ORIGINAL ARTICLE

Trial of Scar After Cesarean Section A study of 100 cases

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ABSTRACT

Objective: To determine the outcome of term pregnancy in patients with previous one lower segment caesarean section.

Study Design: A descriptive study conducted in Department of Obstetrics and Gynaecology, Unit 1, Fatima Memorial Hospital, Lahore, from June 2011 to December 2011.

Materials and Methods: One hundred patients according to inclusion criteria were studied. Written informed consent was taken, thorough history, abdominal and pelvic examinations were done and patients were closely monitored for uterine rupture by monitoring pulse and blood pressure, fetal heart sounds, lower abdominal pain, vaginal bleeding and loss of presenting part. Partogram was maintained to assess the progress of labor and fetal monitoring was done by electronic fetal monitors.

Results: Among 100 patients 64% had vaginal delivery while 35% had repeat caesarean section. Out of 64 patients 41(64%) had spontaneous vaginal delivery, 10(15%) had vacuum delivery and in 13 patients (20%)forceps were applied. 1 unbooked patient had uterine rupture receiving trial of scar in periphery and the most common indication for repeat caesarean section was failed progress of labor (54%). Maternal morbidity (45%) in terms of prolonged hospital stay, infection and febrile illness was seen more in operative group.

Conclusion: This hospital based study shows that trial of scar is safe in carefully selected patients and the success rate is 64% which is encouraging. VBAC should only be offered after careful selection of patients at places with all facilities of Operation Theater and blood banks.

Key Words: Trial of Scar, Vaginal Birth after Caesarean Section, Caesarean Section

INTRODUCTION

The incidence of caesarean section has been increasing for the last two to three decades. The reason for this rise is the performance of elective caesarean section[1]. The rate of caesarean section in developed countries has increased in recent year and it accounts for 21.3% of all births in United Kingdom, 23% in Ireland[2], 23.3% in Australia[3] and 26% in United States[4]. This increasing caesarean section rate is leading to increase in maternal morbidity and mortality and has negative impact on maternal health and healthcare costs[5]. Many factors have been suggested to be responsible for these higher rates of caesarean section including increase in use of electronic fetal monitoring, decrease in the availability of experienced obstetricians who can conduct operative vaginal and breech deliveries. In addition the fear of litigation is above all[6]. According to the American College of Obstetricians and Gynecologists, vaginal birth after caesarean section is safe and acceptable option. This statement is an attempt to decrease the maternal morbidity and mortality associated with increasing caesarean section rate[7].

There are certain advantages and disadvantages of both repeat caesarean section and vaginal birth after caesarean section. Operative abdominal delivery is associated with increase in risk of hemorrhage, infection, need for blood transfusion, damage to adjacent viscera and deep venous thrombosis. In addition the grave complication of placenta praevia and placenta accreta is associated with increasing number of caesarean section[8]. One rare but very serious complication seen in patients with previous caesarean section is uterine rupture, which may occur before or during labor[9].

Vaginal delivery has many advantages in terms of reduced risk of hemorrhage, infection, injury to adjacent viscera, reduced need of blood transfusion and deep venous thrombosis but on the other hand may be associated with trauma to women's perineum leading to pelvic floor weakness, prolapse and incontinence[10].

As vaginal delivery has many advantages over a planned repeat caesarean section, it should be attempted in properly selected women at a place with all facilities of emergency caesarean section and blood transfusion[11].

This study was carried out to assess the outcome of trial of scar in term pregnancies in women with previous one caesarean section.

MATERIALS & METHODS

This descriptive cross sectional study was conducted in Unit 1 of Fatima Memorial Hospital, Lahore from June 2011 to December 2011. The study included hundred women with previous one caesarean section for any cause at 37 completed weeks of gestation and above, with spontaneous onset of labor, singleton pregnancy and clinically adequate pelvis. Patients having gestation less than 37 weeks more than one caesarean section, previous classical caesarean section, previous myomectomy, mal presentations and any contra indication to vaginal delivery were excluded from study.

