Volume 13 Issue 10
Originally issued as E2



Global Journal of Medical research
Gynecology and Obstetrics
Volume 13 Issue 2 Version 1.0 Year 2013
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4618 & Print ISSN : 0975-5888

Factors Associated with Successful Vaginal Birth after Caeserean

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Abstract - *Objective:* To analyse the success of vaginal delivery after caesarean birth [VBAC].

Methods: A retrospective analysis of number of cases delivered vaginally after previous caeserean delivery at our hospital was done from January 2012 to December 2012. The analysis was done regarding the parameters affecting the success of VBAC. Factors like age of mother, gestational period, and indication for previous caesarean section, mode of delivery, birth weight of the baby and maternal complications encountered were analysed.

Results: A total of twenty patients delivered vaginally after previous caesarean section. It was observed that successful VBAC was possible in young age group with spontaneous labour at term who underwent caesarean section in previous delivery for a non recurrent indication.

Conclusion: Careful selection of the patients increases the success rate of VBAC.

GJMR-E Classification : NLMC Code: WJ 190



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I. Introduction

There is a constant increase in caesarean section rate for varied indications. Though the safety of caesarean section has improved till date the morbidity rates are still high in comparison to the vaginal delivery. Associated morbidities like abnormal placentation, post operative pain, infection, long hospital stay are still rampant even after advancements in operative techniques and broad spectrum antibiotics. On the other hand a patient undergoing vaginal delivery after previous caesarean section has the risk of uterine rupture and fetal death. Cases of failed VBAC were associated with higher uterine rupture. [1] Even in the presence of electronic fetal monitoring and facilities for emergency caesarean available there was uterine rupture in 1 out of 25. [2] The rates of hysterectomy and thromboembolic complications are less in VBAC patients than those undergoing caesarean section. [3] Another study in Indian set up favored VBAC in patients for non recurrent indications. [4] The debate is still going on, and so is the research. There is a definite need to bring down the caesarean section rate either by judiciously selecting the patients for primary caesarean section or by attemptingvaginal delivery following previous caesarean section. Similarly patient is to be assessed prior to VBAC so as to increase the probability of success of vaginal delivery.

A successful VBAC has distinct advantage over repeat caesarean section by decreasing the operative mortality and morbidty as well as bringing down the length of stay and the expenses [5]. Extensive research is done to identify the factors influencing the success of VBAC, its morbidities and risks of uterine rupture. Of these factors strongly influencing are prior VBAC, prior caesarean section for non recurrent indication, Bishop score of more than 4 and spontaneous onset of labour.[6] While factors against the success are induction/augmentation, previous caesarean for recurrent cause (CPD, dystocia), non reassuring fetal heart at the time of admission. A similar observation that Bishop score and number of previous caesarean section influenced the success of VBAC. [7] Maternal age <30yrs, fetal weight between 2.5kg to 4kg and term gestation were associated with successful VBAC. [8]

It is also observed that the risk of uterine rupture increases with poor Bishop score and induction with Prostaglandins and a combination of both.(9) while spontaneous onset of labour is associated with successful VBAC.

Z. Ghaffari[10] et al observed that the rate of vaginal delivery was higher in patients with previous caesarean section was than in patients with prior vaginal delivery. They strongly suggest that patients with previous caesarean section should be allowed for VBAC.

II. Methods

A retrospective analysis of number of cases delivered vaginally after previous ceserean delivery at our hospital was done from January 2012 to December 2012. The analysis was done regarding the parameters affecting the success of VBAC. Factors like age of mother, gestational period, and indication for previous caesarean section, mode of delivery, birth weight of the baby and maternal complications encountered were analysed.

III. Results

A total of twenty patients delivered vaginally after previous caesarean section. Thirteen out of twenty

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patients were young between 21-25 years of age while seven patients were between 26-30 years of age. No patients were beyond 30 years of age. Patients of young age group had successful VBAC when compared to older patients. [Table1] Majority of the patients who delivered vaginally after previous caesarean section reached term gestation. Fifteen out of twenty patients delivered were of term gestation while only five patients were preterm. Term gestation is a favourable factor for successful vaginal delivery. [Table2] Analysis of various indications for previous caesarean sections was done. It was observed that majority of indications were nonrecurring. Of all 20 cases section was performed for Premature rupture of membranes [PROM] in 8 cases and fetal distress was indication next to PROM in 7 cases. Caesarean section was performed for pregnancy induced hypertension [PIH] and cephalopelvic disproportion [CPD] in 2 cases each. It is obvious that the success of VBAC depends on the previous indication and nonrecurring indication is its corner stone. [Table3] 18 out of 20 patients delivered spontaneously while only two of them required outlet forceps delivery. VBAC does not affect the mode of delivery and patients can deliver spontaneously without much intervention.

14 babies weighed more than 2.5 kg at birth. Large sized babies do not affect the vaginal delivery after caesarean section.

Out of 20 patients only one patient who delivered spontaneously had scar rupture and the baby had mild asphyxia. Scar rupture was diagnosed after the delivery of the baby as abdominal distension and ultrasound showed free fluid in the abdomen which was managed conservatively as patient was haemodynamically stable. Baby was resuscitated immediately. Both mother and baby were discharged in healthy condition.

IV. Discussion

In this era of high caesarean section rate which is associated with relatively higher morbidity and mortality it is challenging to the obstetrician to cut down this rate Mc Mahon and Luther et al [1] concluded that the risks of repeat caesarean section are higher (abnormal placentation, hysterrectomy, maternal mortality). While Flamm and Goings et al [5] found that repeat caesarean section and trial of labour are associated with equal risks while the cost of trial of labour is less if the probability of successful trial of labour is more than 0.7. Conducting VBAC in carefully selected patients comes as a rescue in bringing down the number of caesarean sections. This retrospective analysis asserts the same where a careful selection and careful monitoring of the patient with previous caesarean section can result in a successful vaginal delivery.

