ORIGINAL ARTICLE

ELECTIVE TRIAL OF LABOUR IN SINGLETON TERM PREGNANCIES WITH ONE PREVIOUS CAESAREAN SECTION

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ABSTRACT

Background: Caesarean section rate has increased over the last three decades because of fear of scar dehiscence and uterine rupture in patients with previous caesarean section. This study was aimed to determine the maternal, fetal and neonatal morbidity and mortality during elective trial of labour in singleton term pregnancies with one previous caesarean section due to non recurrent causes.

Material and Methods: This study was conducted at Department of Obstetrics and Gynecology, Lady Reading Hospital, Peshawar from 1st January to 31st December, 2010. All patients with singleton term pregnancy with previous one caesarean section due to non recurrent cause with average size of baby were included. All the patients with placenta previa, contracted pelvis, induction of labour, elective caesarean section and previous uterine rupture were excluded from the study. Age in years, parity, period of gestation in weeks, mode of delivery, indications for emergency caesarean section, fetal outcome and maternal outcome were variables.

Results: Out of 138 patients, the mode of delivery was vaginal in 78 (56.52%) patients and repeated lower segment caesarean section in 60 (43.48%) patients. Out of 78 vaginal deliveries, 56 (71.80%) were normal vaginal deliveries while 22 (28.20) were instrumental deliveries i.e. 20 (25.64%) were vacuum extractions and in 2 (2.56%) outlet forceps was used. There was one patient with scar dehiscence in the trial group but there was no fetal and maternal mortality.

Conclusion: Trail of labour is a feasible option in women with one previous caesarean section due to non recurrent causes.

Key words: Pregnancy; Delivery; Trail of labor; Caesarean Section; Vaginal Birth after Caesarean.

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INTRODUCTION

Caesarean section (CS) rate has increased over the last three decades because of fear of scar dehiscence and uterine rupture in patients with previous caesarean section.[1, 2] Current UK practice favours vaginal birth after caesarean section (VBAC) which is in line with the research evidence indicating reduced maternal morbidity, lower cost & satisfactory neonatal outcomes.[1] Despite dramatic improvement in safety of anaesthesia and surgery, mortality and morbidity are greater for elective caesarean section compared to vaginal deliveries.[2]

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The idea of giving trial of labour to a woman with previous caesarean section (CS) was presented by Riva and Teich in 1961.[2] Woman who delivered their first child by caesarean delivery has increased risks for malpresentation, placenta previa, antepartum hemorrhage, placenta accrete, prolong labour, emergency caesarean, uterine rupture, preterm birth, low birth weight, small for gestation age and stillbirth in their second delivery.[3] A caesarean section is a major surgery, and there are increased risks of complications including; damage to organs near the uterus (bladder, intestine and ureter), a greater blood loss (twice as much as vaginal delivery) with an increased chance for requiring blood transfusion, and a greater risk of developing a post-partum infection (twice the risk of vaginal delivery).[4]

American College of Obstetricians & Gynecologists has formally endorsed a policy of trial of

labour under most circumstances.[3] Current medical evidence indicates that vaginal delivery can be achieved in 60-88% of cases following a previous lower segment caesarean section for non recurrent causes.[1] Recurrent causes like cephalopelvic disproportion need repeat lower segment caesarean section while non recurrent causes like placenta previa may not need repeat caesarean section but have increased chances of vaginal delivery.

This study was aimed to determine the maternal, fetal and neonatal morbidity and mortality during elective trial of labour (TOL) in singleton term pregnancies with one previous caesarean section due to non recurrent causes.

MATERIAL AND METHODS

This cross-sectional study was carried out in the Department of Obstetrics & Gynaecology, Lady Reading Hospital, Peshawar, Pakistan from, 1st January 2010 to 31st December 2010. All the patients with singleton term pregnancy with previous one caesarean section due to non recurrent cause with average size of the baby were included in the study. All the patients with placenta previa, contracted pelvis, induction of labour, elective caesarean section and previous uterine rupture were excluded from the study.

All the patients were admitted through OPD or emergency. General and obstetrical & gynaecological history and examination were carried out. Routine and relevant investigations like blood complete with ESR, blood grouping and Rh factor, ultrasonography of the pelvis and abdomen, urinalysis, platelet count, coagulation profile, HbsAg and anti HCV were done.

Trail of labour was given as per standard protocol to all patients. Patients in spontaneous labour were closely monitored for vital signs, fetal cardiac activity, lower abdominal tenderness, fetal distress and vaginal bleeding. Those with incoordinate uterine contractions were monitored with intravenous oxytocin infusion and waited for spontaneous vaginal delivery. Those not progressing or those with fetal/maternal distress were subjected to emergency caesarean section.

Emergency caesarean section was done by giving incision in the lower uterine segment of the uterus. Uterus was stitched in two layers with polyglactin 910 (vicryl) 2/0. Skin wound was closed with polypropylene (prolene) 2/0.

The variables studied were age in years, parity, period of gestation in weeks, mode of delivery, indications for emergency caesarean section, fetal outcome and maternal outcome. Quantitative data were analyzed as mean and SD while qualitative data were analyzed as number and percentages.

