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Original Research Article

Study of factors associated with success of vaginal birth after previous one caesarean section

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Abstract: To study the factors associated with vaginal birth after one cesarean section, to evaluate fetal and maternal outcome in VBAC deliveries, It is a case control prospective study conducted in department of Obstetrics & Gynecology, Kamla Raja Hospital, Gajra Raja Medical College, Gwalior (M.P.) from November 2013 to October 2014. Inclusion criteria: Previous 1 LSCS, No contraindication to trial of labor (No obvious fetopelvic disproportion), Patient came with spontaneous labor. Exclusion criteria:-Contraindication to trial of labor. (Obvious fetopelvic disproportion) Any other uterine scar like myomectomy, hysterotomy, and High risk pregnancy. Sample size: 200, Cases: Patient who delivered through cesarean section after trial of labor. Control: Patient who delivered through vaginal route after trial of labor. In present study, success rate of VBAC in age group of > 35 years is small (p value = 0.001) which is statistically significant. In present study rate of VBAC was higher if indication of previous CS included mal presentation and fetal distress and MSL. Rate of ERCS was higher when indication of previous CS was failure to progress (p value = 0.0001). Patients who had NPOL in previous pregnancy, inter pregnancy interval is < 2 years (p value <.001) has decrease success rate of VBAC. The most common cause of failure of trial of labor was non-progress of labor (48%) patients having history of vaginal delivery after CS have more chances of successful VBAC in this pregnancy (60.7%) compared with women whose vaginal delivery was prior to caesarean delivery (39.3%). Present study shows that with increasing neonatal birth weight chance of successful trial of labor is reduced in more chances of babies to get admitted in NICU if delivered vaginally in cases of previous CS.
Keywords: VBAC delivery, Factors associated with VBAC, Trial of Labor in VBAC.

INTRODUCTION

Vaginal delivery after previous one cesarean section has been described by several authors as safe but predicting success of VBAC is a difficult task due to lack of a validated prediction tool [1,2]. The recent increase in total number of cesarean section has been caused by a steady increase in primary cesarean section and a persistent decrease in VBAC. In an effort to decrease the rate of cesarean section ACOG has recommended that most pregnant women with single previous LSCS be counseled about VBAC and be offered a trial of labor[3]. With the world wide rising trend of cesarean delivery, modern obstetric practice deals with a new group of mothers carrying reproductive performance upon a scarred uterus with obvious risk in feto-maternal outcome [4, 5].

Unlike cesarean section VBAC is associated with less blood loss during delivery, shorter duration of hospitalization, and decreased rate of blood transfusion, intrapartum and postpartum infection and thromboembolic events. Increase rate of VBAC would decrease economic burden of nations and individuals. The estimate of cesarean section rate in India was 7.1% in year 1998 and there is 16.7% change in the rate annually, which is one of the highest among the countries.

AIMS AND OBJECTIVES

- To study the factors associated with vaginal birth after one cesarean section.
- To evaluate fetal and maternal outcome in VBAC deliveries.

MATERIAL AND METHODS

Study area: Department of Obstetrics & Gynecology, Kamla Raja Hospital, Gajra Raja Medical College, Gwalior (M.P.)

Study period: November 2013 to October 2014.

Study design: Case control prospective study

Inclusion criteria:

- Previous 1 LSCS.
- No contraindication to trial of labor. (No obvious fetopelvic disproportion)
- Patient came with spontaneous labor.

Exclusion criteria:

- Contraindication to trial of labor. (Obvious fetopelvic disproportion)
- Any other uterine scar like myomectomy, hysterotomy.
- High risk pregnancy.

Sample size: 200 (including cases and control)

Case: Patient who delivered through cesarean section after trial of labor.

Control: Patient who delivered through vaginal route after trial of labor.

RESULT

Different factors responsible for successful VBAC were studied. The results were recorded, tabulated, statistically analysed using parameters like chi square test and t test.

