Original Research Article

Outcome of trial of labor and scar in patients with previous caesarean section

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Abstract

Background: Rate of primary caesarean section have increased dramatically since the 1980s. Consequently, an increasing proportion of pregnant women attending for care have had a previous caesarean section and face the question of mode of delivery **Aims and Objectives :** To study Outcome of trial of labor and scar in patients with previous Caesarean section. **Methodology:** This was retrospective study of 156 cases of previous cesarean birth was conducted at Indian Institute of medical science and research, warudi, jalna from May 2015 to April 2016. Patients with Previous cesarean birth, previous one caesarean section for non-recurrent indication, Singleton fetus with Cephalic presentation were included into study while Post-datism with unfavorable cervix, Malpresentation, Pregnancy with PIH, Fetal distress, Clinical CPD, Bad obstetric history, IUGR, Previous two or more cesarean birth were excluded from the study. The details of the patients like morbidity, mean hospital stay, Perinatal mortality and Morbidity was retrieved. **Result:** Trial of scar was given in 85 patients, out of which 40% delivered, 51(60%) required repeat caesarean section. Out of 156 patients, 71(45.5%) cases were taken up for repeat caesarean section without trial of scar. Failed trial of scar in 16 study cases, required repeat LSCS in view of scar dehiscence or scar tenderness. Intraoperative dehiscence: 3.2%, Scar rupture: 0.64%. 31.25% patients had intra operative dehiscence on whom repeat caesarean section performed with provisional diagnosis of scar dehiscence. **Conclusion:** It can be concluded from our study that trial of labour after caesarean (TOLAC) in selected cases has great importance in the present era of the rising rate of primary caesarean section.

Key Words: Vaginal Birth After Caesarean (VBAC), Lower segment Caesarean Section (LSCS), Trial of labour after caesarean (TOLAC}.

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INTRODUCTION

Rate of primary caesarean section have increased dramatically since the 1980s. Consequently, an increasing proportion of pregnant women attending for care have had a previous caesarean section and face the question of mode of delivery. In the first half of the 20th century, if patients had one caesarean section, then subsequent pregnancies were likely to be delivered in the same way. However, current medical evidence indicates that 60–80% of women can achieve vaginal delivery after a previous lower segment caesarean section. There is a generalized consensus that planned vaginal birth after caesarean (VBAC) is a clinically safe choice for the majority of women with single previous lower transverse caesarean section. Such a strategy is also supported by health economic modelling and would also at least limit any escalations of the caesarean section rate.[1] In comparing elective repeat caesarean section (ERCS) with VBAC it is clear that the main maternal morbidity is encountered by women who need an emergency caesarean section for a failed VBAC. It is therefore vital that when discussing management with a patient, the individual risks and benefits must be considered. The incidence of uterine rupture with VBAC in a mother who has had a low transverse incision is approximately 0.2–0.5%. Unsuccessful VBAC had the highest rupture rates of 2.3%.[2] The Royal College of Gynaecology and Obstetrics (RCOG) Green Top Guidelines suggests that

women know that the risk of rupture is 22–74/10,000 compared to almost no risk for elective repeat caesarean section.[3]

MATERIAL AND METHODS

This was retrospective study of 156 cases of previous cesarean birth was conducted at Indian Institute of medical science and research, warudi,jalna from. May 2015 to April 2016. Patients with Previous cesarean birth, previous one caesarean section for non-recurrent indication, Singleton fetus with Cephalic presentation were included into study while Post-datism with unfavorable cervix, Malpresentation, Pregnancy with PIH, Fetal distress, Clinical CPD, Bad obstetric history, IUGR, Previous two or more cesarean birth were excluded from the study. The details of the patients like morbidity, mean hospital stay, Perinatal mortality and Morbidity was retrieved.

RESULT

Table 1: Mode of Delivery

No. Cases	Vaginally	Instrumental	Cesarean Birth
156	31	3	122
Percentage	19.9%	1.9%	78.21%

Mode of delivery in present series, of total 156 post caesarean pregnancy patients, 19.9% delivered vaginally 1.9% by instrumental delivery but 78.21% required repeat caesarean section.

Table 2: Trial of Scar and Outcome

Trial	No. Cases	Vaginal delivery	Percentage	Repeat Cesarean birth	Percentage
Given	85	34	40%	51	60%
Not given	71-	-	-	71	45.5%

Trial of scar and labor, trial of scar was given in 85 patients, out of which 40% delivered, 51 (60%) required repeat caesarean section. Out of 156 patients, 71(45.5%) cases were taken up for repeat caesarean section without trial of scar. Failed trial of scar in 16 study cases, required repeat LSCS in view of scar dehiscence or scar tenderness.

Table 3: Relation of Scar Thickness and Mode of Delivery and intraoperative Findings

Scar thickness	No. Cases	Repeat LSCS	Intraoperative Dehiscence	Rupture	Vaginal Delivery
<5mm	3	3	1	-	-
>5mm	8	7	-	-	1
Not done	145	112	4	1	33
Total	**156**	**122**	**5**	**1**	**34**

Intraoperative dehiscence: 3.2% Scar rupture: 0.64%

Table 4: Impending Scar Dehiscence and Scar Tenderness as indication for repeat LSCS: Intraoperative Findings

No. patients	Intraoperative dehiscence	Percentage
16	5	31.25%

31.25% patients had intra operative dehiscence on whom repeat caesarean section performed with provisional diagnosis of scar dehiscence.

