VAGINAL BIRTH AFTER CESAREAN SECTION - A 4 YEARS STUDY

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ABSTRACT

Aims & Objective: To determine the outcome of trial of labor in patients with previous 1 C/S due to non – recurrent cause with or without previous successful vaginal birth.

Patients & Methods: A retrospective study, was conducted in the department of Obstetrics & Gynecology, at Rehman Medical Institute, Peshawar from August 2014 to August 2018. Convenient sampling technique was adopted as all patients including booked cases and emergency patients with Previous 1 Cesarean section due to non-recurrent cause were included. Patients with Previous Classical or more than one CS and with medical disorders were excluded. Details on age, parity, antenatal care and indication of previous CS were recorded on proforma.

Results: Total of 1018 Patients with previous 1 CS were included in study. 795 (78%) patients with previous 1 cesarean section had an elective repeat caesarean section. A trial of vaginal delivery was carried out on 223 (21%) patients, with previous 1 Cesarean section due to non – recurrent cause. Among 223 patient with previous 1 CS who were selected for TOLAC, 130(58%) achieved successful uncomplicated vaginal delivery (VBAC) & 93(41.7%) required a repeat emergency caesarean section. Out of 130 vaginal deliveries, 88(67.6%) were uncomplicated normal vaginal delivery, 42 (32.3%) were delivered with instrumental support i.e. 38(29.2%) with Outlet forceps and 4(3%) by vacuum extraction. 149(67%) patients had spontaneous onset of labor, 74(33.1%) needed induction of labor with foly's catheter, PGE2 pessaries followed by augmentation of labor with oxytocin. Delivery through Repeat Cesarean section in 42.1 % of spontaneous labor and in 57.4 % of induced labor. Leading indications for Repeat Cesarean section were fetal distress 34(36.5%), failure to progress 19 (20.4%), failed induction 20 (21.5%), Ante Partum Hemorrhage 6(6.4%), breech presentation 14 (15.05%).

Conclusion: TOLAC is an acceptable individualized option for women without major risk factors. Well monitored trial of scar leads to increased percentage of vaginal deliveries, which is a contribution towards bringing down the rising caesarean section rate.

Keywords: Trial of Scar after cesarean, VBAC

INTRODUCTION

Vaginal birth after Cesarean section (VBAC) is one of the strategies developed to control the rising rate of cesarean sections (CS). It is a trial of vaginal delivery in selected cases of a previous CS in a well-equipped hospital. Each year 1.5 million childbearing women have cesarean deliveries, and this population continues to increase.[1] This report adds stronger evidence that VBAC is a reasonable and safe choice for the majority of women with prior cesarean. Moreover, there is emerging evidence of serious harms relating to multiple cesareans.[2]

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Trial of labor after cesarean delivery (TOLAC) represents one of the most significant changes in obstetric practice. There are numerous reasons that influence the decision to proceed with either a trial of labor after previous cesarean delivery or elective repeat cesarean delivery. TOLAC is safe and feasible. For the majority of women with a previous cesarean delivery, a trial of labor should be encouraged.[3]

There are few absolute contraindications. Women with a previous classical uterine incision should not undergo a trial of labor and should be operated once fetal lung maturity is documented.[4] For women who have experienced a cesarean birth, neither a subsequent trial of labor after cesarean (TOLAC) nor an elective repeat cesarean delivery (ERCD) is risk free. Uterine rupture represents the most catastrophic complication of a trial of labor after previous cesarean delivery.[5] In women suspected of having a uterine scar injury, prompt intervention is necessary to minimize both maternal and neonatal complications. Women who are not successful with a trial of labor require repeat cesarean delivery and appear to be at greatest risk for maternal complications. Identifying those women most likely to be successful with an attempted trial of labor after previous cesarean

while also incurring the least maternal and perinatal morbidity and mortality would be ideal.[6]

It's important to assess the indications and contraindications of patients for the successful VBAC, and to monitor maternal and fetal conditions during the delivery process. The premise of TOLAC is a comprehensive understanding of closely monitoring the progress of labor and delivery. Compared with the ERCS, VBAC could reduce patients' postpartum hemorrhage and hospitalization duration, improve the outcomes of pregnancy, and the cesarean section rate could be reduced.[7]

The rate of pregnancy after cesarean section is increasing year by year, and the will of vaginal birth is also increasing. We observed that trial of labor was safe in properly selected patients. Vaginal birth has less complications, morbidity, and shorter hospital stay and is cost effective over repeat CS, without compromising neonatal outcome. Trail of labor is given only after one caesarean section and should be given at place where all facilities are available along with judicious fetomaternal monitoring and care. Hence, the present study was undertaken to assess the success and safety of VBAC in selected cases of one previous LSCS.