All booked and un-booked patients fulfilling the inclusion criteria were given trial of scar, informed written consent was taken. A proforma was used to sort out the reason of previous caesarean section and other demographic factors. Baseline investigations including blood group and RH factor, complete blood count, random blood sugar levels, complete urine examination was done, ultra-sonography was performed for fetal viability, fetal biometry, amniotic fluid index and placental localization was performed. Blood was cross matched and clinical examination including abdominal and vaginal examination for bishop scoring was done. Partogram was the main aid to judge the progress of labor during labor. Maternal monitoring was done with the help of blood pressure and pulse record. Fetus was monitored with the help of electronic fetal monitor. Women were closely observed for scar tenderness and vaginal bleeding

Oxytocin was administered if required to increase the strength and frequency of contractions up to 3 contractions of 40 to 50 sec in ten minutes. Epidural analgesia was given on personal preference of patient. The trial of scar terminated if delivery was not imminent according to partogram. The outcome measures were mode of delivery, need of assistance in case of vaginal delivery and associated maternal complications with either mode of delivery.

RESULTS

This was a six months descriptive study, total hundred patients with previous one lower segment caesarean section were given trial of scar. The results of the study are summarized below;

Maximum number of females were in the age group of 20-30 years, which is 65% while minimum number were in 40 years and above that is 12%.(Table1)

Majority of the patients were para 1 – para 2 that is 72%, while para 5 and above were the minimum that is 9% (Table2). Most of women who had previous normal vaginal deliveries were those who achieved successful vaginal birth after caesarean section. Out of 64 women 28 (43%) were those who had previous normal vaginal delivery. Out of these 28 women 15 (89%) patients had more than one normal vaginal delivery. Only 9 women out of 35 with failed trial of scar had previous normal vaginal delivery. The second observation was inter pregnancy interval, 32(50%) women with successful VBAC were those who had inter pregnancy interval of 2 years and above. Out of 35 women who had failed trial of scar and underwent abdominal delivery, 24 (68.5%) women had interpregnancy interval of less than 1 to 1.5 year.

This study showed us that the most common indication for previous caesarean section was dystocia that is 28% followed by fetal distress 21%, mal presentation 16% and failed induction 13%. (Table3)

Out of hundred patients who had trial of scar 64 patients (64%) delivered vaginally and 35% delivered abdominally (Table 4). Among the 64 patients, 41(64%) had spontaneous vaginal delivery, 13(20%) patients delivered with the help of forceps and 10(15%) patients had ventouse delivery.(Table 5)

Out of 35 patients who had repeat caesarean section, 19(54%) had failed progress of labor, 5(14%) women had scar tenderness, 9(25%) had fetal distress and 2(5%) women wished to discontinue trial of scar and went for repeat caesarean section.(Table 6). In 1 (1%) women laparotmy was done due to ruptured uterus. Out of 9 women who had scar tenderness only 2 had scar dehiscence intra operatively, in rest of patients scar was intact.

Maternal morbidity was more in emergency caesarean section described in Table Number 7

Table 1: Distribution of Cases by Age

Age (year)	Number of Patients	Frequency
20-30	65	65%
31-40	23	23%
41 and Above	12	12%

Table 2: Distribution of Cases by Parity

Parity	Number of Patients	Frequency
Para 1 – Para 2	72	72%
Para 3 – Para 5	19	19%
Para 5 and Above	9	9%

Table 3: Distribution of Cases by Reasons of Previous Caesarean Section n=100

Reasons	Number of Patients	Frequency
Dystocia	28	28%
Fetal distress	21	21%
Mal presentation	16	16%
Failed Induction	13	13%
IUGR	11	11%
Placenta Praevia	5	5%
Macrosomia	3	3%
Twin Pregnancy	3	3%

Table 4: n=100

Mode of Delivery	Number of Patients	%ages
Vaginal delivery	64	64%
Abdominal delivery	35	35%
Laparotomy	1	1%

