

Outcome of Trial of Labour in Patients with Previous One Lower Segment Caesarean Section

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Abstract

Original Research Article

Introduction: The caesarean section rate has increased to an alarming extent in the last three decades all over the world. In USA it was 5% in 1970 to 31% currently. Vaginal birth after previous caesarean delivery represents one of the most significant changes in obstetric practice. **Objective:** The objective of this study is to determine the frequency and mode of delivery in women with one caesarean section and to evaluate the foeto-maternal outcome of trial of labour of previous one caesarean section. **Methodology and Materials:** This was a prospective study which was carried out in the department of Obstetrics and Gynecology of Sher-E-Bangla medical college and Hospital, Barisal from 1st Augus 2007 to 31st July 2008. A total of 116 women with a history of caesarean section were delivered in the maternity unit II. Among them 50 cases were selected for trial of labour. Selection criteria were subjects with uneventful pregnancy, adequate maternal pelvic dimensions, vertex presentation and spontaneous onset of labour with previous one uncomplicated LSCS. Patients with classical caesarean section, medical complications, multiple pregnancy, IUGR placenta praevia were excluded from the study. Informed consent was taken from all patients. Maternal and fetal monitoring as carried out with facility of operation theatre, anesthesia and pediatrician. **Results:** Successful vaginal delivery was achieved in 44% assisted or UN assisted and repeat emergency caesarean section was carried out in 56% of the patient. Leading indication for repeat caesarean section was failure to progress, fetal distress and scar tenderness. No maternal death and one perinatal death occur. **Conclusion:** We conclude from this study that antenatal booking and follow up, careful case selection for trial of labour will achieve successful maternal and perinatal outcome and this is an important component of efforts to lower the rate of repeat caesarean birth.

Keywords: Outcome, Labour, Lower Segment caesarean section.

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INTRODUCTION

Caesarean section has become the most common major operation in obstetrics (the rising incidence of caesarean section all over the world has been of great concern both to the patients and obstetrician) Repeat caesarean section is one of the most major reasons which have contributed greatly to high caesarean section rate 2. 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 evidences indicate that 60%-80% of women can achieve vaginal delivery after a previous Lower Uterine Segment Caesarean Delivery. Careful case selection for trial of labour and close observation during labour will achieve successful maternal and perinatal outcome [3]. Patients who attempt a VBAC (Vaginal Birth after Caesarean) but fail and require an emergency repeat caesarean

section have the greatest morbidity. Uterine rupture is the most catastrophic complication of a trial of labour (TOL) after previous caesarean delivery. In such case, prompt intervention is necessary to minimize both maternal and neonatal complications. Other complication includes scar dehiscence (febrile illness), infection, thromboembolic events and bleeding due to morbidly adherent placenta. When successful, VBAC-TOL is associated with less morbidity than repeat caesarean birth [4]. A trial of labour after one LSCS should be encouraged in most women who are willing to attempt it, provided no obstetric contraindication exists [5, 6] but under supervision to reduce caesarean delivery[7]. Labour after previous caesarean section has a 75% success rate with the risk of uterine rupture less than 1% [8-10]. Trial of labour increases slightly the risk of uterine rupture by 0.24% [11]. In developing countries like Bangladesh it is better to give trial of labour in patients who do not have absolute

contraindications for vaginal delivery. The policy of once a caesarean section always a caesarean section must be abandoned and replaced by once a caesarean always a hospital delivery [12]. Health care personnel should be trained regarding management of the cases with previous caesarean section. Departmental policy regarding the criteria for selection of case, for trial of labour should be analyzed in depth and reviewed in order to increase the percentage of cases, which could be enrolled for trial of labour. There is now increasing emphasis on the need for patients to be involved in medical care, with higher level of motivation and satisfaction.

