

## Original Article

# VAGINAL BIRTH AFTER ONE PREVIOUS CAESAREAN SECTION (VBAC)

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**Objective:** To determine feto-maternal outcome and mode of delivery following one previous caesarean section.

**Material & Methods:** This descriptive study was conducted in department of Obstetrics & Gynaecology Unit-I Services Hospital, Lahore from June 2008 to June 2009. All patients with one previous caesarean section due to non-recurrent causes with spontaneous onset of labour at term were included in this study. Detailed clinical examination including abdominal and pelvic examination and ultrasound for fetal well being and placental localization were done. Progress of labour was monitored through Partogram. Fetal monitoring was done by auscultation and CTG.

**Results:** Among 200 patients included in this study 66.5% had vaginal delivery while 33.5% had repeat caesarean section. Four scar dehiscence and one uterine rupture that was successfully repaired were noted. Common indications for repeat CS were failed progress and fetal distress.

**Conclusion:** A trial of scar may be given in all pregnant women with previous caesarean section except those with absolute contraindications. A woman with one previous caesarean section delivery with low transverse incision should be counseled and encouraged to attempt labour in her current pregnancy in hospital with 24 hours facilities of operation theater and blood transfusion services.

**Keywords:** VBAC, Previous Caesarean Section, Fetal outcome.

## Introduction

Vaginal birth after one previous caesarean section represents one of the most significant and challenging issues in obstetric practice. The increasing incidence of caesarean section over the last two to three decades has put negative impact on maternal health and obstetrical care.<sup>1</sup>

American College of Obstetricians & Gynaecologists recently updated their opinion on VBAC and stated that VBAC is safer than repeat caesarean section. A woman can attempt to deliver vaginally provided that there are no absolute medical and obstetrical reasons which make it difficult. They discourage the use of prostaglandins when inducing labour among women attempting VBAC.<sup>2</sup>

Uterine rupture is a fear among women with previous caesarean section but most of this fear dates back to when classical uterine incision was used. Now-a-days transverse incision in lower uterine segment is used which is a stretchy and fibrous part of the uterus so that there are fewer chances of rupture and haemorrhage.<sup>3</sup> Patient with prior caesarean delivery needs special management both antenatal and in labour and delivery. We know that many women can safely and successfully have a vaginal birth after caesarean delivery. Current medical evidence indicates that 60-80% of women

can achieve a vaginal delivery following a previous lower uterine segment caesarean delivery.<sup>4</sup>

The decrease in women with previous caesarean section undergoing trial of labour reflects patient choice as much as obstetrician's decision. The way in which a woman is counseled will influence this choice. If doctor has no objection to a repeat caesarean section and informed the woman that her chances of a repeat operation is around 30%,<sup>5</sup> the woman herself would be influenced by this. Evidence suggests that there is significantly greater morbidity associated with a trial of labour, compared with an elective caesarean section which will further affect the decision.<sup>6</sup> Thus proper counseling (for trial of labour) and evaluation of the cases of women with prior caesarean section has been considered a key method of reducing the caesarean section rate.

In developing countries like Pakistan it is better to give trial of labour in patients who do not have absolute contraindications for vaginal delivery. The policy of 'once a caesarean always a caesarean section' must be abandoned and replaced by 'once a caesarean section always a hospital delivery'.<sup>1</sup> We conducted this study to assess the usefulness of trial of scar in case of one previous caesarean and know the frequency of vaginal delivery after caesarean section and the frequency of repeat caesarean section.

## Material and Methods

The study was carried out in the department of Obstetrics & Gynaecology Unit-I of Services Hospital Lahore from June 2008 to June 2009. It was a descriptive study in which 200 patients were studied. Convenient sampling technique was adapted as all patients who had been admitted either through OPD or emergency were included in the study. Patients who had any contraindication to vaginal delivery or had medical disease complicating the pregnancy were excluded from the study.

