Vaginal birth after caesarean section at Liaquat National Hospital

Aisha Taj, Salma Batool Naqvi, Tahira Yasmeen

Abstract:
Objective: The objective of this study was to evaluate the safety and success of vaginal birth after caesarean section.
Design: cross sectional study.
Place of study: This study was conducted in the department of Obstetrics and gynaecology of Liaquat national hospital.
Duration of study: 2008-2010.
Patients and methods: 123 women meeting the inclusion criteria were included in the study. Patients were monitored during labour for tachycardia, scar tenderness; vaginal bleeding. Fetal monitoring was done by CTG. Progress of labour was monitored by partograph.
Results: 123 women with previous one caesarean section underwent trial of labour, 86 (70%) women had successful vaginal birth after caesarean section, and 37 (30%) women had repeat emergency caesarean section. Scar dehiscence was suspected in 4 (11%) women; on caesarean section scar dehiscence was confirmed in 3 women. None of the women died or underwent hysterectomy. No perinatal mortality occurred.
Conclusion: There is emerging evidence of serious harms relating to multiple caesarean section. VBAC is a reasonable and safe choice for the majority of women with prior cesarean delivery.

Keywords: Vaginal birth after caesarean section, Trial of labour after caesarean section, Maternal Morbidity, Emergency caesarean section.

Introduction:
Once a caesarean, always a caesarean\(^1\) was the dominated obstetrical practice for many centuries. But as vaginal birth after caesarean section (VBAC) grew in popularity, the pendulum began to swing away from routine caesarean section.

Caesarean section is not always a safe option, especially in countries like ours, this is mainly because of tendency towards large families, failure to seek antenatal care, attempts of delivery at home, and seeking hospital intervention only when labour is complicated by injudicious use of oxytocin and delivery is not forthcoming leading to high maternal morbidity and mortality. The risk of repeat caesarean section in such cases further adds its own morbidity and mortality. As the number of caesarean births for each individual woman increases, so does the difficulty in performing surgery due to adhesions and the risk of damage to the viscera (bladder or bowel) at the time of surgery.\(^2\) There may also be difficulties in conceiving a further child and the development of placenta praevia or placenta accreta in subsequent pregnancies,\(^3\) and chronic pain from adhesions later in life.\(^4\)

Criteria for selecting candidates for VBAC includes the following: (1) one previous low-transverse caesarean delivery; (2) clinically adequate pelvis; (3) no other uterine scars or previous rupture; (4) a physician immediately available throughout active labor who is capable...
of monitoring labor and performing an emergency caesarean delivery; and (5) the availability of anesthesia and personnel for emergency caesarean delivery.5

Material and Methods:
This study was conducted in the obstetric department of Liaquat national hospital from 2008 to 2010. Liaquat national hospital has an open door policy where all pregnant women booked and unbooked are seen and managed. Women who received antenatal care in hospital are regarded as booked and those who come to deliver only are classified as unbooked. Both booked and unbooked women were enrolled in this study. Only one previous scar, term pregnancy, low transverse uterine scar, single fetus with cephalic presentation was declared eligible for trial of scar. All booked patients meeting the eligibility criteria were counseled for success rate of VBAC and the pros and cons of trial of labour. Unbooked cases were thoroughly assessed in the labour room for the indication of their previous caesarean delivery.

Exclusion criteria for the vaginal birth after caesarean section were classical caesarean section, more than one previous scar, malpresentation, multiple pregnancy, IUGR, pregnancy with medical disorder and declined consent for VBAC.

Informed consent for VABC was taken after admission to labour ward, one pint of blood was cross matched, if bishop score not favorable induction was done by prostaglandin E 2, progress of labour was recorded on partograph, continuous electronic fetal heart monitoring was done, epidural analgesia was given where women requested for, oxytocin infusion used where uterine contractions were not adequate. Throughout the trial of scar patient was assessed for vital signs, scar tenderness, vaginal bleeding and acute fetal distress. At any stage during the trial if the life of mother or fetus endangers emergency caesarean was performed.

Results:
Maximum number of patients were between the 29-32 years of age.

There were 123 cases which were selected for trial of labour after caesarean (TOLAC) 86 cases of 123 were delivered vaginally, giving rise to success rate of VBAC to 70%. 37 cases required emergency caesarean section. 100 patients (81%) had spontaneous onset of labour, while 23 (19%) required induction of labour.

Oxytocin was used in patients deemed to have an inadequate labour pattern or for those where induction of labour was required. Spontaneous delivery occurred in 80 patients while 6 patients required instrumental delivery.

37 patients (30%) required emergency repeat caesarean section. the indications for emergency caesarean section are shown in the table 1.