MATERIAL AND METHOD

This prospective study was conducted in the obstetrics and Gynecology department of Sher-E-Bangla Medical College and Hospital, Barisal, from 1st August to 31st July 2008. During this period, total of 116 patients with previous history of caesarean section were delivered in maternity unit II. Among them 50 patients were selected for trial of labour. All multiparous women with previous one lower segment. Caesarean section from non-recurrent cause, singleton pregnancy with cephalic presentation and no absolute contraindication to normal delivery in present pregnancy were included. Patients having more than one caesarean section, (classical caesarean section) patients having obstetric and medical complication were excluded. None of these patients underwent any induction of labour. All those patients admitted the labour unit with already established labour. Detailed history, examination, baseline investigations and ultrasonography were carried out, pelvic adequacy was assessed. The patients were counseled about the possibility of repeat emergency caesarean section during the course of trial and take consent. Labour was monitored by partograph, fetal monitoring by intermittent auscultation of fetal heart since continuous cardiography was not available. Maternal monitoring was recorded by frequent blood pressure, uterine contraction & pulse measurement. If uterine contraction was not efficient, intravenous oxytocin infusion was started after artificial rupture of membrane to see the Bishop & scrotum. Parenteral analgesics were administered as epidural was not administered

routinely. If labour progressed well, it was allowed to proceed unassisted or assisted in the form of episiotomy, failure to progress or any other indication would be properly addressed by emergency or elective caesarean section. During post-natal period patient was kept under observation due to the risk of post-partum hemorrhage and neonatal wellbeing was also observed. The outcome measures were mode of delivery, need of assistance in case of vaginal delivery and associated maternal and fetal complications with either mode of delivery. The data were presented as proportion expressed as percentages, Software version 10.00 (SPSS) was used to analyze the descriptive aspect of the data.

RESULTS

During the study period, a total number of 116 patients were included in the study of which only 50 cases were selected for trial of labour by evaluation. Remaining 66 (56.9%) cases underwent elective caesarean section. Among these 50 patients, ultimately 22(44%) delivered vaginally and 28(56%) patients needed emergency repeat caesarean section (Table-I). Out of 22 patients, 11(50%) had spontaneous vaginal delivery and 11(50%) needed assistance of which 7(14%) delivered by vacuum extraction and only 1(2%) was applied forceps (Table-II). In our study labour was not induced only augmentation of labour were with oxytocin when needed. Repeat emergency caesarean section was performed in 28(56%) cases among them 12(42.8%) cases were due to failure to progress labour, 8(28%) for fetal distress, 6(21.4%) for scar tenderness and 2(7.1%) for maternal distress. (Table-III), Higher rate 18(64.3%) of repeat emergency caesarean section was observed in patient who were not under regular antenatal care (Table-IV). Maternal complication is more in emergency repeat caesarean section group. In our study there were 2(7.1%) cases of scar dehiscence that underwent emergency caesarean section and 1(4.5%) ruptured uterus in vaginal delivery group who needed peripartum hysterectomy. Other complications were noticed in the form of post-partum hemorrhage wound infection and perineal tear. There was no maternal mortality but only one case of perinatal death (Table-V, VI).

Table-I: Outcome of trial of Labour (n=50)

| | No of patient | % |
|---|---------------|------|
| Total no of patient with caesarean section. | 116 | |
| -Elective caesarean section | 66 | 56.9 |
| -Total no of case for trail labour | 50 | 43.1 |
| Successful Trail Labor | 22 | 44 |
| Emergency Repeat Caesarean Section | 28 | 56 |

Table-II: Type of vaginal delivery (N=22)

| | No of patient | % |
|------------------------------|---------------|----|
| Spontaneous vaginal Delivery | 11 | 50 |
| Assisted vaginal Delivery | 11 | 50 |
| -Episiotomy | 7 | 14 |

| | | |
|--------------------|---|---|
| -Vacuum extraction | 3 | 6 |
| -Forceps | 1 | 2 |

Table-III: indication of emergency caesarean section (n=28)

| | No. of Patient | % |
|------------------------------|----------------|------|
| Failure to progress of labor | 12 | 42.9 |
| Fetal distress | 8 | 28 |
| Scar tenderness | 3 | 21.4 |
| Maternal Distress | 2 | 7.1 |

Table-IV: Antenatal Care status of the study participants.(n=50)

| Antenatal Care | Vaginal Delivery n=22 (%) | Emergency Cesarean Section n=28 (%) |
|----------------|---------------------------|-------------------------------------|
| Regular | 19(86.4) | 8(28.6) |
| Irregular | 3 (13.6) | 18(64.3) |
| None | 0 | 2(7.1) |