- Maximum patients belonged to age group 25-30 years of age in the both groups. The difference in age group of >35years was statistically significant (p value 0.0001).

- Chance of successful VBAC was more if primary cesarean section was done for fetal malpresentation or fetal distress, in comparison with those in whom primary cesarean section done for non progress of labour(8% in cases and 30% in control, p value 0.0001) which is statistically significant.

- The percentage of VBAC was less if primary cesarean was done within 2years (only 13%)

- The majority of patients in both the groups belonged to gestational age between 37-40 completed weeks .but difference in gestational age >40weeks was statistically significant (p value 0.0001).

- In present study the most common cause of failed trial of labour was non progress of labour i.e. 48%.

Women who had a history of vaginal delivery is more likely to have a successful VBAC (61% patients in VBAC group had history of vaginal delivery whereas only 22% patients in ERCS group had such history).

Women who had a vaginal delivery following CS were significantly more likely to have a successful VBAC compared to those who had one prior to CS.

- It was observed that with increasing neonatal birth weight (>3kgs) chance of successful VBAC decreases.
- There were more NICU admissions in VBAC group (20%) as compared to ERCS group (17%).
- It was observed that the maternal complications were more in ERCS group.

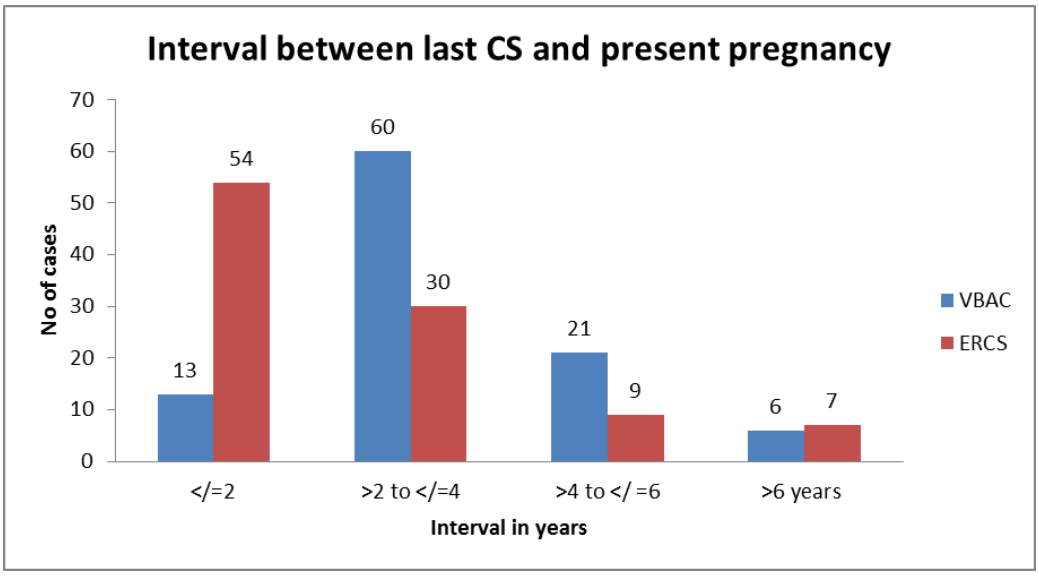

Fig-1: Interval between last CS and present pregnancy

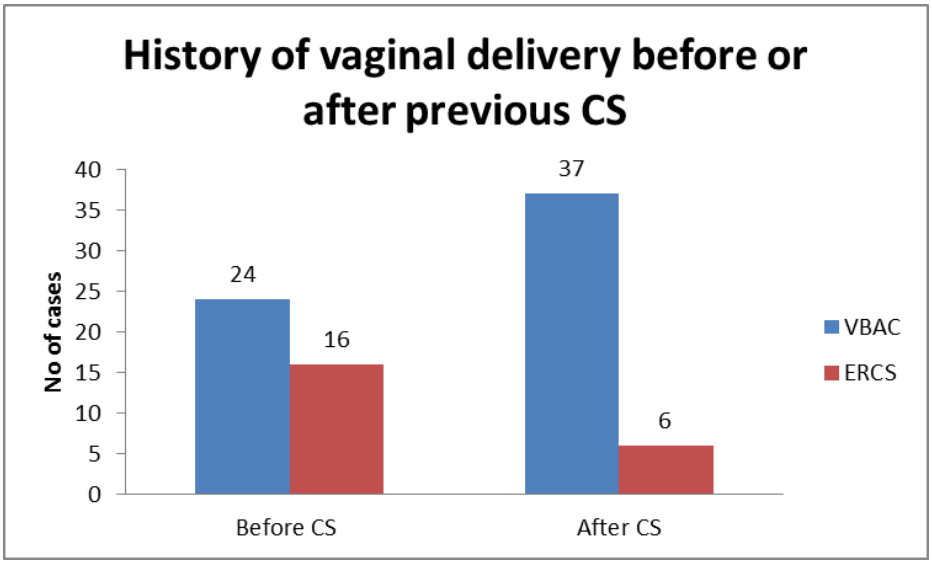

Fig-2: History of vaginal delivery before or after previous CS

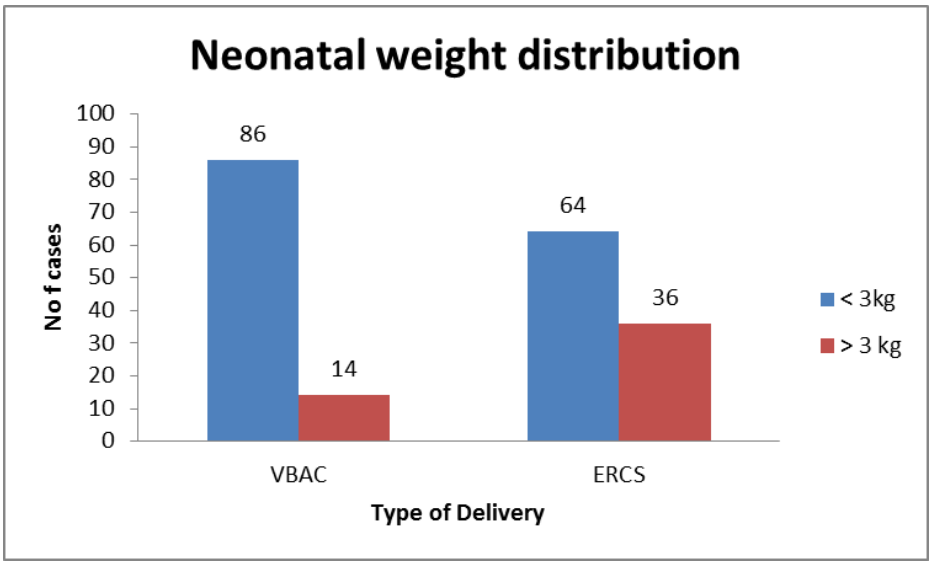

Fig-3: Neonatal weight distribution

DISCUSSION

In present study, success rate of VBAC in age group of > 35 years is small (p value = 0.001) which is statistically significant. This result is consistent with studies by Srinivas et al who concluded that women > 35 years of age were more likely to experience unsuccessful trial of labour(p value <.001). In present study rate of VBAC was higher if indication of previous CS included malpresentation and fetal distress and MSL. Rate of ERCS was higher when indication of previous CS was failure to progress (p value = 0.0001). This result is consistent with the study by Doshi et al who observed that in 42% and 15% of successful VBAC indication of primary CS was malpresentation and fetal distress respectively. This suggests non-recurrent indication of previous CS is associated with higher rate of successful VBAC [6].