PATIENTS & METHODS

A retrospective study, over 4 years period was conducted in the department of Obstetrics & Gynecology, from August 2014 to August 2018 at Rehman Medical Institute, Peshawar. Convenient sampling technique was adopted as all patients including booked cases and emergency patients with Previous 1 Cesarean section were included. Selection criteria were a single fetus with vertex presentation at 37 weeks or above, clinically adequate maternal pelvic dimensions, Previous 1 uncomplicated Cesarean section with low transverse uterine scar. Exclusion criteria was patients with Previous Classical Cesarean section, Previous cesarean section with severe wound sepsis, medical complications like Diabetes, Hypertension, Multiple gestation, IUGR, Placenta previa, previous Myomectomy, bad obstetrical history. Severe IUGR with compromised blood flow on Doppler ultrasound in present pregnancy were also considered not suitable for the study. In our study, all the patients with previous one scar were examined by the senior Obstetrician.

The study group was evaluated regarding their gestational age, parity, booking status, interval from last delivery, previous vaginal deliveries, indication of previous Cesarean section, bishop score. All the information was extracted from ward labor register record. A thorough counselling regarding risks and benefits of trial of labor after cesarean section was done and patients were recruited in study after informed consent.

Period of gestation was between 37-41 weeks. Patients were allowed to go into spontaneous labor only when it was safe. Others had Induction of labor at 40 weeks with full preparation for emergency cesarean section. Progress of labor of all patients was recorded on partogram. Trial of scar was given with strict vigilance for lower abdominal pain (scar tenderness), uterine contractions, fetal heart rate monitoring and vaginal bleeding. During active phase of labor, artificial rupture of membranes was done and augmented with oxytocin infusion when required. Facility of OT, Anesthesia & pediatrician was available. A detailed proforma was recorded and the results were tabulated. Outcome of trial with regard to mode of delivery i.e vaginal delivery or cesarean section was recorded and data was analyzed using SPSS version 16.The only factor statistically significant which favors successful vaginal delivery was history of previous vaginal delivery prior to previous C /S.

RESULTS

A total of 5880 patients were delivered during study period. Normal Vaginal deliveries were 3339 (56.7%) and those who underwent CS were 2541 (43.2%). The CS rate was 43.2%. 1018 Patients with previous 1 CS were included in study. Out of these, 795 (78%) patients had an elective repeat caesarean section. A trial of vaginal delivery was carried out on 223 (21%) patients admitted in labor ward, with previous 1 Cesarean section due to non – recurrent cause. Results are shown in table 1.

Out of 223 patient with previous 1 CS, selected for TOLAC, 130(58.2%) achieved successful uncomplicated vaginal delivery (VBAC) & 93(41.7%) failed in trial of scar & were delivered by repeat emergency caesarean section. Out of 130 vaginal deliveries, 88(67.6%) were uncomplicated normal vaginal delivery, 42 (32.3%) were delivered with instrumental support i.e. 38(29.2%) with Outlet forceps and 4(3%) by vacuum extraction. Vaginal delivery was commonly observed in patients who had previous NVD. The results are illustrated in table 2.

In the study group, 149 (67%) patients had spontaneous onset of labor, 74 (33.1%) needed induction of labor. Induction of labor was done with foly's catheter, Prostaglandin E2 pessaries followed by augmentation of labor with oxytocin. Delivery through Repeat Cesarean section was in 42.1 % of spontaneous labor and 57.4 % of induced labor. So, Repeat Cesarean section rate was higher in later group.

Leading indications for Repeat Cesarean section were fetal distress 34 (36.5%), failure to progress 19 (20.4%), failed induction 20 (21.5%), Ante Partum Hemorrhage 6(6.4%), breech presentation 14 (15.05%). (Table 3)

DISCUSSION

The dramatically increased Cesarean section rates in recent years have intensified the focus on VBAC.

Table 1: Mode of Delivery in patients with Previous 1 CS

Mode of delivery	Total Patients(n=1018)	Percentages
Elective Repeat CS	795	78%
Trial of labour after CS	223	21%

Table 2: Mode of Labour & Delivery in patients undergoing Trial of Labour after previous Cesarean (TOLAC)

Characteristics		Frequency (n=223)	Percentages
Gravidity			
Multigravida		119	53.3%
Grandmultigravida		104	46.6%
Mode of Labour			
Spontaneous labour		149	67%
Induced labour		74	33.1%
Successful Vaginal delivery (VBAC)	Total	130	58.2%
	Normal vaginal delivery	88	67.6%
	Instrumental delivery	42	32.3%
Emergency Lower Segment CS		93	41.7%

Table3: Indications for Emergency CS in patients undergoing trial of Scar

Indications	Frequency (n=93)	Percentages
Fetal distress	34	36.5
Failure of progress of labour	19	20.4
Breech Presentation	14	15.5
Failed induction	20	21.5
Ante Partum Haemorrhage	6	6.4

Although VBAC is considered safe all over the world; even then there is less enthusiasm for it. Rates of VBAC have experience a 55% decrease since 1996.[8] There is some hesitancy among some of doctors towards safety and likely outcome of trying for VBAC. VBAC should be attempted in level, two or three hospital with neonatologist, Operation Theater and anesthetist available in 30 minutes. The obstetrician is always in a dilemma regarding management of subsequent labor once patient had scar on the uterus. Each hospital should develop a protocol for management of VBAC patients.

