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Original Article

Analysis of Cases of Vaginal Delivery Following a Previous Cesarean Section: A Clinical Study

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ABSTRACT

Background: Cesareans and vaginal delivery are the topics of discussion since long. The present study was performed to determine the factors which affect vaginal delivery in women with previous cesarean section.

Materials & Methods: This study was conducted on 80 females. Females with gestational age of 36 weeks, singleton pregnancy and cephalic presentation were considered for the study. Pre-pregnancy BMI, indication of previous cesarean section, intra and postoperative complications of previous cesarean section, etc., was recorded.

Results: Out of 160 subjects, 80 had previous cesarean while 80 comprised of control group. The difference was non- significant. All 10 females with BMI < 19.8 had a successful trial of labor. Females with BMI within the range of 19.8–26, 30 delivered vaginally after a previous cesarean delivery while 10 of them underwent a repeat cesarean section. 7 delivered vaginally and 5 underwent cesarean with BMI 26-29. 13 delivered vaginally and 5 underwent cesarean in females with BMI >29. The difference was significant. 25 females who underwent cesarean in 25 cases had failed vaginal delivery next time and 15 females with cesarean, 4 failed vaginal delivery next time.

Conclusion: Author found that maternal pre-pregnancy BMI, spontaneous onset of labor are predictors of success of vaginal birth after previous cesarean section.

KEYWORDS: BMI, Cesarean, Vaginal.

INTRODUCTION

Cesarean section involves surgical opening of uterus and delivering birth of baby. It is non vaginal route of delivery. Vaginal deliveries were common in past. Factors such as increased physical activity in the form of home work, lack of way of transportation etc. played important role in this regard. It was considered safest technique of delivery. The body structure of females in the past was well adapted to the environment.[1]

Cesareans were considered to the last option when vaginal delivery failed. With the increasing number of cesareans in today's era, we are often faced with the challenge of managing women with previous cesarean deliveries. Vaginal birth after cesarean (VBAC) is a safe method of delivery and has many advantages but it carries the risk of rupture uterus which 1 to 1.5 % but has a significant morbidity and mortality. It was noted that this potentially fatal event occurred mostly in those trying for VBAC section.[2] Lack of physical exercise, various aids which has reduced daily activities of women such as way of transportation, availability of maids at home etc. has reduced the burden of females and hence the body structured has been adapted to the easy daily routine. It has been well observed that females prefer vaginal delivery because they think that next time also if they go for child plan, vaginal delivery is not possible.[3]

Vaginal birth and caesarean section deliveries have addressed the various problems associated with both types of care showing some concern involving the quality of obstetric care, the high cesarean section rates found at the present time and the meaning of childbirth according to the women who experience it.[4] The present study was performed to determine the factors which affect vaginal delivery in women with previous cesarean section.

MATERIALS AND METHODS

This study was conducted in the Department of Obstetrics and Gynaecology, Teerthanker Mahaveer Medical College & Research Centre, Moradabad, UP, India. It comprised of 80 females. All were informed regarding the study and written consent was obtained. Females with gestational age of 36 weeks, singleton pregnancy and cephalic presentation were considered for the study. Pre-pregnancy BMI, indication of previous cesarean section, intra and postoperative complications of previous cesarean section, etc., was recorded. Parameters such as temperature, pulse, respiration and blood pressure hourly, continuous electronic fetal monitoring, assessing of uterine contractions were also recorded. Results were subjected to statistical analysis using chi- square test. P value less than 0.05 was considered significant.