RESULTS

Out of 4755 total deliveries during this period, 173 (3.64 %) were with previous one CS. Out of these 173 cases, five patients were received with ruptured uterus and thirty patients had elective lower segment caesarean section and they were excluded from the study. Hence only 138 were suitable for trial of labour (TOL) and were recruited in the study.

The mean age of the sample was 30.0±8.0 (18-42) years. Parity was multigravida in 118 (85.50%) cases and grand multigravida in 20 (14.50%) cases. Mean period of gestation in weeks was 39.0±2 weeks. Mode of delivery was vaginal in 78 (56.52%) patients and repeated lower segment caesarean

Table: 1: Mode of delivery in elective trial of labour in singleton term pregnancies with one previous caesarean section (n=138)

Mode of delivery	No. (%) of patients
A.Vaginal delivery	78 (56.52%)
a.Normal vaginal delivery	56 (71.80%)
b.Instrumental deliveries	22 (28.20%)
i.Vaginal delivery with vacuum extractio	20 (25.64%)
ii.Vaginal delivery with outlet forceps	02 (02.56%)
B.Repeated lower segment caesarean section	60 (43.48%)
Total	138 (100%)

Table 2: Indications for emergency caesarean section in singleton term pregnancies with one previous caesarean section (n=60)

	No. of Patients	Percentage
Failure to progress of labour	39	65.00%
Fetal distress (FHR<110bpm)	20	33.34%
Scar tenderness	1	01.66%

Table 3: Fetal & maternal outcome in elective trial of labour in singleton term pregnancies with one previous caesarean section (n=138)

	Outcome	No. of patient	Percentage
Fetal outcome	Alive	138	100.00%
Maternal outcome	No complication	137	99.28%
	Scar dehiscence	1	00.72%

section in 60 (43.48%) patients. Out of 78 vaginal deliveries, 56 (71.80%) were normal vaginal deliveries while 22 (28.20) were instrumental deliveries. Out of 22 instrumental deliveries, 20 (25.64%) were vacuum extractions and in two (2.56%) cases outlet forceps were used. (Table 1)

The indications for emergency caesarean section for 60 patients are given in Table 2.

All the babies in our study delivered with good Apgar Score and there was no neonatal death. Maternal complication was in the form of one scar dehiscence. Here the uterus was stitched and there was no fetal or maternal mortality. (Table 3)

DISCUSSION

Caesarean section rate throughout the world continues to rise but various studies on vaginal birth after caesarean section (VBAC) have shown that vaginal birth can be achieved in more than 75% of cases after careful selection criteria.[2,4-8]

The choice between vaginal and abdominal delivery is often complex involving several factors. The relative risk to mother are physical and emotional, immediate and remote. Despite remarkable improvement in safety, caesarean section does increase risk of maternal death and it is still safer to have normal vaginal delivery .The success of vaginal delivery after one previous caesarean section in the developed world is high as compared to our settings. In our study attempted vaginal birth after previous one caesarean section showed success rate of 56.52%. While another study showed similar success rate of 56.5%.[2,9]

In a study by Sohail et al[20] successful vaginal birth rate after previous one caesarean was 61.31% which was almost similar to another study in which successful vaginal birth rate after previous one caesarean section was 67.2%.[1] In another study on 50 patients with previous one caesarean section, successful vaginal delivery rate was 62%[11] while 38 patients delivered by repeat caesarean section,[12, 13] while in our study successful vaginal birth rate was 56.52% and repeat caesarean section was rate 43.48%.

In a study by Rubina et al, over all repeat caesarean section rate was 57.6% while VBAC rate was 42.4% which was lower than our VBAC rate of 56.52%.[14] This low rate was due to a large number of repeat elective lower segment caesarean section. In another study on 182 patients with previous one caesarean section, vaginal birth rate was 56.5% and repeat emergency caesarean section rate was 46.71% which was almost comparable to our VBAC of 56.52%.[9]

Saeed et al during 1997 studied 56 women, aged 20 to 34 years, who had previous caesarean births. They were given a trial of labour. The rate of vaginal delivery was 67.9%.[25] Asaf et al[26] during 1997 studied 110 patients and 76 patients (69.1%) delivered vaginally.

Maternal mortality has decreased worldwide in practice of VBAC and this study is in conformity with no maternal mortality in the series.[9] A five years retrospective study on 395 cases of previous one caesarean section, major morbidity following vaginal delivery was uterine rupture with an incidence of 1.5% and hysterectomy of 0.8%. Three of these uterine ruptures occurred before admission because the patients laboured at home. There was one maternal death giving mortality rate of 19/100,000 & perinatal mortality rate of 15.2/1000.[3,7] In this study maternal and perinatal mortality rate was high due to inclusion of all the emergency cases which were excluded in our study.

In a study by Tripathi et al on 87 patients with previous one caesarean section done for non recurrent indications showed success rate of 73%. No maternal/ fetal mortality was observed which is similar to the findings in our study.[4]

CONCLUSION

Trail of labour (TOL) is a feasible option in women with one previous caesarean section due to non recurrent causes. Using a standard protocol with careful selection and monitoring of patients, more than 50% of these women can be successfully delivered vaginally without any increased risk of maternal, fetal or neonatal mortality or morbidity.

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CONFLICT OF INTEREST
Authors declare no conflict of interest.
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None declared.