All the patients analyzed had spontaneous onset of labour. Induction of labour is associated with higher rates of uterine rupture when compared to spontaneous onset of labour.[9] Farmer et al [11] and wing et al,[12] in two different studies found a higher incidence of uterine rupture in cases induction with misoprostol. It is observed that woman with age of 21-30 years are likely to deliver vaginally [8] which is consistent with the observation made by Cameron et al. While selecting the patients it is important to consider maternal age. It is also observed that gestational age at the time of delivery in most of the cases was full term.[8] Quinones and stamilio et al [13] observed that VBAC was successful in preterm cases. Majority of indications for previous caesarean section were non recurrent (fetal distress, PROM). It is consistent with the findings of Wing and Paul et al, [12].This emphasizes that for a successful VBAC the previous indication for caesarean section should be carefully evaluated and patients with non recurrent indications should be recruited for vaginal delivery. Fetal weight upto 3.5kg is not a hurdle for successful VBAC as it is observed that babies with birth weight 3.5kg delivered vaginally.[8] ACOG guidelines[14] states that the risk ofuterine rupture is increased when the fetal weigh is more than 4kg. Hence with a proper pelvic assessment and monitoring of progress of labor, good sized babies can also be delivered vaginally. Out of all the 20 patients scar dehiscence was encountered in one patient who was managed conservatively (11). This reflects that the incidence of complications is less in carefully selected and monitored patients and severity of complications also are less which can be managed conservatively.

V. Conclusion

VBAC definitely reduces the caesarean section rate and thus its associated morbidity and mortality. Careful selection of patients is the corner stone of successful VBAC with special consideration of maternal age and gestational period. A nonrecurring indication for previous caesarean section and spontaneous onset of labour are key factors for the success of VBAC. Fetal weight up to 3.5kg is not risk factor if there is no cephalopelvic disproportion. The incidence of complications and their severity are reduced with proper selection.

References References Referencies

1. McMahon MJ, Luther ER, Bowes WA, Olshan AF. Comparison of a trial of labor with an elective second cesarean section. N Engl J Med 1996; 335: 689-695.
2. A. George, K.V. Arasi, M. Mathai is vaginal birth after cesarean delivery a safe option in India? International Journal of Gynecology and Obstetrics.2004; 85: 42–43.
3. Rageth JC, Juzi C, Grossenbacher H. Delivery after previous Cesarean: a risk evaluation. Obstet Gynecol 1999; 93:332–7.

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4. Vardhan Shakti, Behera RC, Sandhu GS, Singh Anita, Bandhu HC Vaginal birth after caesarean delivery. J Obstet Gynecol India. 2006; 56(4):320-323.
5. Flamm BL, Goings JR, Liu Y, Wolde-Tsadik G. Elective repeat cesarean delivery versus trial of labor: a prospective multicenter study. Obstet Gynecol.1994; 83(6):927-32.
6. David M Stamilio, Anthony Shanks Vaginal Birth After Cesarean (VBAC) Outcomes Associated With Increasing Number of Prior VBACs. Women's Health. 2008;4(3):233-236.
7. D'Orsi Eleonora, Chor Dora, Giffin Karen, Angulo-Tuesta Antonia, Barbosa Gisele Peixoto, Gama Andréa de Sousa et al . Factors associated with cesarean sections in a public hospital in Rio de Janeiro, Brazil. Cad. Saúde Pública .2006; 22(10): 2067-2078.
8. C.A. Cameron, C.L. Roberts, B Peat.Predictors of labor and vaginal birth after cesarean section. International Journal of Gynecology and Obstetrics 2004; 85: 267–269.
9. C.H.E. Weimar, A.C. Lim,M.L. Bots, H.W. Bruinse, A. Kwee, Risk factors for uterine rupture during a vaginal birth after one previous caesarean section: European Journal of Obstetrics & Gynecology and Reproductive Biology 2010; 151(1): 41–45.
10. Ghaffari A, Ahmed BB. Safety of vaginal birth after cesarean delivery. Int J Gynec & Obst 2006; 92 (1): 38 – 42.
11. Farmer RM, Kirschbaum T, Potter D et al. Uterine rupture during trial of labor after previous cesarean section. Am J Obstet Gynecol1991;165:996-1001.
12. Wing DA, Paul RH. Vaginal birth after cesarean section: selection and management. Clin Obstet Gynecol 1999;42:836-48.
13. Quiñones JN, Stamilio DM, Paré E, Peipert JF, Stevens E, Macones GA. The effect of prematurity on vaginal birth after cesarean delivery: success and maternal morbidity. Obstet Gynecol. 2005; 105: 519-524.
14. American College of Obstetricians and Gynecologists (ACOG). Vaginal birth after previous cesarean delivery. Washington DC: ACOG practice bulletin no. 115. August 2010; 14.
15. M. Jerbi, S. Hidar, A. Ammar, H. Khairi Predictive factors of vaginal birth after cesarean delivery International journal of Gynecology and Obstetrics 2006. 94, 43-4.

Table 1 : Distribution of the patients in relation to age

Age of the mother(in years)	Number
21-25	13
26-30	7
31-35	-
>36	-

Table 2 : Distribution in Relation to Gestational Age

Gestational age (weeks)	Number
28-37	5
37-41	15
>41	-

Table 3 : Indications for previous caesarean section

Indication for caesarean section	Number
PIH	2
Fetal distress	7
PROM	8
CPD	2
Absent fetal movements	1

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