There were 4 cases of suspected scar dehiscence, two were booked and two were unbooked cases. All of these patients had scar tenderness on abdominal examination and one had vaginal bleeding, on caesarean section scar dehiscence
was confirmed in three patients from the area of previous scar. None of the four cases resulted in maternal death, peripartum hysterectomy, and serious maternal morbidity. Two patients required blood transfusions (range 2-4). Two babies required NICU admission due to low Apgar scores, no perinatal mortality occurred.

Ninety six percent of the infants born to patients who underwent trial of labour had Apgar score of more than 8 while four percent of infants born with Apgar score of less than 8. Three of the infants required NICU admission. No perinatal mortality occurred.

Discussion:
Royal College of obstetricians and Gynaecologists states, the chances of successful planned VBAC are 72-76%. Vaginal birth after caesarean section (VBAC) has become more common as risks to mother and infant have been reduced. Evidence based medicine has established that VBAC is safe with success rate between 60-80%. The success rate of vaginal delivery after caesarean section in our study was 70% comparable to reported rates of 70% in a 2003 literature review of 142,075 trial of labour. More recent studies show success rates of 73.4% from a multicenter prospective study from USA, 74.2% from a Scottish national database study, 77.8% from an Irish study and 76.8% from a Qatari study.

Planned VBAC should be conducted in a suitably staffed and equipped delivery suite, with continuous intrapartum care and monitoring, and available resources for immediate caesarean section and neonatal resuscitation. Our hospital is a teaching hospital, all the time there are trainee obstetricians, neonatologist and anesthetist and all of them are supervised by resident senior registrar, this specialized care led to the high rates of VBAC, low risk of rupture and even if the dehiscence occurred major complication were few. About 33% of the patients requested for epidural analgesia, concerns that epidural analgesia might mask the signs and symptoms associated with uterine rupture have not been proven. In fact, epidural analgesia leads to comparable; if not better, rates of successful VBAC compared to those women not receiving epidural analgesia. In study of Landon et al, VBAC success rates were higher among women receiving epidural analgesia than those not receiving epidural analgesia (73.4% vs. 50.4%). Instrumental delivery was high in epidural group. Most of the patient delivering vaginally had unassisted vaginal deliveries.

Induction of labour was done with prostaglandin E 2 in 19% of the patients. According to ACOG guidelines in 2010 induction of labour with TOLAC is not contraindicated. In our study out of 4 patients who went for emergency caesarean section due to suspected scar dehiscence 2 were induced with prostaglandin E 2. Uterine rupture rates in those in which labour induction was accomplished with dinoprostone (prostaglandin E2) than other methods are (1.1% versus 0.6%, p=.62). It is recommended that all VBAC patients using a prostaglandin E2 vaginal insert be closely monitored for evidence of uterine rupture. In our study the risk of uterine ruptured in induced labour was similar to the risk in spontaneous onset of labour.

Oxytocin is a double edged weapon to be used with caution. Careful use of oxytocin has rarely been linked to uterine rupture in augmenting slow labour. Maximum dose of 20mu/min is recommended in VBAC trials to avoid uterine rupture. Oxytocin doses ranges above 20 mu/min increased the risk of uterine rupture 4- folds or greater (21-30mu/min: hazard ration [HR] 3.92, 95% CI: 1.06-14.52; 31-40 mu/min HR 4.75, 95% CI, 1.00-20.82). A partogram may be helpful in assessing this risk and in actively labouring women who cross the partographic “alert” line are at increased risk of uterine rup-

---

Table 1: Indications for repeat emergency caesarean sections after trial of labour (n=37)

<table>
<thead>
<tr>
<th>Indications</th>
<th>No. of Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fetal distress</td>
<td>18 (49%)</td>
</tr>
<tr>
<td>Non progress of labour</td>
<td>13 (35%)</td>
</tr>
<tr>
<td>Suspected scar dehiscence</td>
<td>4 (11%)</td>
</tr>
<tr>
<td>Failed induction</td>
<td>2 (5%)</td>
</tr>
</tbody>
</table>

---
ture.²² we found careful oxytocin use helpful in expediting slow labour.

In our study perinatal outcome was also encouraging as 96% of the infants born with apgar score of more than 8, with no major neonatal morbidity and mortality. Neonatal respiratory morbidities among term infants delivered vaginally are less than those who delivered by caesarean section. The recent literature on VBAC₂³ has focused on increased risks of neonatal morbidity associated with the trial of labour and mortality related to uterine rupture but we were not able to evaluate any significant morbidity rise in our hospital.

Conclusion:
It is concluded from this study that TOLAC is a desirable option as 70% of the patients had VBAC which is similar to that reported in developed countries. In properly selected patients, a trial of labour after previous caesarean delivery constitutes the best and safest form of modern obstetric management. Uterine rupture is a dreaded event which can be prevented by careful selection of the patients, continuous maternal and fetal monitoring. Maternal satisfaction was high is VBAC group because of the minimal pain post-delivery, early mobilization, shorter hospital stay decreasing the financial burden and earlier and easier maternal and fetal bonding.

References: