

FACTORS ASSOCIATED WITH SUCCESSFUL VAGINAL BIRTH AFTER A CESAREAN SECTION: A RETROSPECTIVE STUDY IN A TERTIARY CARE CENTER, MIMS MANDYA

Anusha Priya M S¹, Kavyashree G², Sanjay Kumar C³, Savitha H C⁴

Received : 26/10/2023
Received in revised form : 23/12/2023
Accepted : 10/01/2024

Keywords:
Vaginal birth after caesarean, trial of labor after caesarean, Flamm and Geiger scoring.

Corresponding Author:
Dr. Savitha H C,
Email: drhcsavithamohan@gmail.com

DOI: 10.47009/jamp.2024.6.1.63

Source of Support: Nil,
Conflict of Interest: None declared

Int J Acad Med Pharm
2024; 6 (1); 325-327



¹Resident, Department of Obstetrics and Gynecology, Mandya Institute of Medical Sciences, Karnataka, India

²Associate Professor, Department of Obstetrics and Gynecology, Mandya Institute of Medical Sciences, Karnataka, India

³Assistant Professor, Department of Obstetrics and Gynecology, Mandya Institute of Medical Sciences, Karnataka, India

Abstract

Background: The objective is to determine the factors associated with successful VBAC. To know the relationship of Flamm Geiger scores with the success of vaginal delivery in the period of 1 year (June 2022 to May 2023). **Materials and Methods:** Record based study from June 2022 to May 2023 will be analysed. **Result:** Out of 92 women who underwent TOLAC, 25 had successful VBAC and 67 had failed TOLAC. Among 25 successful VBAC, 18 women had flamm and Geiger score of more than 5, 5 women had flamm and Geiger score of 3-5, 2 women had flamm and Geiger score of less than or equal to 2. **Conclusion:** Application of Flamm and Geiger scoring gives fair judgement of successful vaginal birth in TOLAC in the individual patient and reduces the rate of failed trial leading to emergency caesarean section.

INTRODUCTION

Repeat CS is the most significant factor contributing to overall increased CS rates. The primary indication of repeat CS is a prior CS.^[1] The trial of labor after caesarean (TOLAC) is an attempt to reduce CS rates.^[2] VBAC is relatively safe when compared with repeat CS. However, TOLAC rates have dropped significantly worldwide in recent years. For women with a prior caesarean delivery, a trial of labor will often represent her last opportunity to experience a normal birth. However, a failed VBAC increases the risk of maternal and perinatal complications more than an elective repeat CS.^[3] A potential solution to the concerns related to VBAC would be a more accurate selection of patients opting for TOLAC. Cephalopelvic disproportion (CPD) in the previous caesarean, previous breech, previous vaginal delivery, advanced age, birth weight heavier than 4 kg, and use of either augmentation or induction affected the likelihood of VBAC.

Caesarean section is the most common operation in modern day obstetrics.^[4] Births by caesarean, many of them unnecessary have started to increase globally. This rising rate is an issue of particular concern in the global maternity care field, due to the increased adverse maternal and neonatal outcomes associated with caesarean section.^[5] According to WHO, though there is no ideal rate of caesarean section, but the rates above 10-15% does not confer additional

health benefits in terms of foetal and maternal mortality and morbidity.

The overall rate of caesarean needs to be reduced and this can be achieved to a small extent by avoiding primary caesarean done without explicit indications and more importantly by resorting to TOLAC.^[6] A successful VBAC has fewer complications and many advantages.^[7] But a failed VBAC has more complications than a planned repeated caesarean section and successful VBAC. To predict the success of a tolac,^[8] it can be assessed using scoring system one of which is the Flamm and Geiger study. According to flamm and Geiger, an increase in the VBAC assessment score is directly proportional to the success of vaginal delivery.

This study was done to know the relationship of flamm geiger scores with the success of vaginal delivery

Parameters	Findings	Points
1.Age	<40 Years	2
	>40 Years	0
2.Vaginal Birth History	Before And After First CS	4
	After First CS	2
	Before First CS	1
	None	0
3.Indication of Previous Section	Failure To Progress	0
	Other Reason	1
4.Cervical Effacement on Admission	>75%	2
	25-75%	1
	<25%	0

5.Cervical Dilatation on Admission	>4 Cm < Or =4 Cm	1 0
------------------------------------	---------------------	--------

<40 years	>40 years
23(92%)	2(8%)

MATERIALS AND METHODS

Study Design: Retrospective Observational study
Study Period: The study conducted from the records of June 2022 to May 2023 (1 year) will be analysed.
Sample Size: All women who have undergone trial of labor after previous caesarian in MIMS Mandya(92)
Sampling Method: Data was collected from all available records.

