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Original Research

A Retrospective study to evaluate Maternal and Fetal Outcome in Vaginal Birth after Caesarian Section

Jagdeep Kaur

Medical officer Gynaecology, Civil Hospital Mukerian, Punjab, India

***ABSTRACT*:**

Background: The rate of primary cesarean section (CS) is on the rise. More and more women report with a history of a previous CS. Present study aimed to evaluate the parameters related to maternal and fetal outcome in vaginal birth after Caesarian section. **Materials and Method:** Retrospective study was conducted on 100 postpartum women who delivered vaginally after previous Caesarian section in tertiary care hospital. Women with one previous LSCS were recruited for the study. In all cases (booked and unbooked), soon after admission, full history and abdominal and vaginal examinations are carried out in order to assess the size of the fetus, position and presentation of the fetus, cervical dilatation, status of the membrane, bishop score, and adequacy of maternal pelvis. **Results:** Out of 204 women with previous Caesarian section,169 were given trial of labour (82.84 %). Out of 169 women with previous LSCS who were given trial of labour, 100 women had successful vaginal births. Success rate of Vaginal birth after Caesarian Section was observed to be 59.17 %. Total no. of LSCS for failed trial of labour done in given study period was 69. In current study 1% of cases had uterine rupture. **Conclusion:** Vaginal Birth after Caesarian is a safe alternative if judicious selection of cases is made. Vaginal Birth after Caesarian should not be attempted in < 2 yrs of previous Caesarian.

Key words: Caesarian section, Vaginal birth, uterine rupture.

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Corresponding author: Dr. Jagdeep Kaur, Medical officer Gynaecology, Civil Hospital Mukerian, Punjab, India

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INTRODUCTION

Vaginal birth after cesarean section (VBAC) is one of the strategies developed to control the rising rate of cesarean sections (CSs). It is a trial of vaginal delivery in selected cases of a previous CS in a well-equipped hospital. In 1916, Cragin popularized the dictum, "once a caesarean section, always a caesarean section" Pregnant women with one previous CS are faced with two delivery options: vaginal birth after cesarean (VBAC) section or elective repeat CS. Rates of successful VBAC vary from one study to another. For instance, a large study in the USA (33,560 women) showed that women attempting a vaginal birth after a prior CS had around 73% of success rate.[1-3] VBAC section has less complications and faster recovery compared with CS. Conflicting data exist concerning the safety of induction of labor (IOL) in women with previous single lower segment CS (LSCS). The greatest impact of failed trial of VBAC is emergency CS.[3,4]

It is estimated that 60%-80% of women with c-section history can have vaginal delivery. In these cases, CS possibility should be considered if fetal heart rate decreases or lack of progress in labor. So, VBAC should be performed in equipped hospitals with the supervision of an obstetrician. Most women are not aware of the possibility of VBAC, or affected by factors like fears and anxiety about maternal and neonatal complication of VBAC. Therefore, this issue can be considered in perinatal education.[3-5]

CSs are associated with more blood loss, more risk of bladder and ureteral injuries, postpartum infections, pulmonary embolisms, and more risks of neonatal respiratory complications. In addition, multiple repeat CSs can lead to increased risk of maternal morbidity and mortality because of abnormal placental adherence and

cesarean hysterectomy, which increases with each subsequent CS. Such complications are difficult to manage and can cause significant consequences and even maternal death.[2-6]

In an attempt to reduce the rising CS rate and its complications, our practice is to counsel women with one CS regarding risk and benefit of VBAC. This current practice also accommodates the large family size in our area. With present techniques and skill, the incidence of cesarean scar rupture in subsequent pregnancies is very low. The strength of the uterine scar and its capacity to withstand the stress of subsequent pregnancy and labor cannot be completely assessed or guaranteed in advance. These cases require the assessment and supervision of a senior obstetrician during labor. VBAC is convenient in women want to have more children. Other advantages of VBAC include lower infection rate, shorter hospital admission duration and etc. VBAC main complication is uterine rupture (its rate is estimated lower than 1%) and other abdominopelvic organs damage. VBAC should be performed in women with previous transverse incision.[4-8]

The aim of the present study was to evaluate Maternal and Fetal Outcome in Vaginal Birth after Caesarian Section