Patients who had NPOL in previous pregnancy i.e. prolonged trial of labour has decrease success rate of VBAC. Present study demonstrated that success rate of VBAC is decreased if inter pregnancy interval is < 2 years (p value <.001). This result is consistent with study done by Doshi *et al.;* (p<.01) . Landon MB *et al.;* (2005) demonstrated that gestational age < 41 weeks (OR, 1.6; 95% CI, 1.5, 1.8) is a favorable intrapartum factor for successful VBAC. Present study is consistent with this study demonstrating that only 5% of patients in VABC group had gestational age > 40 weeks whereas 20% of patients in ERCS group had gestational age > 40%[7]. In present study the most common cause of failure of trial of labor was non-progress of labor (48%) which is not consistent with the studies done by Shah Jitesh and Vardhan Shakti *et al.;* in which fetal distress was most common

cause of failure of trial of labor (47.3% and 50% respectively).

In present study, patients having history of vaginal delivery after CS have more chances of successful VBAC in this pregnancy (60.7%) compared with women whose vaginal delivery was prior to caesarean delivery (39.3%). This is consistent with study done by Caughey AB et al and Doshi et al. Present study shows that with increasing neonatal birth weight chance of successful trial of labor is reduced[6,7]. This is consistent with study done by Doshi et al($p<.02$) whereas study done by Birara and Geberhiwot shows that there was no association between birth weight of baby and success of VBAC(CRUDE OR-1). In present study, data indicates that there are more chances of babies to get admitted in NICU if delivered vaginally in cases of previous CS. This is not consistent with the study done by Kamath BD et al (2009) which shows that neonates born by cesarean delivery had higher NICU admission rate compared with the VBAC group (9.3% compared with 4.9%, $p=0.025$)[8].

CONCLUSION

The present study concludes that factors responsible for successful VBAC are Maternal age less than 35 years, Non recurrent Indication of primary cesarean section, most commonly fetal mal presentation and fetal distress, Gestational age not more than 40 weeks, Birth weight <3kgs, History of vaginal birth before CS, History of vaginal birth after CS, Patient in spontaneous labor (which was inclusion criteria in this study).

In consideration of these factors, patients should be counseled for or against trial of labour. Also, vigilant and sufficient staff, use of partogram and presence of all emergency services should be available in the centre where trial of previous CS is opted.

REFERENCES

1. American College of Obstetricians and Gynecology. Guidelines for vaginal birth after a previous cesarean. ACOG Committee Opinion 64. Washington, DC: ACOG; 1988.
2. Society of Obstetricians and Gynecologists of Canada. Vaginal birth after previous Caesarean birth. Clinical Practice Guideline No. 68. Ottawa (ON): SOGC: December 1997.
3. Sachs BP, Kobelin C, Castro MA; The risk of lowering the cesarean delivery rate. N Engl J Med 1999; 340:54–7.
4. Farmer RM, Kirschbaum T, Potter D, Strong TH, Medearis AL; Uterine rupture during trial of labor after previous cesarean section. Am J ObstetGynecol 1991; 165(4):996-1001.
5. Leung AS, Leung EK, Paul RH; Uterine rupture after previouse cesarean delivery: maternal and fetal consequences. Am j Obstet Gynecol. 1993; 169(4):945-950.
6. Doshi HU, Jain RK, Vazirani AA; Prognostic factors for successful vaginal birth after cesarean section: Analysis of 162 cases. J ObstetGynaecol India 2010; 60:498-502.
7. Landon MB, Hauth JC, Leveno KJ, Spong CY, Leindecker S, Varner MW, et al.; Maternal and perinatal outcomes associated with a trial of labor after prior caesarean delivery. N Eng J Med (2004); 351(25):2581-2589.
8. Kamath BD, Todd JK, Glazner JE, Lezotte D, Lynch AM; Neonatal outcomes after elective cesarean delivery. Obstet Gynaecol. 2009; 113(6):1231-8.