The data was collected with the help of proforma which was filled for every patient admitted to labour ward with previous one caesarean section due to non recurrent causes and spontaneous onset of labour at term. This proforma included all points relevant to study and included complete history of the patients regarding age, parity, obstetrics, gynaecological, previous surgical and medical history.

General physical examination and systemic examination was done. Abdominal examination included fundal height, lie of fetus, presentation and auscultation of fetal heart sounds. Vaginal examination was done to assess Bishop score. Investigations included CTG and ultrasonography for biophysical profile and fetal kick count chart. A partographic record of the progress of labour was maintained. In case of failed trial of labour the cause was carefully looked into. SPSS version 14 was used for statistical analysis.

## Results

During the study period, 200 patients with one previous caesarean section and spontaneous onset of labour were given trial of labour. 133 (66.5%) delivered vaginally and in 67 (33.5%) repeat caesarean section had to be done (**Table-I**).

Out of 133 who delivered vaginally, 101 (75.9%) had spontaneous vaginal delivery. Ventouse delivery was done in 19 (14.28%) patients and outlet forceps were applied in 13 (9.77%).

Out of 67 in whom trial of labour failed, 33 (49.2%) had repeat caesarean section due to failed progress, in 21 (31.34%) cause was fetal distress and in 13 (19.40%) scar tenderness & maternal tachycardia (**Table-II**).

In 4 patients scar dehiscence occurred but emergency caesarean efforts were fruitful for mother as well as newborn.

There was one case of uterine rupture which was

paid with loss of a baby but in time rescue caesarean

**Table-1:** Mode of Delivery.

Mode of Delivery	Patients	Percentage
Vaginal Delivery	133	66.5%
Abdominal Delivery	67	33.5%
Total	200	100%

**Table-2:** Causes of failed trial of labour.

Mode of Delivery	Patients	Percentage
Fetal Distress	21	31.34%
Failed progress	33	49.2%
Scar tenderness	13	19.40%
Total	67	100%

**Table-3:** Maternal outcome.

Maternal Morbidity	Patients	Percentage
Gapped Episiotomy	03	1.5%
Wound Infection	10	5%
PPH	06	3%
Scar Dehiscence	04	2%
Uterine Rupture	01	0.5%
Bladder injury	01	0.5%
Maternal Mortality	-	-

**Table-4:** Fetal outcome.

	Patients	Percentage
Nursery Admission	13	6.5%
Still Birth	01	0.5%
Early Neonatal death	04	2%

**Table-5:** Inter pregnancy interval

Duration		Percentage
Less than 1 year	27	13.5%
1 to 2 years	109	54.5%
More than 2 year	64	32%

## discussion

The dictum 'once a caesarean delivery always caesarean no longer holds true. Several studies suggest that in women with previous caesarean section

for a non recurrent cause, trial of labour is safer than elective repeat caesarean section.<sup>6</sup> This study also demonstrates that trial of scar is possible in carefully selected patients with non recurrent indications for previous LSCS. There are some absolute contraindications to allowing an attempt at vaginal delivery such as classical scar, previous rupture uterus, cephalopelvic disproportion (CPD) and malpresentations in current pregnancy.

A non recurrent indication for previous caesarean section, such as breech or fetal distress is associated with much higher successful VBAC rate than recurrent indications such as CPD. Prior vaginal deliveries are excellent prognostic indicator of successful VBAC. Diabetes and obesity adversely affect VBAC.<sup>7</sup>

The rate of normal delivery after previous caesarean section was 66.5% in our study. This is comparable to most of the studies, which indicate 60-80% of woman can achieve a normal vaginal delivery following a previous LSCS.<sup>4,8,9</sup> A study by Birgisdottir BT et al also showed 61% success in VBAC with uterine rupture 1%; so VBAC is a safe option for women with history of one previous caesarean section.<sup>4</sup>