Table I: Distribution of subjects

Group I	Group II (Control)	Total
80	80	160

Table II: Success of VBAC in relation to pre- pregnancy BMI

BMI (kg/m$^{2)}$	Successful	Failed	P value
<19.8	10	0	0.05
19.8- 26	30	10	
26-29	7	5	
>29	13	5	

Table III: Indication of previous CS as predictor of VBAC

Factors	Successful	Failed	P value
Breech	5	1	0.05
Foetal distress	25	10	
Failed induction	5	3	
NPOL	15	4	
Others	10	2	

RESULTS

Table I shows that out of 160 subjects, 80 had previous cesarean while 80 comprised of control group. Table II shows that all 10 females with BMI < 19.8, had a successful trial of labor. Females with BMI within the range of 19.8–26, 30 delivered vaginally after a previous cesarean delivery while 10 of them underwent a repeat cesarean section. 7 delivered vaginally and 5 underwent cesarean; with BMI 26-29; 13 delivered vaginally and 5 underwent cesarean in females with BMI >29. The difference was significant (P<0.05).

DISCUSSION

Vaginal birth as an experience beyond the physical and focusing on their mind gives women the strength to cope with childbirth, demonstrating confidence in their ability to cope with labor and labor pains. The vaginal birth was always considered to be safe. Numerous studies have been reported detailing the success of safety of a trial of labor after a previous transverse lower uterine segment scar.[5] The present study was performed to determine the factors which affect vaginal delivery in women with previous cesarean section.

In this study, all 10 females with BMI < 19.8 had a successful trial of labor. Females with BMI within the range of 19.8–26, 30 delivered vaginally after a previous cesarean delivery while 10 of them underwent a repeat cesarean section. 7 delivered vaginally and 5 underwent cesarean with BMI 26-29. 13 delivered vaginally and 5 underwent cesarean in females with BMI >29. This shows that as the pre-pregnancy BMI increased the chances of successful VBAC decreases. Our results are in agreement with Anjali et al.[6]

Bennet et al.[7] analyzed the relation between maternal age and VBAC success and concluded that women > 35 years were more likely to experience unsuccessful trial of labor. We found that rate of success of vaginal delivery after previous cesarean delivery appeared to improve with increasing age.

In relation to caesarean section, the reasons to consider it the best form of childbirth are associated with absence of labor pains, avoiding the fear of childbirth, the speed of the procedure, the possibility of having a tubal ligation at the same time, safety for the baby, having information and control over the event being an overall pleasant

experience and enjoying the child with safety. We found that 25 females who underwent cesarean in 25 cases had failed vaginal delivery next time and 15 females with cesarean, 4 failed vaginal delivery next time. This is in agreement with Wright et al.[8]

The nurses, especially obstetric nurses and midwives, have an important role in childbirth and need to develop interventions such as providing information on the evolution of labor and involving mothers in decisions about the use of interventions; and fostering positive experiences and promoting coping mechanisms for the pain experienced by the women, guiding them in their labor pain and how to deal with it, especially with non-pharmacological methods, such as breathing and relaxation exercises. In regards to the negative perceptions of caesarean section, the women mentioned the pain of the postpartum period, the difficulties in recovery, the risks of surgery, concerns about previous experiences with anesthesia, higher levels of fear when compared with natural childbirth and difficulty in resuming sexual activities.[9]

Women who had a cesarean section by choice or in an emergency were unhappy when remembering the birth of their children.

Harper LM et al estimated the effect of birth-weight difference between the current and index pregnancy on VBAC failure in patients whose prior cesarean was for cephalopelvic disproportion (CPD). This was a retrospective cohort study of women with one cesarean for CPD, comparing the rate of VBAC failure in women whose infant was smaller, the same, or larger in the VBAC attempt compared to cesarean. The primary outcome was VBAC attempt failure, defined as a patient that attempted VBAC but subsequently required a cesarean for any indication. Of 13,706 patients attempting VBAC, 1,511 had one prior cesarean for CPD. Compared to patients with the same birth weight, a lower birth weight had fewer failed VBAC attempts 0.7, 95% confidence interval and a higher birth weight had more failed VBAC attempts. Birth-weight difference has a moderate effect on the rate of VBAC success in patients whose prior cesarean was for CPD.[10]

CONCLUSION

Author found that maternal pre-pregnancy BMI, spontaneous onset of labor are predictors of success of vaginal birth after previous cesarean section.

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