DISCUSSION

The American college of obstetricians and gynaecologists (ACOG) updated their guidelines concerning vaginal delivery after previous caesarean section. The ACOG committee on obstetrics: Maternal and Foetal Medicine stated; “The concept of routine repeat caesarean birth should be replaced by a specific indication for a subsequent abdominal delivery and in the absence of a contraindication, a women with previous one caesarean delivery with a low transverse incision should be counselled and encouraged to attempt labour in her current pregnancy”.[4,5] Enthusiasm for vaginal birth after caesarean section has waned. As a result, the caesarean birth rate is again on the rise. There is now a large obstetric population with caesarean sections and most of these have been done for non-recurrent conditions. In developing countries such as Pakistan, the parity is high and restriction of family size is not generally accepted due to social, religious or psychological beliefs. Therefore, in Pakistan, the overall rate of caesarean section should be reduced by a sound indication for the first caesarean section and then encouragement for vaginal birth after a caesarean section to reduce operative morbidity and mortality[1]. Current obstetric opinion is that the lower segment caesarean section is not a contraindication for the use of oxytocin for induction and augmentation of labor, however, the role of prostaglandin is controversial. To determine the impact of labor induction on both the success and safety of a trial of labor in women who were candidates for VBAC, a prospective observational analytical study was conducted at the Medical University of South Carolina. The vaginal delivery rate was significantly higher (77.1% vs. 57.9%) in the spontaneous labor group compared with the induced labor group. Uterine scar separation occurred more frequently in the induced labor group (7%) than in elective repeat caesarean group (1.5%). The study concluded that induction of labor in women attempting vaginal birth after caesarean is associated with a significantly reduced rate of successful vaginal delivery and an increased risk of serious maternal morbidity [5,6]. The risk of major maternal complications has been reported to be almost twice as likely in women who underwent a trial of labor than in women who chose an elective repeat caesarean section. Rageth *et al* disclosed

an elevated risk of uterine rupture in patients who had a history of caesarean delivery and were undergoing a trial of labor versus elective repeat caesarean[7]. In the literature to date, the overall risk of uterine rupture for women undergoing a trial of labor after caesarean delivery has been reported to be between 0.2% and 0.1%. Naef *et al* retrospectively reviewed the delivery outcomes of 262 women with lower vertical uterine incisions over a 10-year period. Fifty-four percent experienced a trial of labor with 83% having a successful vaginal delivery rate. The uterine rupture rate was 1.1% (2/174) in the trial of labor group versus nil in the elective repeat caesarean group. No serious adverse sequelae were observed following uterine rupture [9]. In 2001, Lydon-Rochelle *et al* demonstrated a 3-fold increase in the risk for uterine rupture when comparing patients induced with prostaglandins to those induced with oxytocin [10]. Stone *et al* studied 89 women with one previous caesarean section using 2 mg intracervical prostaglandin E_2 gel and reported a 66% vaginal delivery rate and a 2% uterine scar dehiscence rate (all asymptomatic)[11]. Del Valle *et al* in a retrospective series also did not report any major maternal or perinatal complication[12]. Norman and Ekman applied 0.5 mg prostaglandin E_2 gel intracervically, achieving a 63% vaginal delivery rate with no cases of uterine rupture [13]. Use of prostaglandin for women with one previous caesarean section is controversial; concern has been expressed regarding the safety of these agents in a scarred uterus for fear of increased risk of uterine rupture. Several small series have been published investigating prostaglandin E_2(administered either vaginally or intracervically) for cervical ripening in women with prior caesarean section. Blanco *et al* assessed 25 women with low Bishop scores who received 1mg of prostaglandin E_2 gel intracervically. The vaginal delivery rate was 72% and no major complications were reported [14]. In 1998, Wing *et al* reported a case study of 17 patients who were induced with misoprostol, in which 2 uterine ruptures occurred. These findings have led to the decreased use of prostaglandins for induction, particularly misoprostol [15]. Recent reports on the use of misoprostol (Cytotec) in patients with a uterine scar suggest that there may be a much greater risk associated with induction in these women than has been previously observed. The study performed by Rageth *et al* [16] noted that complications, namely maternal febrile episodes, thromboembolic events, bleeding due to placenta previa, uterine rupture and perinatal mortality, were significantly frequent in the previous caesarean group. The post-caesarean group also showed a 0.28% rate of peripartum hysterectomy. Although the rates of uterine rupture and neonatal asphyxia were slightly higher in women who attempted a VBAC than in women who underwent an elective caesarean section, obstetricians should offer the option of a trial of labor since more than one-half of the women with a previous caesarean delivery might have successful vaginal deliveries. In addition, the VBAC-related maternal mortality rate does not reportedly differ between women undergoing a trial of labor and women undergoing an elective repeat caesarean section[17]. In our study we have seen that trial of scar was given in 85 patients, out of which 40% delivered, 51 (60%) required repeat caesarean section. Out of 156 patients, 71 (45.5%) cases were taken up for repeat caesarean section without trial of scar. Failed trial of scar in 16 study cases, required repeat LSCS in view of scar dehiscence or scar tenderness. Intraoperative dehiscence: 3.2%, Scar rupture: 0.64%. 31.25% patients had intra operative dehiscence on whom repeat caesarean section performed with provisional diagnosis of scar dehiscence.

CONCLUSION

It can be concluded from our study that trial of labour after caesarean (TOLAC) in selected cases has great importance in the present era of the rising rate of primary caesarean section to achieve successful VBAC.

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