Caesarean section rate generally is quite high because of recent trends of discouraging or not offering women a choice to labour after a caesarean. There are many reasons but the foremost is fear of litigations and very low morbidity and mortality from caesarean section.<sup>5</sup> Once a caesarean section is carried out, there is always a possibility of another one in the subsequent pregnancies. Vaginal birth carries some direct risks such as vaginal and perineal laceration, trauma to anal sphincter and mucosa and significant maternal morbidity in the context of attempted VBAC are emergency caesarean delivery and uterine rupture.<sup>10</sup> But overall women attempting VBAC have decreased rates of febrile morbidity, blood transfusion and venous thromboembolism compared with elective repeat caesarean section.<sup>11</sup>

On the other hand repeat caesarean delivery has major long term effects on the outcome of future pregnancies like previous caesarean delivery is associated with increased risk of placental abruption in future pregnancies. Multiple caesarean deliveries are also associated with an increased risk of previa and morbid adherence of placenta.<sup>12,13</sup> A population based seven year study (1992-1998) revealed caesarean

section to be associated with four fold increased risk of maternal death. Caesarean deliveries do increase maternal morbidity.<sup>14</sup>

Women are influenced by external and internal factors in their decision to choose vaginal birth after caesarean section and should be encouraged by health care providers. Also in randomized controlled trial to determine the effect of decision and for mode of delivery among women with previous caesarean section, the rate of vaginal birth was higher for women in decision analysis group compared with usual care group.<sup>15</sup> Study carried out by Durnwald C concludes that favorable initial pelvic examination, spontaneous labour and lack of oxytocin use are associated with successful VBAC in women with single prior low transverse caesarean section.<sup>16</sup> A review of patients in our study also shows that success rate of VBAC was significantly high in those who had previous caesarean section for non recurrent cause, spontaneous onset of labour and favourable Bishop score, similar to Durnwald C study.

The high morbidity and mortality associated with uterine rupture makes it quite an undesirable complication.<sup>17</sup> Women with prior successful VBAC attempts are at low risk for maternal and neonatal complications during subsequent VBAC attempts. Increasing number of prior VBAC is associated with a greater probability of VBAC success as well as a low risk of uterine rupture and prenatal complications in current pregnancy. The rate of uterine rupture decreased after the first successful VBAC and did not increase thereafter. The risk of uterine dehiscence and other peripartum complications also declined statistically after the first successful VBAC.<sup>18</sup>

In our study incidence of uterine rupture is 0.5% (in one patient). This matches with worldwide studies generally in the range of 0.5-1.0%.<sup>4,19,20</sup> For a woman with prior uterine scar, neither repeat elective caesarean section nor VBAC is risk free. When VBAC is successful, morbidity is less than repeat caesarean section but when it fails serious consequences occur in case of rupture.<sup>6</sup>

A study in Ohio by Yapow also showed VBAC rate of 65.3%. During study they identified 21 cases of uterine rupture or scar dehiscence. Their data confirms the relatively small risk of uterine rupture during vaginal birth after caesarean that has been demonstrated in previous studies. In an institution that has in house obstetrics, anesthesia and surgical staff in which close monitoring of fetal and maternal well being is available, uterine rupture does not result in major morbidity and mortality or in neonatal mortality.<sup>21</sup>

The study revealed 12.5% of maternal morbidity especially wound infection observed in patients

delivered by emergency repeat cesarean section similar to study of Hibbard Ju. His study showed that patients who experience failed vaginal birth after caesarean have higher risks of uterine rupture and infectious morbidity compared with patients who have successful vaginal birth after caesarean or elective repeat caesarean delivery.<sup>22</sup> As actual numbers of morbid events are small, caution should be exercised in interpreting results and counseling of patients. More accurate predictions for safe successful vaginal birth after caesarean delivery are needed.

## Conclusion

There is no doubt that maternal morbidity is

increased dramatically in cesarean compared with vaginal delivery. Proper counseling for trial of labour, intensive antenatal surveillance and careful observation throughout labour in well equipped unit is required. In this way growing rate of cesarean section may be reduced.

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