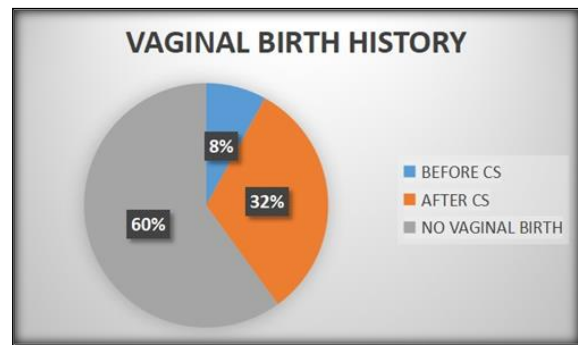
Inclusion Criteria

With a single gestation and, one previous cesarean delivery, and that were candidates for attempted vaginal birth.

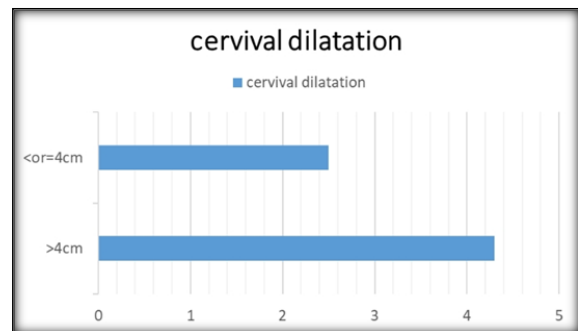
Exclusion Criteria

Women with more than one previous cesarean delivery; known previous classical uterine incision or T-incision, prior uterine rupture, multiple gestations, and those in whom vaginal delivery is otherwise contraindicated (e.g, those with placenta previa).

Method of Data Collection (study tools): A record based study was conducted over a period of 1 year (June 2022 to May 2023) for patients who have undergone trial of labor after previous caesarian at MIMS Mandya. The data was collected from Medical record section, OT register and Parturition register and will be analysed.

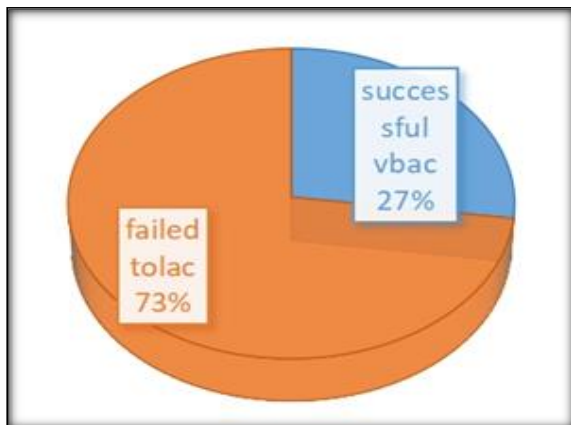


Before CS	After CS	No vaginal birth
2(8%)	8(32%)	15(60%)

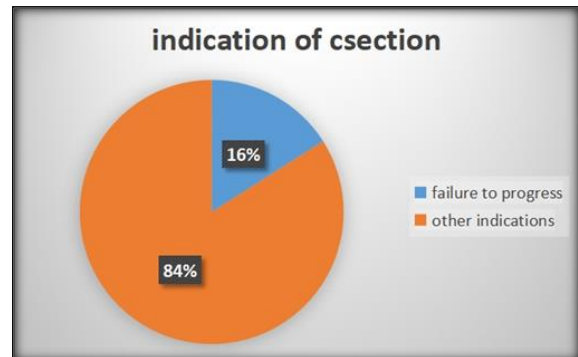


<OR=4 CM	>4CM
6(24%)	19(76%)

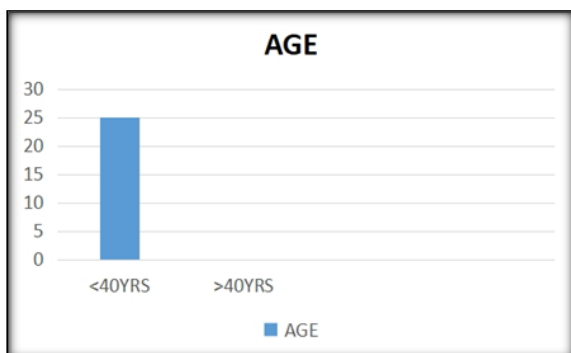
RESULTS

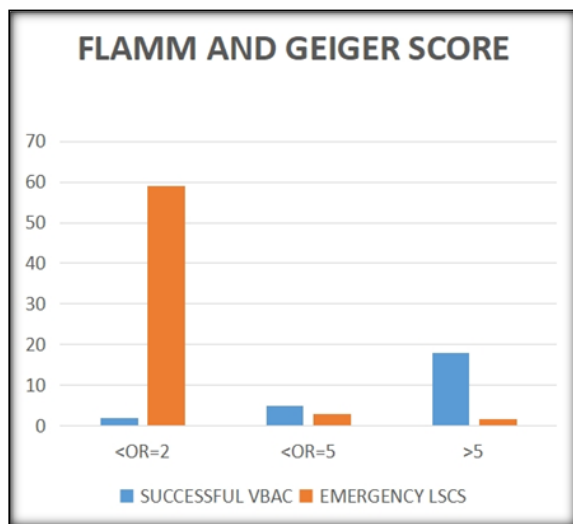


Successful VBAC	Failed TOLAC
25(27%)	67(73%)



