks of gestation or more.

The trend towards fewer births at 42weeks suggests earlier intervention. specifically in 2000, 7.2 percent of births in United states were 42 weeks or beyond, compared 5.6 percent in 2006. Olesen and colleagues (2006),analyzed a variety of risk factors in 3392 participants in the year 1998 to 2001 ,Danish Birth Cohort. They reported only prepregnancy body mass index (BMI) >25 and nulliparity were significantly associated with prolonged pregnancy.

2.REVIEW OF LITERATURE

Post maturity describes the effects of intra uterine growth restriction (IUGR), secondary to utero - placental insufficiency encouraged in a post term pregnancy (Shime et al., 1982)).The most common cause of prolonged pregnancies is inaccurate dating (Neilson, 2000; Crowley, 2004).The velocity of fetal weight gain peaks at approximately 37 weeks. The percentage of fetus born in 2006 whose birth weight Exceeds 4000g was 8.5 % at 37 to 41 weeks and increased to 11.2%at 42 weeks or more increased weight gain during pregnancy(Martin and Colleagues.,2009).Higher incidence of oligohydromnios by (Divon and associates., 2002) studied 638 women with post term pregnancyin labour found AFI is 5cm or less).Ramanathan et al., showed how transvaginal measurement of cervical length at 37 weeks predicts both post term pregnancy and failed induction.Fetal adrenal insufficiency and Fetal adrenal hypoplasia as well as Fetal Anencephaly (in the absence of polyhydromnios), despite being rare, all are associated with post term pregnancies (Doherty and Norwitz , 2008).The pathogenesis of post term pregnancy is not clearly understood. As demonstrated above risk factors associated with post term pregnancy were identified with some possible explanations, however, the pathogenesis of the condition is not yet clear. Despite improved understanding of parturition in , we still lack clarity about the exact mechanisms which initiate labour and allow its progression. To have a better understanding of the pathogenesis of post term pregnancy it is essential to shed some lights on the pathophysiology of parturition and try to understand why these mechanisms fail to be triggered in post term pregnancies or conversely are triggered earlier in preterm labour.

Postterm pregnancies are associated with increased fetal and neonatal motality and morbidity as well as maternal morbidity. These risks are greater than it was originally thought. Risks have been underestimated in the past for two reasons. First, earlier studies on postterm pregnancy were published before the routine use of ultrasound for pregnancy dating. As a result many pregnancies included in the studies were not actually post term. The second reason rests within the definition of stillbirth itself. Stillbirth rates were traditionally calculated using pregnancies delivered at a given gestational age than ongoing (undelivered) pregnancies. This would lower the stillbirth rates in postterm pregnancies as once the fetus is delivered it is no longer at risk of intra-uterine fetal death (IUFD). The appropriate denominator is therefore not all deliveries at a given gestational age but ongoing (undelivered) pregnancies (Rand et al., 2000; Smith, 2001; Caughey et al., 2003).One retrospective study of over 170,000 singleton births, using the appropriate denominator demonstrated a 6-fold increase in stillbirth rates in post term pregnancies from 0.35 to 2.12 per 1000 ongoing pregnancies (Hilder etal., 1998).The perinatal mortality rate, defined as stillbirths plus early neonatal deaths, at 42 weeks of gestation.is twice as high as that at term (4-7 versus 2-3 per 1000 deliveries, respectively). It increases 4-fold at 43 weeks and 5-7-fold at 44 weeks (Bakketeig and Bergsjo, 1989; Feldman, 1992; Hilder et al., 1998; Cotzias et al., 1999).It is believed that utero-placental insufficiency, meconium aspiration and intrauterine infection are the underlying causes of the increased perinatal mortality rates in these cases (Hannah, 1993).Fetal morbidity is also increased in post term pregnancies and pregnancies that progress beyond 41 weeks gestation. This includes passage of meconium, meconiurn aspiration syndrome, macrosomia and dysmaturity low 5-minute Apgar scores (Kitlinski et al., 2003), neonatal encephalopathy (Badawi et al., 1998), and infant death in the first year of life (Hilder et al., 1998; Cotzias et al., 1999; Rand et al., 2000).Similar to neonatal outcomes, maternal morbidity also increases in term pregnancies before 42 weeks of gestation. Complications such as chorioamnionitis, severe perineal lacerations, Caesarean delivery, postpartum haemorrhage, and endomyometritis all increase progressively after 39 weeks of gestation (Yoder et al., 2002; Caughey and Bishop, 2006; Heimstad et al., 2006; Caughey et al., 2007; Bruckner et al., 2008;).A large retrospective study (Caughey et al., 2007), which included 119,254 singleton-low risk pregnan- cies, demonstrated a statistically significant increase in the rate of maternal complications beyond 40 weeks of gestation and even beyond 39 weeks' gestation for some morbidities.The study also showed that the increase in maternal complications persisted at statistically and clinically significant levels even allowing for the increase in operative deliveries.

3.RESULTS

- 100 women among which, 50 women with LSCS Group A and 50 women with Spontaneous mode of delivery Group B were selected for the present study.
- The more common age range was 21-25 years in both the Groups.
- Where 42% of women in Group A and 50% of women in Group B were reported.
- The majority of women in both Groups (70% in Group A and 82% in Group B) had Gravida between 1 and 2.
- 84% of Group A women and 82% of Group B women had Para of 0-1.
- The majority of study women (64% in Group A and 72% in Group B) had Gestational age between 40-41 weeks.

The Bishops score was significantly favourable for spontaneous women than LSCS women.

