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Original Research Article

Factors influencing mode of delivery in primigravida in rural tertiary care hospital

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ABSTRACT

Introduction: This study was done to determine the factors influencing mode of delivery in primigravida.
Materials and Methods: A retrospective study was done involving 586 women who delivered at SAH & RC from 1st March 2018 to 31st August 2018. The data collected was categorised based on maternal age, mode of onset of labour, expected foetal weight, colour of liquor, presence of FHR abnormalities and indications for caesarean delivery. Additionally, effect on neonatal outcome was also studied.
Results: Of the 586 pregnancies, 60.75% had vaginal delivery. The significant facilitating factors for vaginal delivery were found to be maternal age of 20-25 years(34.81%), spontaneous onset of labour(44.36%), expected foetal weight of 2.5-3.5kg(54.95%), clear liquor(93.00%) and no FHR abnormality. The caesarean section rate was 39.25%, most common indications being failure to progress (34.78%), MSAF(17.83%), FHR abnormalities(10.87%), CPD(10%), maternal request (7.8%), second stage arrest of labour (6.9%) and severe preeclampsia (3.48%). Of the 588 babies delivered, 6 neonatal deaths occurred(1.02%), of which 5 delivered vaginally(83.33%). 4 were due to birth asphyxia and 1 due to severe preeclampsia. 1 was delivered by caesarean section done for MSAF. 2 babies delivered via caesarean section (for second stage arrest) were diagnosed as hypoxic ischemic encephalopathy at the time of discharge. Comparing the outcomes of vaginal delivery and caesarean section, p value of 0.91(significant value $p<0.05$) was obtained, suggesting no significant difference in foetal outcome through either modes of delivery.
Conclusion: The prediction for a woman to undergo vaginal delivery or caesarean section in primigravida depends on various factors other than obstetric factors such as counselling the woman and her family during labour and socioeconomic status.

1. Introduction

The rate of caesarean delivery is increasing in the world since the past few years. Numerous factors contribute to the rising trend of caesarean deliveries.

An emergency caesarean delivery during labour poses increased risks for maternal morbidity and mortality and psychological trauma.

The concern in the minds of a woman in labour and her attendants is whether she will have vaginal delivery or caesarean, more so in case of first pregnancies. [1]

Anticipation of the problems when allowing a woman for a vaginal delivery would help to prevent unwanted outcomes and emergency caesarean deliveries. So prediction of mode of delivery as soon as the woman is in labour is a challenging task. [1]

2. Aims and Objectives

This study was done to determine the factors influencing mode of delivery in primigravida.

3. Materials and Methods

A retrospective study was done involving 586 women who delivered at Adichunchanagiri Institute of Medical

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Sciences, B.G. Nagara, Mandya from 1st March 2018 to 31st August 2018.

1. Data regarding maternal age, history of infertility treatment, comorbidities and risk factors (like hypertensive disorder complicating pregnancy, diabetes mellitus) were collected from antenatal records and physical examination.
2. Additionally, effect on neonatal outcome was also studied.
3. The data collected was categorized based on maternal age, mode of onset of labour, estimated fetal weight, color of liquor, presence of FHR abnormalities and indications for caesarean delivery.

4. Results

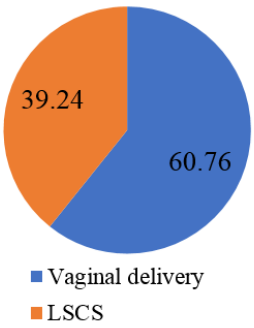

Fig. 1: Mode of delivery in the study population (n=586)

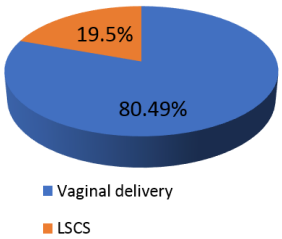

Fig. 2: Mode of delivery in women with spontaneous onset of labour (n=323)

1. Of the 588 babies delivered, 6 neonatal deaths occurred, of which 5 delivered vaginally.
2. Out of those who delivered vaginally, 4 deaths were due to birth asphyxia and 1 death was due to severe preeclampsia.
3. 1 was delivered by caesarean section done for MSAF.
4. Out of all the babies, 1 baby delivered via caesarean section (for second stage arrest) was diagnosed as hypoxic ischemic encephalopathy at the time of discharge.