The overall Cesarean section rate in our setup during study period is 43.2%. This is an apparently very high and unacceptable rate as compared to Cesarean section rate of 21% in Ganga Ram hospital.[9] WHO declared CS rate should not exceed 15%.[10] High CS rate in our setup is due to increase rate of CS for primi breech and increase incidence of repeat CS. It is crucial to evaluate the decision of CS in Primigravida as it increases the rate of CS in subsequent pregnancies. In modern obstetrics, CS rate has increased due to elective CS for breech. ECV should be considered in breech presentation and assisted breech vaginal delivery, after careful evaluation of patient should be encouraged. The increased morbidity and mortality associated with CS as compared to vaginal delivery is clearly shown in literature.[11] This together with lower reported incidence of uterine rupture and consequent maternal and fetal compromise strongly argues for trial of labor in carefully selected patients with previous one CS.

In our study, 1018 patients presented with one previous CS and out of these, 223 (21%) were given trial of labor. The TOLAC rate in our study population is low in comparison to rates reported in the literature (37-80%).[12] This is because majority of un-booked referred cases with previous 1 CS don't have record of their previous CS regarding indication, type of uterine incision. Most of the time, they are operated by unexperienced surgeon in periphery or have short inter-pregnancy interval. This makes decision for trial of scar very difficult. A study by Paga, et al. in India recruited 4.5% cases for TOLAC.[13]

The trial of scar was successful in 58%of cases, which is comparable to many studies in Pakistan[14]

as well as from developed countries which reported success rate of 81%.[15] A study by Gupta et al included 164 women with previous one Cesarean delivery and reported 84% of success rate of vaginal delivery.[16] So we need to increase the number of patients with previous 1CS, suitable for trial of scar. A study by Masoome Ghafarzadeh reported VBAC rate of 10.4%.[17] There is potential to reduce the CS rate in our center by increasing TOLAC and VBAC rate towards the average national rate.[18]

In our study, 61(46.9%) Grandmultipara had VBAC. A study by Zam zami et al reported rate of VBAC in grandmultiprous women was 53.6%.[19] High parity in association with previous vaginal deliveries is good prognostic factor and also can predict successful VBAC outcome.

Factors like spontaneous onset of labor, good bishop score and fetal weight less than 4 kg favored vaginal delivery in our patients. While gestation 40 weeks and above, malposition, fetal weight more than 4kg and in co-ordinate uterine contractions were associated with unfavorable outcome, similar to study by Bangal VB etal.[20]

74(33.1%) patients with poor bishop score had labor induction in our study, with Prostaglandin E2 pessary. All of these patients had previous uncomplicated obstetric history. However success of vaginal delivery was more in patients who had spontaneous onset of labor. In contrast, study by Ashwal E etal had VBAC rate of 65% in patients with previous 1 CS, whose labor was induced with PGE2 pessary. [21]

The use of Prostaglandin for cervical ripening in women with previous CS is also controversial issue. There are reports of uterine rupture and complete wound dehiscence with its use, so vigilance is important.[22] Trial of labor slightly increases the risk of uterine rupture by 0.24% with an incidence ranging from 0.4-1.2%.[4] The occurrence of this rare but potentially catastrophic event is minimized with appropriate patient selection, labor monitoring, oxytocic and prostaglandin safe use to induce and augment labor. Success rate of labor induction followed by vaginal delivery in patients with previous 1 CS was 42.9% in our study. None of the case of uterine rupture had occur in trial of scar.

CONCLUSION

VBAC delivery rate is low in our setup. Two major problems that influence VBAC are rapidly rising primary CS rate and uterine rupture. Proper counseling for TOLAC and evaluation of cases of women with prior CS has been considered a key method of decreasing CS rate. Decision for TOLAC is complex and ultimately resides with the women and her obstetrician after evaluating objective information to make an informed consent. Conscientious intrapartum management of TOLAC under favorable conditions results in a high probability of safe and successful vaginal delivery. I recommend positive and flexible approach to TOLAC but with careful patient selection and close vigilance throughout labor.

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