Failure to progress	Other indications
4(16%)	21(84%)





	Successful VBAC	Emergency LSCS
< OR =2	2	59
< OR =5	5	3
>5	18	5

DISCUSSION

VBAC is the solution to reduce the increase in caesarean section rates. Flamm and Geiger scoring can be used to determine the success of VBAC. Application of Flamm and Geiger scoring gives fair judgement of successful vaginal birth in TOLAC in the individual patient and reduces the rate of failed trial leading to emergency caesarean section.^[9]

The present study revealed that a chance of successful VBAC in women with prior vaginal delivery, particularly vaginal delivery after the previous caesarean section (history of previous VBAC), was higher, compared to women with no history of prior vaginal delivery. This result is similar to Panchal et al study and Narang H et al study.

This assessment system will make it easier for medical staff to estimate what percentage of VBAC success a women has and thereby provide safer delivery options and thereby reduce maternal mortality and morbidity.

Age, obesity, diabetes, HDCP, Bishop score, labor induction, birth weight, previous vaginal birth, and the indications for the previous CS should be considered as the factors related to the success of VBAC. Thus, it is recommended that obstetric care providers should emphasize those factors that lead to successful vaginal birth during counseling and optimal selection of women for the trial of labour after caesarean section.

The morbidity associated with successful vaginal birth is about one-fifth that of elective caesarean. But perinatal risk is more after a failed trial of labour compared to elective repeat caesarean section without labour. Failed trials of labour, with subsequent caesarean section involve almost twice the morbidity of elective section. The information is

important for counseling women about their choices of delivery after a previous caesarean section. The information is important for counseling women about their choices of delivery after a previous caesarean section. There is no such rule that the patient can be delivered vaginally or should go for elective repeat caesarean section after primary caesarean. The use of such a scoring system may enable the obstetricians and midwives to predict the chances for success in individual patient and to evaluate the risk and benefits, thus improving the outcome of TOLAC.

CONCLUSION

VBAC remains a safe option provided patients are correctly selected and monitored. Application of Flamm and Geiger scoring gives fair judgment of successful vaginal birth in TOLAC in the individual patient and reduces the rate of failed trial leading to emergency caesarean section, thus improving outcome in a trial of labor. As the total Flamm and Geiger score increases, the chance of successful VBAC increases. The present study showed that appropriate clinical settings and properly selected group of patients can make the trial of labour after caesarean safe and effective. There always should be a fine balance between continuing and abandoning the trial without compromising maternal and fetal morbidity. Practice of protocol of applying this score and monitoring by partogram will reduce the rate of repeat caesarean section in previous one caesarean section patients.

REFERENCES

1. Marshall NE, Fu R, Guise JM. Impact of multiple cesarean deliveries on maternal morbidity: a systematic review. *Am J Obstet Gynecol.* 2011;205(3):262-e1.
2. Guise JM, Eden K, Emeis C, Denman MA, Marshall N, Fu RR, et al. Vaginal birth after cesarean: new insights. Evidence report/technology assessment. 2010;191:1.
3. Morrison JJ, Rennie JM, Milton PJ. Neonatal respiratory morbidity and mode of delivery at term: influence of timing of elective caesarean section. *BJOG: Int J Obstet Gynaecol.* 1995;102(2):101-6.
4. Solheim KN, Esakoff TF, Little SE, Cheng YW, Sparks TN, Caughey AB. The effect of cesarean delivery rates on the future incidence of placenta previa, placenta accreta, and maternal mortality. *J Maternal-Fetal Neonatal Med.* 2011;24(11):1341-6.
5. Arjun G. Caesarean Section: Evaluation, guidelines and recommendations. *Indian J Med Ethics.* 2008;5(3):117-20.
6. Shakti V, Behera RC, Sandhu GS, Singh A, Bandhu HC. Vaginal Birth after Caesarean Delivery. *Obstet Gynecol India.* 2006;56(4).
7. Royal College of Obstetricians and Gynaecologists: Birth after previous caesarean birth; Green Top Guidelines No. 45(Oct 2015).
8. McMohan MJ, Luther ER, Bowes WA, Olshan AF. Comparison of a trial of labour with an elective second caesarean section. *N Engl J Med.* 1996;335(10):689-95.
9. Obstetricians ACo, Gynecologists. ACOG Practice bulletin no. 115: Vaginal birth after previous cesarean delivery. *Obstet. Gynecol.* 116(2 Pt 1), 450-463 (2010).