



FETO-MATERNAL OUTCOME; TRIAL OF LABOUR A STUDY AT TERTIARY CARE HOSPITAL

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ABSTRACT... Background: Trial of labour is a clinical test to assess the adequacy of pelvis and ability of fetus and mother to withstand labour. If progressive changes in dilation and station do not occur, a cesarean delivery is performed. **Objective:** Feto-maternal outcome after trial of labour in women with gestational age b/w 37 to 42 weeks. **Study Design:** Cross sectional study. **Setting:** Department of Obs/ Gyn unit-I Liaquat University Hospital Hyderabad. **Duration of Study:** One year from 01-02-2009 to 31-01-2010. **Subjects and Methods:** 100 pregnant women, with gestational age between 37-42 weeks, who underwent trial of labour at labour ward, Obs/Gyn Unit-1 Liaquat University Hospital, after fulfilling the inclusion criteria were included in the study. Detailed history and examination including abdominal and pelvic examination as well as Ultrasound for fetal well being was performed. Fetal monitoring was done by auscultation and CTG. Partogram was maintained to observe the progress of labour. Those who progressed with trial either delivered normally or with the help of instruments and those who did not progress were delivered by C-section. After delivery, mothers were watched for any postpartum complication and condition of neonates was assessed by APGAR score. **Results:** Out of 100 women included in this study 58% delivered vaginally, 31 % delivered by cesarean section and 11 % had instrumental deliveries. Labour was induced in 34%, augmented in 34% and 32% had spontaneous labour. 77.0% babies had apgar score > 5(7.1±0.72), 16% < 5(3.68±2.18) and 6% were still birth. 81% mothers had no complication during or after delivery, whereas 19 developed complications and these were 12 Genital tract traumas, 5 postpartum haemorrhage, one uterine rupture and one retained placenta. There was no statistically significant difference (P=0.42) when mode of delivery was compared with the trial of labour. However augmentation of labour was associated with increased rate of maternal complications when maternal outcome was compared with the type of labour (P=0.03). **Conclusions:** Trial of labour in carefully selected women with high probability to deliver their babies vaginally decreases the rate of LSCS, thereby reducing the maternal morbidity and mortality associated with it. However augmentation of labour is associated with increased rate of maternal complications as compared to spontaneous or induced labour.

Key words: Trial of labour, vaginal delivery, Cesarean section.

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INTRODUCTION

Worldwide rise in cesarean section (CS) rate during the last three decades has been the cause of alarm and all women undergoing CS are exposed to potential complications including the complications of anaesthesia¹. In one study the frequency of overall postoperative complications – major (pelvic infection, sepsis, deep vein

thrombosis etc.) and minor (fever, urinary infection, wound sepsis etc.) – was 35.7% and it was also observed that major complications were almost double in emergency CS compared to those in elective CS². Similarly babies are also vulnerable to unnecessary risks from rising CS rates and a much more serious risk is respiratory distress syndrome (RDS)³.

In 2001, 16.7% of all CS performed in UK, were on women previously delivered by CS⁴. Recurrent sections for three or four or more times are now frequently performed for various reasons. In an attempt to reduce the rising trend of cesarean delivery worldwide, obstetricians now offer trial of labour more readily to women who have had a CS. A trial for vaginal birth after a previous CS (VBAC) is considered safer than a routine repeat CS⁵.

A trial of labour is one in which the labour has progressed to full dilatation of the cervix and continued in the second stage for two hours and if the baby cannot be safely delivered vaginally by this time, CS is performed. In trial the adequacy of pelvis and ability of fetus or mother to withstand labour is assessed. Labour is carefully watched for evidence of continuing progress by repeated abdominal and vaginal examinations and the results are recorded on a partogram⁶.

It must be admitted that not all cases are suitable for a trial of labour. It is precluded, obviously, when the fetus presents by the breech. It will not be selected when other obstetrical abnormalities are associated with like; sever disproportion, placenta previa, a severe grade of toxemia or eclampsia, or an oblique lie. After exclusion of all contra-indications, vaginal delivery is associated with less maternal and fetal morbidity and mortality as compared with cesarean section and it should be considered in properly selected patients in hospital setting⁷. Good prognostic factors at term for trial of labour include: engaged head, average size of the baby, soft, central and dilated cervix and adequate pelvis. The bad prognostic features include, high mobile unengaged head, good size baby and unripe cervix⁸.

Trial of labour decreases the incidence of caesarean section and the benefits of vaginal over abdominal delivery include less post partum morbidity, shorter hospital stay, fewer operative and anesthetic risks, financial savings and of immeasurable value is the earlier and easier neonatal -maternal interaction and bonding⁸.

Many international and national studies have been

conducted on VBAC whereas this study was conducted on all pregnant women of gestational age between 37 and 40 weeks with predefined inclusion and exclusion criteria in a tertiary care setting to see the success of Trial of labour in our patients.

PATIENTS AND METHODS

This cross sectional case study was carried out in the department of Obs/Gyn unit I, Liaquat university hospital Hyderabad, over a period of one year from 1st February 2009 to 31st January 2010. Sample size was 100 women who fulfilled the criteria and the sample technique was non-probability convenience sampling.

Inclusion Criteria

Previous one cesarean section, Borderline pelvis, Postdate pregnancy, Pre-labour rupture of membranes.