Table-V: Maternal Complications.(n=50)

| | Vaginal Delivery n=22(%) | Emergency Cesarean Section n=28 (%) |
|-------------------------|--------------------------|-------------------------------------|
| No complications | 16 (72.7) | 12(42.9) |
| Complications | 6(27.3) | 16(57.1) |
| -Post-partum Hemorrhage | 4(18.2) | 5(17.9) |
| -Wound Infection | | |
| -Scar dehiscence | 0 | 7(25) |
| -Ruptured Uterus | 0 | 2(7.1) |
| -Spinal Headache | 1(4.5) | 0 |
| -Perineal Tear | 0 | 2(7.1) |
| | 1(4.5) | 0 |

Table-VI: Perinatal outcome

| | Vaginal Delivery n=22(%) | Emergency Cesarean Section n=28 (%) |
|----------------------------------|--------------------------|-------------------------------------|
| Alive | 21 (95.45) | 28(100) |
| -Required Neonatal | 11 (57.9) | 16(64) |
| -Resuscitation Admission to NICU | 5(26.3) | 11(44) |
| Prenatal death | 1(4.5) | 0 |

DISCUSSION

The rising rate of caesarean section is posing a problem to the obstetrician and it can only be solved by reducing the primary caesarean section rate and by reducing the repeat caesarean section incidence. The reluctance in the part of obstetrician in permitting a trial of labour is the risk of uterine rupture with threat of damage to mother and fetus and possible subsequent litigation. Secondly many obstetricians consider caesarean section as safe and convenient procedure as compared to vaginal delivery. In private sector economic incentive is also one of the important factor in increasing the caesarean section rate. Despite remarkable improvement in safety, caesarean section has eight-fold higher mortality; 8-12 times higher morbidity and higher incidence of complication than vaginal delivery. Epidural analgesia and injectable analgesics were given by intramuscular route. There is no evidence in support of view that analgesics including epidural can mask the sign and symptoms of rupture uterus. So it can be safely given to the trial of labour patients provided standard protocols are maintained[18].The risk of major maternal and perinatal complication has been reported to be almost twice as likely in women who underwent a trial of labour than in women who choose and elective repeat caesarean sections[23]. In addition, the VBAC-related maternal mortality rate does not reportedly differ between

women undergoing a trial of labour and women undergoing and elective repeat caesarean sections [24].

Maternal complications were noted in the form of post-partum hemorrhage, infection, scar dehiscence, ruptured uterus. In a study of trial of labour versus elective caesarean sections, major complications were more in women undergoing trial of scar [25]. Patients who experience failed vaginal birth after caesarean have higher risks of uterine disruption and infection morbidity compared with patients who have successful vaginal birth after caesarean or elective repeat caesarean delivery [26]. In this study, there was a single case of uterine rupture. This is comparable to study by Elkousy & colleagues [27]. There was no maternal mortality but one case of prenatal death in patient who had ruptured uterus.

It is obvious that trial of labour after previous caesarean delivery is safe for patients who are managed in tertiary care center and in those hospitals where intensive surveillance, expertise and facilities for emergency caesarean section and exploratory laparotomies are available. There is no role for unsupervised deliveries or home deliveries in a trial of Labour. Moreover, successful VBAC has less maternal and fetal complications as compared to the emergency/repeat caesarean section group. Therefore,

vaginal birth after caesarean in modern obstetrics is very Sound, and should be encouraged.

CONCLUSION

In the management of patients with previous caesarean section regular and intensive antenatal surveillance is required. Careful observation throughout labour in a well-equipped unit is necessary. Thus proper counseling for trial of labour and evaluation of the cases of women with prior caesarean section has been considered a key method of reducing the caesarean section rate. There is no doubt that a trial of labour is a relatively safe procedure but it is not risk free and should not be under taken in casual manner. Hence trial labour after One caesarean section in which uterine incision involved only the lower segment is safe in our setup where high tech facilities of continuous electronic fetal monitoring and intrauterine pressure monitoring are limited. Higher morbidity and health care cost of repeat lower segment caesarean section outweigh the advantages of such procedure and trial of labour after caesarean section helped to decrease the CSR in our department.

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