OUTCOME OF TRIAL OF LABOUR AFTER PREVIOUS SINGLE CAESAREAN SECTION

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ABSTRACT

Background: Trial of labour after caesarean section is a significant issue faced in obstetrics practice.**Objective**: To determine the frequency of success of trial of labour after previous one caesarean section. **Subjects and Methods:** This descriptive case series study was conducted at Department of Obstetrics and Gynaecology Unit-1, Sir Ganga Ram Hospital, Lahore, from 1st July to 31st December 2010. One hundred seventy five patients of trial of labour after previous one caesarean section were included who fulfilled the inclusion and exclusion criteria. The data was entered and analyzed by SPSS version 16. **Results:** The mean age of patients was 26.73±2.90 years. The age range was from 20 to 30 years. The mean gestational age was 38.15±0.76 weeks. After trial of labour, 72% of patients delivered spontaneous vaginally, 22% has caesarean section, 4% has vacuum delivery while 2% has forceps delivery. **Conclusion**: It is concluded that the present study showed that trial of labour in patients with previous one caesarean section due to non recurrent cause is safe and has success rate of 78% which is encouraging.

Keywords: Trial of labour, Vaginal birth , Uterine rupture**,** Caesarean section

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INTRODUCTION

Trial of labour represents one of the most significant and challenging issues in obstetrics practice.[1] A trial of labour in patients with previous one caesarean section is reasonable option if patients are carefully selected and monitored.[2] The dominant practice in the United States for many decades was to follow the dictum of Cragin," once a caesarean, always a caesarean" which was first put forth in 1916.[3]

In that era, primary caesarean was performed via the classical longitudinal incision, which extended up vertically from the lower uterine segment to fundal region. The use of classical caesarean incision began to decline after the low transverse uterine incision was poineered by Kerr in mid 1920s. Fortunately the risk of uterine rupture during labour following a low transverse caesarean is approximately 10 times lower than that during labour following a classical caesarean.

Caesarean section is one of the common surgical interventions to save lives of mothers and newborns. The rate of caesarean section has increased dramatically worldwide over the past three decades.[4,5,6] Despite the gross increase in caesarean section rate there is still high perinatal mortality.[7]Studies have shown that 30-80% of women with one previous lower segment caesarean section can achieve vaginal delivery when trial of scar is done.[8] Offering trial of scar and subsequent vaginal delivery can contribute to reduction in the rate of caesarean section. However, the risk of uterine rupture and other morbidities associated with failed trial of scar, remain the major concern for many practitioners.[9] Trial of labour should be offered to properly selected patients in hospitals with 24 hours facilities of operation theatre and blood transfusion services.[10] This study was conducted to determine the frequency of success of trial of labour after previous one caesarean section.

SUBJECTS AND METHODS

This descriptive case series study was done from 1st July to 31st December, 2010 at the Obstetrics and Gynaecology Unit-1, Sir Ganga Ram Hospital, Lahore. Sample size of 175 cases was calculated with 95% confidence level, 6.5% margin of error and taking expected percentage of vaginal delivery i.e.75% in pregnant females who underwent trial of labour with previous one caesarean section. Non-probability purposive sampling technique was employed.

Inclusion criteria was pregnant women with previous one caesarean section, singleton term pregnancy (>37weeks),vertex presentation and no congenital

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anomalies on ultrasonography, adequate maternal pelvic dimensions clinically, spontaneous onset of labour with cervial dilatation of 2cm and cervical length of 1.5cm.

Exclusion criteria was placenta previa & IUGR on ultrasonography. One hundred seventy five consecutive pregnant women presenting through emergency and out patient department fulfilling the inclusion and exclusion criteria were included in the study after taking the written informed consent. Their demographic profile i.e. age, gestational age and address was recorded.

Patients were given trial of labour under vigilant monitoring including partogram and cardiotocography with the facility of operation theatre, anaesthetists and paediatricians. They were followed till delivery. The trial of labour was abandoned if there was failure to progress, fetal distress and scar tenderness and repeat caesarean section was done in such conditions. Successful trial of labour i.e. Vaginal delivery (spontaneous,vacuum or forceps) recorded as outcome variable on a purpose designed proforma. Data was entered and analysed through SPSS version 16. Quantitative variables like age and gestational age were presented as mean+SD. Qualitative variables like success of trial of labour i.e. vaginal delivery presented as frequency and percentages.

RESULTS

A total of one hundred and seventy five patients were included. The baseline characteristics of these patients were as follows: Most of the patients 93(53%) were in age group between 25-29 years. Out of 175 patients 49(28%) were in age group between 20-24 year, while 33(19%) patients were in age group between 30-33 years. The mean age was 26.73 ± 2.90 years.