MATERIAL & METHODS:

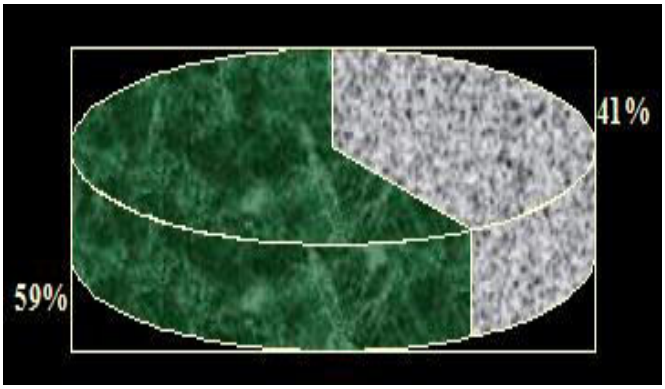
Retrospective study was conducted on 100 postpartum women who delivered vaginally after previous Caesarian section in tertiary care hospital. Women with one previous LSCS were recruited for the study. The following data were collected from patients' case notes: maternal age, gravidity, parity, gestational age, Prostin IOL (including number of doses), indication of IOL, use of syntocinone, type of rupture of membrane (spontaneous vs. artificial), and mode of delivery (spontaneous vaginal delivery, vacuum, CS for failure to progress or fetal distress). Maternal age was defined as completed years at time of delivery; women <18 years old and older than 48 years were excluded. Parity was defined as number of previous births of gestational age more than completed 20 weeks' gestation or birth weight >500 g at delivery.

Estimated gestational age was based on the last menstrual period and or routine ultrasound examination before completion of 20 gestational weeks. Patients with **t**wo or more Caesarian section, Classical Caesarian section, Non Vertex presentation or Twin pregnancy were excluded from study. In all cases (booked and unbooked), soon after admission, full history and abdominal and vaginal examinations are carried out in order to assess the size of the fetus, position and presentation of the fetus, cervical dilatation, status of the membrane, bishop score, and adequacy of maternal pelvis. Ultrasound examination of the fetus was done to determine the estimated fetal weight, site of the placenta, and amniotic fluid volume.

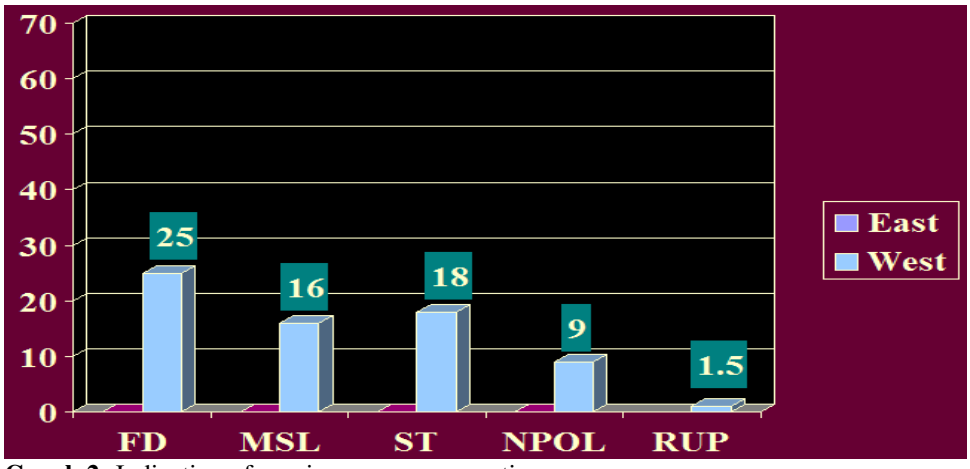
Results obtained were statistically analyzed using SPSS software 11.0. $P < 0.05$ was considered statistically significant difference.

RESULTS:

Out of 204 women with previous Caesarian section,169 were given trial of labour (82.84 **%) .** Out of 169 women with previous LSCS who were given trial of labour, 100 women had successful vaginal births. Success rate of Vaginal birth after Caesarian Section was observed to be 59.17 %. Total no. of LSCS for failed trial of labour done in given study period was 69.



