ORIGINAL ARTICLE

Outcome of Trial of Labour and Causes of its Failure Patients with Previous one Lower Segment Caesarean Section

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ABSTRACT

Objective: To determine the outcome of trial of labour and causes of its failure in patients with previous one lower segment caesarean section at term.

Patients and methods: 104 patients with labour pains were included in this study. The trial of labour was given to each patient and progress of labour in terms of cervical dilation at the rate of 1 cm/hour was assessed after every four hours. If any one of following three indications like if patients fail to dilate at the rate of 1 cm/hour during this period or any sign of fetal distress or sign of scar tenderness occurred, then repeat C-section was carried out.

Results: Seventy two patients were delivered by vaginal delivery and 32 patients by caesarean section. Failure to progress was found in 18 patients, fetal distress in 10 patients, scar tenderness on abdominal examination in 2 patients and pulse rate >100/minutes in 2 patients.

Conclusion: Women with one previous caesarean section should be encouraged to attend hospitals providing comprehensive emergency obstetric care. The quality of intrapartum monitoring should be audited to improve maternal and newborn outcome.

Keywords: Outcome, trial of labour, caesarean section

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INTRODUCTION

The caesarean section rate has increased, both in the developed and developing countries alike. It is partly due to availability of safe anaesthesia, excellent blood transfusion services, and advances in operative technology and development of broad spectrum antibiotics. The relative safety of the operative procedure has led to relaxation of indications, resorting to the procedure for relative indications and even 'caesarean on demand' by some women. This tendency needs to be controlled as it puts a great drain on health care resources, is costly and associated with serious risks to the mother and the baby[1-4]. The rates of vaginal birth after caesarean section is increased in USA until 1980[5] and then declined following the risk of uterine rupture. In an attempt to reduce the rising trend of caesarean delivery worldwide, obstetricians now offer trial of labour more readily to women who have had a caesarean section[6,7]. This new trend is a welcome development more especially in our environment where there is an aversion for caesarean delivery informed by the desire to achieve vaginal delivery[8,9].

Compared to elective repeat caesarean section, successful vaginal births after trial of labour were associated with less neonatal admission, reduced blood transfusion requirement and shorter hospital stay. Emergency caesarean deliveries after a trial of labour were associated with more neonatal admissions and operative complications. So a successful trial of labour after one caesarean section was associated with the best outcome understanding the importance of patient selection for a trial of labour[10].

Trial of vaginal birth after caesarean section should be given to those patients who are healthy and Bishop Score is promising i.e. soft, central and dilating cervix. A woman with straightforward lower segment caesarean section should be evaluated for a trial of labour[11]. Women with previous one caesarean section due to failure to progress had increased proportion of repeat emergency caesarean section (37%) during trial of labour as compared to those women with previous caesarean section due to breech presentation (14%)[12]. Low progress during labour is also associated with increased rate of caesarean section as demonstrated by associated with limited cervical dilatation on admission (odd ratio 1:9)[13]. A study carried out in 2005 showed successful vaginal delivery after previous one LSCS in 69% patients and repeat abdominal delivery in 31% patients with causes of repeat caesarean section being failure to progress (58.86%), scar tenderness (22.5%) and fetal distress (19.35%)[14].

The policy of VBAC is a contribution towards bringing down caesarean section rate and also save any future caesarean sections as currently two caesarean sections is an indication for elective repeat caesarean section. There is no doubt that trial of scar is a relatively safe procedure but it is not risk free and should not be under taken in a casual fashion. Each delivery method has its own advantages and disadvantages. It is ultimately the responsibility of obstetrician to ensure that delivery plans is appropriate for the individual patients[15]. The rationale of my study is to promote the vaginal birth after caesarean section and determine the various causes of repeat caesarean section so that hospital protocols

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for the management of vaginal birth after previous one caesarean section could develop to decrease the caesarean section rate.

PATIENTS AND METHODS

The study was descriptive case study carried out in the Department of Obstetrics and Gynaecology Unit-II, Sir Ganga Ram Hospital, Lahore from July 2011 to January 2012. Women with age range between 20-45yrs, previous one lower segment caesarean section, and spontaneous onset of labour at term and singleton pregnancy were included with non-probability and purposive sampling. Women with previous section due to contracted pelvis, placenta previa, obese patients (BMI ≥30), systemic illness, twin pregnancy, malpresentations i.e. breech and transverse lie and poor bishop score were excluded. The 104 women fulfilling the inclusion criteria admitted through emergency department with labour pains were included in this study. After taking informed consent for including them in the study, the detailed procedure was explained to them. They were ensured that the collected information was used for study purpose only. Their demographic details like age, parity were obtained and investigations like blood group and hemoglobin was conducted on routine basis. The trial of labour was given to each patient and progress of labour in terms of cervical dilation at the rate of 1 cm/hour was assessed every four hours. The fetal heart rate was assessed on sonicaid every half hourly. The time given for trial was 12 hours. If any one of following three indications like if patients failed to dilate at the rate of 1 cm/hour during this period or any sign of fetal distress or sign of scar tenderness (assessed on both abdominal examination of scar mark and pulse rate > 100/min) occurred, the repeat caesarean section was carried out. Bias is handled by selecting the healthy group of patients to whom trial of vaginal birth after caesarean section can be given safely. Effect modifiers were age of the patient, parity, previous normal vaginal birth after caesarean section and body mass index. These were controlled by stratification. Collected data was entered and analyzed on SPSS version 12. Variables in this study were analyzed by using sample descriptive statistics. Quantitative variable such as age was presented as mean and standard deviation. Frequency and percentage was calculated for qualitative variables like parity, mode of delivery (normal vaginal delivery or repeat caesarean section) and causes of failed trial of labour (failed progress of labour i.e., cervical dilation <1cm/hour, scar tenderness i.e., pulse rate >100/min and fetal distress). Frequency distribution tables were made. Data was stratified for age, parity, previous normal vaginal birth, caesarean section and body mass index (BMI); normal BMI <25, overweight BMI 25-29.9. As this is descriptive study so no test of significance was applied.

