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To find out the association of maternal height with maternal outcome in terms of mode of delivery, perineal tear, cervical tear and post partum hemorrhage

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Abstract

Background: Women with short height, were recognized as a risk factor for dystocia due to CPD (cephalo pelvic disproportion) and thus for LSCS.

Methods: This study was conducted in the Department of obstetrics and gynaecology, SMS medical College Jaipur. This was a hospital based prospective case control study. 80 primigravida with gestational age 37 to 42 weeks, with a viable fetus and with spontaneous onset of labor were recruited for the study. Primigravida with fetal malpresentation, multiple gestation, Antepartum haemorrhage, congenitally anomalous fetus or with intra uterine fetal death were excluded from the study. Gravidas with medical co morbidities were also excluded from the study. 40 Primi term gravidas with height ≤150cm were alloted group-I (cases) and 40 women with height > 150 (controls) were allotted Group -II.

Results: 7 women had vaginal wall tear and cervical tear while 3 had PPH out of total population.

Conclusion: From our study we concluded that height of a gravid woman is an important parameter for predicting pregnancy outcome, but it cannot be taken as an absolute parameter.

Keywords: Maternal, Short stature, Complication

Introduction

Short stature refers to height of a human being which is below typical. In medical context, short stature is typically defined as an adult height that is more than 2SD below the mean for age and gender, which corresponds to the shortest 2.3% of individuals.[1]

Average Indian women height is 152.6cm(5 feet) and in rajasthan it is 154.6 .[2]

Women with short height, were recognized as a risk factor for dystocia due to CPD (cephalo pelvic disproportion) and thus for LSCS.[3] LSCS is an operation used to reduce maternal and fetal complications of childbirth[4]. While it can be lifesaving for both the mother and the baby, CS is not without risks and should only be performed when indicated[5-7].

Short term maternal complications of LSCS include anesthesia related complications[8], perioperative hemorrhage, infection and thromboembolic disease[9]. Whereas for child, respiratory distress is primary health problem.[10.11]

Short adult height, which is an indicator of growth retardation, is a particular indicator of poor childhood nutrition in low and middle income countries[12].

Material and Methods

This study was conducted in the Department of obstetrics and gynaecology, SMS medical College Jaipur. This was a hospital based prospective case control study. 80 primigravida with gestational age 37 to 42 weeks, with a viable fetus and with spontaneous onset of labor were recruited for the study. Primigravida with fetal malpresentation, multiple gestation, Antepartum haemorrhage, congenitally anomalous fetus or with intra uterine fetal death were excluded from the study. Gravidas with medical co morbidities were also excluded from the study. 40 Primi term gravidas with height ≤150cm were alloted group-I (cases) and 40 women with height > 150 (controls) were allotted Group -II.

The allocation was done randomly by flip coin method.

They were subjected to detailed history taking, complete general physical examination, systemic examination and obstetric examination was done.

The demographic details such as height, weight, age, residence, education, socioeconomic status and religion were noted.

Height of study population (standing with flat feet, together, against the wall, straight legs, arms at side and looking straight) was measured.

Obstetrical abdominal examination was done for fundal height, lie, presentation, engagement, amount of liquor, palpable uterine contractions and fetal heart rate.

Per vaginal examination was done for assessment of pelvis.

Bishops score was calculated.

Women with contracted pelvis were not given trial of labor and elective LSCS was done.

All pregnant women received continous fetal heart monitoring.

Women with favourable bishops score were given trial of labor by induction or augmentation as and when required.

The progress of labor was assessed regularly by uterine contractions and descent of head with the use of partogram . Augmentation would be considered by either artificial rupture of membranes and/or intravenous oxytocin infusion provided that both maternal and fetal conditions were stable. LSCS was decided if progress of labor remained slow in spite of good uterine contraction and partograph shifts right to action line.

For second stage management, active pushing would be commenced following confirmation of full cervical dialatation. Active management of the third stage was provided for all women.

Maternal outcome in terms of mode of delivery, vaginal and cervical tear, post partum hemorrhage, and hospital stay was noted.

Result & Discussion

Table 1: Distribution of study population according to demographic factors

	Group I	Group II	P value
Mean age	23.98±2.37	2.73	0.931
Rural	26(65.0%)	25(62.5%)	1.00
Urban	14(35%)	15(37.5%)	1.00
Hindu	33 (82.5%)	7(17.5%)	1.00
Muslim	33(82.5%)	7(17.5%)	1.00
Mean gestational age	38.53±0.96	39.05±0.95	.017

Table 2: Distribution of study population according to mode of delivery

mode of delivery	Group				Total
	Case (Group)		Control (Group)		
	N	%	N	%	N
LSCS	24	60.0%	10	25.0%	34
ND	16	40.0%	30	75.0%	46
Total	40	100.0%	40	100.0%	80

Odds ratio = 4.500 (95% confidence interval: 1.731 to 11.696)

Chi-square = 8.645 with 1degree of freedom

P value- 0.003 (significant)

Out of 80 women 34 had LSCS and 46 had ND.

Thus, difference in two groups was statistically significant. P value = 0.003.

Sakael TM et al[12] conducted a hospital based study from 2001-2005 which showed that proportion of Caesarean section cases were 32.6%.

Similar study conducted by Haider G et al[13] in Hyderabad, Pakistan showed that 64% deliveries were conducted by caesarean section.

Table 3: Distribution of study population according to maternal outcome

Maternal outcome	Group I	Group II	Total
Vaginal wall tear	3	0	3
Cervical tear	3	1	4
PPH	2	1	3
Hospital stay >48 hours	4	1	5

7 women had vaginal wall tear and cervical tear while 3 had PPH out of total population.

Melamed N , Ben-Haroush A, Chen R, Kaplan B, Yogev Y.[14] The clinical characteristics, risk factors, and effects on subsequent pregnancies of intrapartum cervical lacerations.

Conclusion

From our study we concluded that height of a gravid woman is an important parameter for predicting pregnancy outcome , but it cannot be taken as an absolute parameter .

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