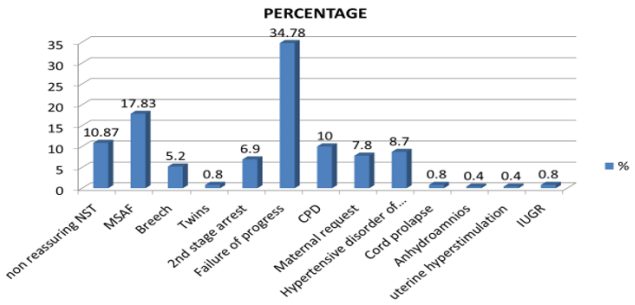

Fig. 3: Indications for LSCS

5. Comparing the outcomes of vaginal delivery and caesarean section, p value of 0.91was obtained, suggesting no significant difference in foetal outcome through either modes of delivery.

5. Discussion

1. It can be deduced from the earlier studies that in women younger than 30 years, the age related medical morbidities (e.g., hypertension, diabetes mellitus) are less frequent; making vaginal delivery much expectable.
2. Age factor was one of the facilitating variables for vaginal delivery in the present study.
3. Similarly, Swathi Kotha[1] et al and Wang Y[2] et al also in their study showed that age <30 years is favourable for having a vaginal delivery.
4. In this study, infertility treated women had a higher risk of caesarean section.
5. It could mainly be because most of such women are primigravidas and there will be low threshold for considering caesarean delivery.
6. Increased birth weight is an independent risk factor for caesarean delivery in our study even in the absence of GDM.
7. Kim SN et al[3] also found that higher birth weight has a increased need for caesarean delivery.
8. Lower Bishop score and use of prostaglandins in labour were considered to be associated with higher caesarean deliveries.
9. Peregrine[4] et al also similarly showed that induction of labour in nulliparous women has a higher risk of caesarean delivery.
10. In our study, we found that among the primigravidas who had hypertensive disorder of pregnancy, most of them underwent LSCS; mainly due to obstetric reasons.
11. In contrast, Coppage KH[5] also studied the effect of preeclampsia on mode of delivery and found that majority of them had successful vaginal deliveries; however most of the LSCS was due to obstetric

Table 1: Mode of delivery based on maternal age *(P value – 0.0032)*

Age	No.	Vaginal delivery	%	LSCS	%
</19	65	47	72.31	18	27.69
20-24	324	204	62.96	120	37.04
25-29	167	87	52.10	80	47.90
>/30	30	8	26.67	22	73.33
Total	586	346	59.04	240	40.96

Table 2: Mode of delivery based on estimated fetal weight (P value – 0.00067)

Estimated fetal weight	No.	Vaginal delivery	%	LSCS	%
<2.5 KG	29	21	72.41	8	27.59
2.5-3.5	495	322	65.05	173	34.95
>3.5	62	13	20.97	49	79.03
Total	586	356	60.75	230	39.25

Table 3: Mode of delivery in hypertensive disorder of pregnancy (P value – 0.05)

Hypertensive disorder of pregnancy	Vaginal Delivery	LSCS
Yes	14	20
No	342	210
Total	356	230

Table 4: Mode of delivery in women with GDM *(P value – 0.3)*

GDM	Vaginal Delivery	LSCS
Yes	13	15
No	343	215
Total	356	230

indications.

12. In our study, we found that the presence of GDM in the pregnant women did not have any effect the mode of delivery.
13. The HAPO study[6] (Hyperglycemia and Adverse Pregnancy Outcome) differs in this; they found that GDM in the mother increases the likelihood of caesarean sections.

6. Conclusion

The prediction for a woman to undergo vaginal delivery or caesarean section in primigravida depends on various factors other than obstetric factors such as counselling the woman and her family during labour and socioeconomic status.

7. Source of funding

None.

8. Conflict of interest

None.

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