Graph 1: Pie chart showing success and failure rate of vaginal birth after caesarean section



Graph 2: Indication of previous caesarean section

Table 1: Parameters related to previous pregnancy

1.	**Recurring Indication**	**9%**
2.	< 2 yrs from previous C.S.	15%
3.	Previous vaginal delivery	32%

Table 2: Parameters related to current pregnancy

1	**Induction of labour**	**15%**
2	**Postdated pregnancy**	**21%**
3	**Fetal weight > 3 kg**	**25%**

Table 3: Maternal Outcome

1.	**Instrumental delivery**	**1 %**
2.	**Postpartum Haemorrhage**	**1%**
3.	**Uterine Rupture**	**1%**

Table 4: Fetal Outcome

1.	**Meconium stained liquor**	**8%**
2.	Neonatal Nursery admission	2%
3.	Fresh Still Birth	0%

Tables 5: Various variables studied

S.no	VARIABLE STUDIED	p value
1	Rupture uterus & short interdelivery interval.	**<0.05**
2	Postdated pregnancy and Meconium stained liquor.	**<0.05**
3	Induction of labour, Previous vaginal delivery or Postdated pregnancy and rupture uterus.	**NS**

DISCUSSION:

With the significant rise in the incidence of primary CS for various indications, an increasing proportion of the pregnant women coming for antenatal care report with a history of a previous CS. These women belong to a high-risk group due to the risk of a scar rupture. The obstetrician is always in a dilemma regarding the mode of delivery in these cases. Assessment of the individual case with regard to the possibility of a successful VBAC is necessary while taking the decision. The unending dilemma of an obstetrician is about the management of subsequent labor, once the patient has a scar on the uterus. Some suggest an elective CS for such cases, whereas others choose a trial of labor. Many take a middle route, that is, individualization of case. By far, the greatest problem for the attendant in subsequent labor is the integrity of the uterine scar. Uterine rupture has the potential for causing serious harm to the pregnant woman as well as the baby. This is the most important risk to be noted, but the advantage which the vaginal delivery imparts largely outweighs the risks associated with a repeat CS.[2-7]

Previous studies have indicated success rates ranging from 60% to 80%. In present study success rate of Vaginal birth after Caesarian Section was observed to be 59.17 % (Graph 1). This is near to results observed by Melamed[7] i.e 61% successful VBAC. This low rate might occur due to previous CS causes, it seems that VBAC is more difficult and impossible in cases with a history of lack of progress. The main causes of VBAC failure were lack of progress (71%) and fetal distress (29%). Melamed showed that lack of progress is associated with unsuccessful VBA. Knight success rate was 63%, and this lower rate happened because of higher birth weight.[8]

In current study 1% of cases had uterine rupture (Table 3) where as in other study reported by Ramirez, uterine rupture frequency was 2.4%, and most cases occurred after induction.[9] It seems that selecting women for VBAC is very important, and the risk of life threatening complications of VBAC can be reduce with appropriate criteria (such as previous transverse incision, not using induction for delivery, noting the interval from the previous CS). Some studies proposed that 18 months interval between previous CS and VBAC are adequate. Bangal showed that uterine rupture happened in women attempted to have VBAC before 2 years interval from previous C-section.[10]

Women with one previous CS who undergo IOL have lower success rates of vaginal delivery compared to those who presented in spontaneous labor. In present study 15% cases had previous C.S. and 32% had previous vaginal delivery.

We further found that CS rate was also higher in the induced group compared to the spontaneous onset group. Son *et al*.[11] reported that in the setting of a trial of labor after cesarean delivery in the second stage with a fetal station of at least +2, attempted operative vaginal delivery resulted in a VBAC delivery in most women and was not associated with increased adverse maternal and neonatal outcomes but was associated with a reduced frequency of endometritis compared with repeat cesarean delivery without operative vaginal delivery attempt

We conclude from previously mentioned studies that women who have had a CS should strongly consider vaginal delivery for subsequent pregnancies to avoid the complications of multiple repeat CSs.

CONCLUSION:

Vaginal Birth after Caesarian is a safe alternative if judicious selection of cases is made. Vaginal Birth after Caesarian should not be attempted in < 2 yrs of previous Caesarian.

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