RESULTS

A total number of one hundred and four pregnancy women with labour pains were admitted through an emergency department of Sir Ganga ram Hospital Lahore. The baseline characteristics of these patients were as follows. The cases shown in table 1 were divided in five age groups. The first group had cases aged 20 to 25 years (n = 25) 24.1%, second group cases aged 26-30 years (n=39) 37.5%, third group cases aged 31-35 years (n=28) 26.9%, fourth group cases aged 36-40 years (n=7) 8.8% and fifth group comprised cases aged 41-45 (n=4) 3.8%. The mean ±SD age of women was 29.25±5.38 years (Table 1). The maximum number of parity was 3-4 (n=48) 46.2% and minimum parity was 5-6 (n=35) 33.6% (Table 2). Out of 104 deliveries, 72(69.3%) patients delivered by vaginal route and 32 (30.7%) by repeat caesarean section (Table 3). Regarding causes of failed trial of labour, failed progress of labour (cervical dilatation<1cm/hour) was found in 18 patients (56.2%), fetal distress in 10 patients (31%). scar tenderness on abdominal examination in 2(6.2%), pulse rate >100/min in 2(6.2%) as shown in Table 4

Table 1: Distribution of cases according to age (n=104)

Age (years)	No.	%age
20 – 25	25	24.1
26 – 30	39	37.5
31 – 35	28	26.9
36 – 40	8	7.7
41 – 45	4	3.8

Mean±SD:29.25±5.38 years

Table 2: Distribution of cases according to parity (n=104)

Parity	**No.**	**%age**
1 – 2	21	20.2
3 – 4	48	46.2
5 – 6	35	33.6

Table 3: Distribution of cases according to mode of delivery

Mode of delivery complaint	**No.**	**%age**
Normal vaginal birth	72	69.3
Repeat Caesarean section	32	30.7

Table 4: Frequency of causes of failed labour (n=104)

Causes of failed of labour	**No.**	**%age**
Failed progress of labour (cervical dilatation < 1cm/hour)	18	56.2
Fetal distress	10	31.0
Scar tenderness	2	6.2
Pulse rate>100/min	2	6.2

DISCUSSION

The overall caesarean section rate in our hospital was 30%. This is apparently high rate as compared to current caesarean section rate of 23.8% in United

Kingdom.[16] However if we split our caesarean sections into two groups booked and unbooked, it is seen that the increased caesarean section rate is actually due to an increased primary caesarean sections carried out in the non-booked cases.

Increased morbidity and mortality associated with caesarean section as compared to normal vaginal delivery is clearly born at by the literature.[17] This fact together with the lower reported incidence of uterine rupture and consequent maternal and fetal compromise strongly argue for the trial of labour in carefully selected patients with previous one caesarean section. The rate of normal vaginal delivery after previous one caesarean section was 69.3% in our study. This is comparable to the most studies[18-22] which indicates that 60-80% of women can achieved a normal vaginal delivery following previous one caesarean section. The most common cause of failed trial of labour was failure to progress (56.2%) which is comparable with results of Kumar et al[22] and Iqbal Begum et al[23] Fetal distress was found in 31% patients. This was similar with other studies conducted by Kumar et al[22] and Begum et al.[23]

These patients need careful counseling with emphasis on early booking in subsequent pregnancy and regular antenatal checkup. In a subsequent pregnancy these patients must be seen by a senior obstetrician and after proper assessment and case selection should be offered a trial of scar. Attempting vaginal birth after caesarean section is important as it offers one potential area where alarmingly high rate of caesarean section can be reduced.

CONCLUSION

It was concluded from this study that not permitting a trial of labour in an eligible candidate is simply not justified on the basis of fear of uterine rupture. The likelihood of a successful trial of scar in carefully selected patients was similar to that reported in developed countries (62-84%), thus resulting in decreased incidence of repeat caesarean section. It is recommended that nationwide measures should be taken to improve antenatal care at primary and tertiary level hospitals.

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