Table 5: n=64

Mode of Delivery	Number of Patients	%ages
Spontaneous vaginal delivery	41	64
Forceps delivery	13	20
Vacuum delivery	10	15

Table 6: n=35

Causes of failed trial of scar	Number of Patients	%ages
Failed progress of labor	19	54
Fetal distress	9	25
Scar tenderness	5	14
Patients own wish	2	5

Table 7: Distribution of cases according to Maternal Morbidity

Complication Observed	Emergency Caesarean Section n=35****	Vaginal Birth after Caesarean Section n=64		
	Number of Patients	Frequency %	Number of Patients	Frequency %
Prolonged* Stay at Hospital	3**	8.6	0	0
PPH	7	20	5	7.8
Blood Transfusion	11	31.4	6	9.3
Fever	9	25.7	1	1.5
PPH	8	22.9	6***	9.3
Wound Infection	5	14.3	3	4.6
Deep venous thrombosis	1	2.9	0	0

*Stay more than 7 days after delivery

**3 cases of prolonged hospital stay were observed due to wound infections

***PPH in cases of VBAC 2 were due to cervical tear, 1 was due to uterine atony and 3 were due to multiple perineal tears

**** 16 patients out of 35 had complications after emergency caesarean section, more than 1 complication had been seen in one patient

DISCUSSION

During the study period hundred patients were admitted in labor room of Fatima Memorial Hospital, according to inclusion criteria and were given the trial of scar. In this study most of the vaginal births were carried out before 40 years of age, mostly in 20 – 30 year of age group which is comparable to a study carried out by Sumbal Kashif[12] showing the comparable results. In this study 35 women had history of 1 or more prior vaginal delivery .Out of 35 women 28 (80%) had successful trial of scar. Similar results were seen in a study at Mount Sinai Medical Center, New York[13] showing 87% successful trial of scar in same group of women. As according to inclusion criteria all women had spontaneous onset of labor and 64% had successful vaginal birth showing that spontaneous onset of labor is a favorable factor for trial of scar. This is supported by ACOG committee opinion 2006[14]. My study revealed 45% of the total maternal morbidity specially need of blood transfusion, PPH and wound infection in patients delivered by caesarean section. More than one complication was seen in one patient. In McMahan's observational study[15] 92% of major complications were found in the group delivered by emergency caesarean section.

In our study the success rate of vaginal delivery was 64% which is comparable to other studies in literature like the Study by Mehr un Nisa and Mafatlal [16, 17] showing the success rate of 60-80%. The most common indication of repeat caesarean section was failure to progress (54%) followed by fetal distress (25%) where as fetal distress was the commonest indication in some of the recent studies like Weinstein[18].

Use of Oxytocin did not have a significant effect in the success of trial of scar. Other favorable factors for successful VBAC were patients in spontaneous labor with non recurrent indication for previous caesarean section like breech and placenta praevia, young mothers, gestational age less than 40 weeks and fetal weight between 2.5 to 3.5 kgs. These factors are comparable with the study of Bujold[19]. Emergency caesarean section was done in 5 patients due to scar tenderness but intra operatively only 3 were found to have scar dehiscence. There was one un booked patient received from periphery having trial of scar in the periphery. On arrival in our hospital laparotomy was done because of vaginal bleeding and absent fetal heart. Intraoperatively uterus was ruptured from previous scar site. Repair was done because the patient had only one alive issue.

CONCLUSION

In this study we have seen 64% successful vaginal deliveries. So if selected properly, women with previous caesarean section can have vaginal delivery with reduced maternal morbidity. Trial of scar is not as safe as it was considered previously but if undertaken in selected patients at places where all the necessary arrangements for emergency operations are available, successful VBAC can be achieved. As vaginal delivery is associated with minimum maternal morbidity, anesthetic, operative complications hospital cost and psychological trauma to the mother so VBAC should be encouraged. Due to increase in litigation process women should be carefully selected and trial of scar should be attempted at a proper place with all facilities of competent staff, theater and blood bank.

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