The mean gestational age was 38.15 ± 0.76 weeks. Sixty nine (39%) patients were in gestational age of 38 weeks. Sixty six (38%) patients were in 39 weeks gestational age. Forty (23%) patients were in gestational age of 37 weeks (Table II). Table III shows the success of trial of labour. 136 (78%) patients has successful trial of labour.

Table IV shows the type of delivery of patients. Most of the patients 126(72%) have spontaneous vaginal delivery. Thirty nine (22%) delivered with caesarean section. Only 7(4%) patients has vacuum delivery and 3(2%) patients has forceps delivery.

Table-I Age distribution of patients (n=175)

Age (year)	No. of patients	%age
20-24	49	28
25-29	93	53
30-33	33	19
Total	**175**	**100**

Table II: Frequency based on gestational age (weeks)

Gestational age (weeks)	No. of patients	%age
37	40	23
38	69	39
39	66	38

Table III: Frequency of Success of Trial of Labour (TOL)

Success of TOL	No. of patients	%age
Yes	136	78
No	39	22

Table IV: Frequency based on type of delivery

Type of delivery	No. of patients	%age
Spontaneous vaginal Delivery	126	72
Caesarean section	39	22
Vacuum delivery	7	4
Forceps delivery	3	2

DISCUSSION

The present study showed the mean age of patients was 26.73±2.90 years ranging from 20-33 years. A study showed that as compared with women who underwent elective repeat caesarean delivery, women who underwent a trial of labour were more likely to be less than 30 years of age.[10] The present study showed the mean gestational age was 38.15±0.76 weeks which is comparable with other international studies. Forty (23%) patients were in gestational age of 37 weeks. Sixty nine (39%)

patients were in gestational age group of 38 weeks. Sixty six (38%) patients were in gestational age of 39 weeks. In a study, the mean gestational age of delivery was <40 weeks.[11]

Another study reported gestational age in those with 37 to 40 completed weeks of gestation vaginal birth after caesearen (VBAC) was 70.21% and in less than 37 weeks VBAC was 58.80%.With completed 40 weeks and above VBAC rate was 62.50%. It is noted that there is a slight increase in failure of VBAC in those after 40 weeks.[12,13]

One study of term infants by Kamath et al reported selected neonatal outcomes at 37, 38, 39, 40 and greater than or equal to 41 completed weeks of gestation. Because neonatal outcomes were compared by gestational age rather than denoting the intended mode of delivery in this study, it is impossible to draw any conclusions regarding the influence of gestational age on neonatal outcomes in women who attempted a trial of labour.[14] In another study, reported by Saeed, the labour was induced in 14.3% women while 65.7% women proceeded to spontaneous labour.[15] The rate of vaginal delivery was 67.9%. Delivery was achieved through caesarean section in 75% of inductions and 25% of spontaneous labour. The overall caesarean rate was 32.1%. The most common indication for repeat caesarean was failure to progress (44.4%) fetal distress (27.7%) and failed induction (16.7%). There was no maternal or fetal mortality and the trial of labour was associated with minimal maternal or fetal morbidity. The number of vaginal births prior to first caesarean section did not seem to influence the outcome. The success rate in present study (67.9%) compares favorably with reports from other countries.[15]

In a study, reported by Landon, there was a significant reduction in trial of scar globally due to concerns of safety especially attributed to uterine rupture.[8] Another study reported by Martin, the patients should be counselled that uterine rupture can occur before labour starts and planning a repeat caesarean is no guarantee of safety.[16] The decline in VBAC is seen in many countries may be due to a reduction in trial of labour attempts and not due to a change in success rate. The US National Centre for Health Statistics showed that after reaching a maximum of 28.3% in 1996,VBAC rate has declined, and was only 12.7%. A study showed that the chances of successful VBAC are 72-76%.[17] Another study reported by Dunn, maternal satisfaction was more after vaginal delivery.[18] The discussion of uterine rupture therefore should not discourage pregnant women in attempting vaginal delivery. The lower morbidity in 75% of women who successfully gave birth vaginally means that the overall women who opt for a planned vaginal birth after caesarean section suffer only half of the morbidity of women who undergo an elective caesarean section.[19,20]

CONCLUSION

It is concluded that this hospital based study showed that trial of labour in patients with previous one caesarean section due to non-recurrent cause is safe and has good success rate. It is therefore stated that vaginal birth after caesarean section should be offered to properly selected patients in hospitals with twenty four hour facilities of operation theater and blood transfusion services.

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