TEST OF ASSOCIATION

GROUPS	**BISHOP'S SCORE**		**TOTAL**
	00-5(UF)	**6-13(FAV)**	
LSCS (GROUP A)	38	12	50
SPONTANEOUS (GROUP B)	0	50	50
Total	38	62	100
	CHI-SQUARE		'P'
	61.290		.001

GROUPS	**Amniotic fluid index**			**TOTAL**
	< 8	**8-18**	**>8**	**TOTAL**
LSCS (GROUP A)	14	36	0	50
SPONTANEOUS (GROUP B)	0	48	2	50

- There was significant difference in Amniotic fluid index between Groups which further states

that there was significantly higher women in spontaneous group who has AFI scores between 8-18(Normal level).

- There were higher percentage of women who had Oligohydromnios in Group A (LSCS) than Group B.
- The major indication of delivery was Fetal Distress (44%) in group A and again fetal distress (46%) for group B.
- In spontaneous delivery, the common mode of delivery was Forceps (66%).

Meconium staining was present for 36% in group A and 26% in group B.

TEST OF ASSOCIATION

GROUPS	Meconium staining		TOTAL
	Present	Absent	
LSCS (GROUP A)	18	32	50
SPONTANEOUS (GROUP B)	13	37	50
Total	31	69	100
	CHI-SQUARE		'P'
	1.169		.280

TEST OF ASSOCIATION

GROUPS	APGAR			TOTAL
	0-3	4-6	7-10	
LSCS (GROUP A)	0	11	39	50
SPONTANEOUS (GROUP B)	0	6	44	50
Total	0	17	83	100
	CHI-SQUARE			'P'
	1.772			.183

4.DISCUSSION

This study was done at the Rajah Muthiah Medical College and Hospital for 100 patients with post dated pregnancies were analysed. The caesarean rate is increased and the fetal loss is comparatively minimal and the loss is in the spontaneous labour group rather than in the induced labour group. There were no maternal mortality and the morbidity is also minimal.The incidence of post term pregnancies was more in the primigravida than in higher gravida. This correlates well with the study of Eden who also reported a similar higher incidence in the primigravida compared to the Multigravida which is 1:4:1:5. There seem to be relationship between the socio economic status and the post term pregnancy in this series though such a relationship has been reported in a study by Nwosu where he found a higher incidence of prolonged pregnancy in the lower strata of the society.

Amniotic Fluid Volume studies using Ultra sonar machine in the Dept of Ultrasonography at the Rajah Muthiah Medical College and Hospital, revealed a progressive diminution in the volume of amniotic fluid with prolonged pregnancy (8-18). Meconium staining of amniotic fluid is taken more as a caution signal, than as an absolute indication of fetal distress. This study showed a definite increase in the incidence of meconium staining in longer pregnancies with 36% in group A and 26% group B. Placental grading has been considered and one of the indicators of the fetal maturity, though of late its reliability is questioned. This study indicated that with the increasing maturity of the placenta, the chances of fetal distress also increases and this is also a function of the gestational age. Grade III placenta is seen in all pregnancies of 40-42 weeks. There is an increasing trend in the incidence of fetal distress with a higher maturity grading. Though Bishop considered a score of 9 or more as a favourable for induction. In this study, there were 76% of patients in group A who had unfavourable grade (0-5) of Bishop's score where as 100% of subject in group B were recorded favourable grades (6-13) of Bishop's score. The chi-square test of significance was positive (p=.001<.05) and hence Bishop's score differed significantly among groups. Further, spontaneous delivery group attained significantly more favourable conditions than LSCS group. Caesarean and forceps rates as expected is higher in this study of post term pregnancies. In LSCS group, the major indication was Fetal distress (44%). The next major indication was Cephalo-pelvic disproportion (30%) followed by Non progress of labour(2%) and Oligohydromnios(10%).

The common indication of delivery for spontaneous group was Fetal distress (64%).Next common indication was Failure of maternal power (36%).It is observed that, 60% of baby delivered by LSCS and 56% of baby delivered spontaneously attained weight between 2-3kgs. 40% of baby delivered to group A mothers and 44% of baby delivered to group B mothers had birth weight greater than 3kg.The mean birth weight of infant born to Group A mothers was 3.01 kg where as it was 2.98 for babies born to group B mothers. The chi-square test of association was non significant (P= .685>.05). Hence there was no association between birth weight of a baby and mode of delivery (LSCS (or) Spontaneous).Measurement of APGAR between groups in first 5 minutes. It is observed that 78% babies in group A and 76% babies in group B had APGAR score between 4-6. Further 10% in group a babies 12% in group B babies had APGAR score between 7-10. 12% each in both groups had APGAR scores of 0-3.Chi-square best of association was non significant. This means that, there was no significant association of APGAR scores and mode of delivery (LSCS or spontaneous).NICU admission 54% of babies in Group A in group A and 66% of babies in group B were admitted in NICU. In LSCS group, the major indication was fetal distress (44%). The next major indication was cephalo-pelvic disproportion (30%).The common indication of delivery for spontaneous group was Fetal distress (46%). Mode of delivery for spontaneous group women. It is observed that 66% of women had forceps delivery and 28% of women had vaginal presentation. Only 6% of women attained delivery by vaccum.

5.CONCLUSION

From this small study, we conclude Post term pregnancies require early detection, effective and proper planning management. The mere fact that the pregnancy is post term does not necessitate a hasty line of management towards operative delivery. Provided there are no contraindications for caesarean, post term pregnancy per se is not a contraindication for the same. Careful monitoring of the patient during induction is absolutely essential to detect Fetal distress and Oligohydromnios at the earliest. Maternal morbidity needs to be carefully looked for and managed. With effective management with careful monitoring, post term mothers need to have any increased fetal mortality or morbidity compared to their term counterparts.

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