Exclusion Criteria

Previous major uterine surgery, Bleeding disorder, Cardiac disease, Ante partum hemorrhage.

Pregnant women, with gestational age between 37-42 weeks who underwent trial of labour at labour ward GU1 Liaquat University Hospital, and fulfilled the inclusion criteria were included in the study. These patients were admitted either via casualty or Antenatal clinic. On admission informed consent was taken. A proper detailed history was taken especially about the last menstrual period and the cause of previous section was determined. Patients were examined thoroughly especially to assess the size of baby, presentation, tenderness on previous caesarean scar on abdominal examination, and to assess the adequacy of pelvis by pelvic examination. Ultrasound for the estimation of gestational age and fetal well being was done in all patients. Fetal monitoring was done by intermittent fetal heart rate auscultation and C'TG. A partogram was maintained to observe the progress of labour. After delivery mothers were watched for trauma, septicemia, uterine rupture and PPH for 24 hrs. Neonatal condition was assessed by Apgar score and nursery stay. A predesigned questionnaire

form was used to collect the data.

The data was entered and evaluated in statistical Program SPSS version 10.0. The qualitative data (frequency and percentage) such as mode of delivery, Type of labour, fetal outcome, complications and maternal outcome were presented as percentages and Pearson's chi square test was applied to compare the proportions between mode of delivery, type of labour and maternal outcome. The numerical parameters i.e. age (in years), Apgar score and parity were presented as Mean ± Standard Deviation. All the data were calculated on 95% confidence interval. A P value = 0.05 was considered as statistically significant.

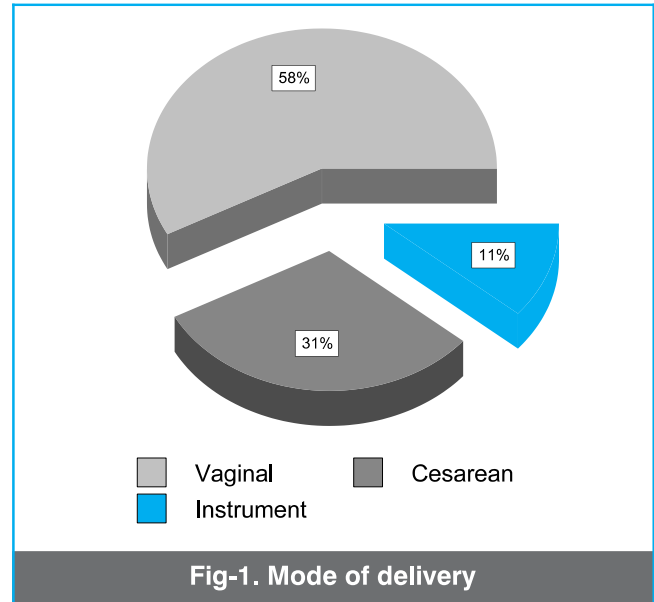
RESULTS

One hundred cases were included in this study on the basis of inclusion and exclusion criteria to determine the feto-maternal outcome after trial of labour in women with gestational age > 37 to 42 weeks. Mean age ± standard deviation (range) was 28.30 ± 4.70 (18 - 35 years). Out of 100 cases, 43 patients were primigravida, 56 women were multigravida and 1 patient was grand multigravida. (Table No. I)

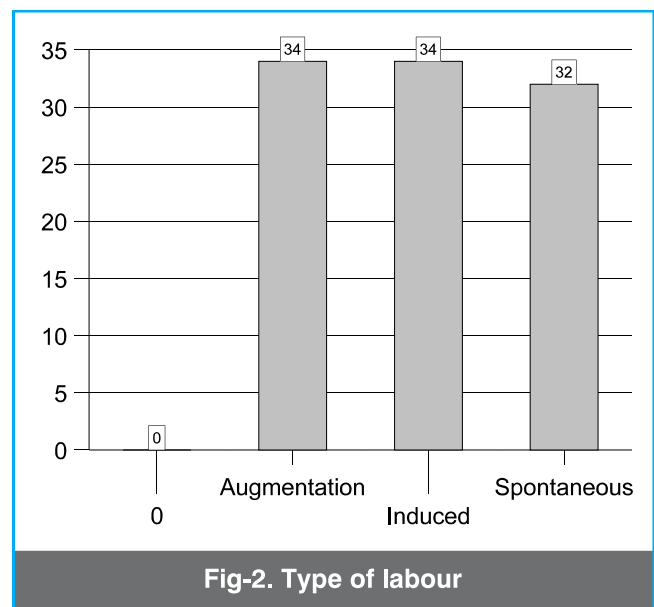
Continuous parameters	Mean ± Standard Deviation
Age (in years)	28.30 ± 4.70
Parity	1.18 ± 1.59
Apgar score	6.60 ± 1.67
Parity:	
Primigravida	43 (43.0%)
Multigravida (1 to 5)	56 (56.0%)
Grand multigravida (>5)	01 (1.0%)

Table-I. Mean age, parity and Apgar score

Fifty eight (58.0%) women delivered normally while 31(31.0%) women were delivered by cesarean and 11 (11.0%) women had instrumental deliveries. (Fig-1)



Labour was induced and augmentation in 34(34.0%) women respectively and 32(32.0%) women had spontaneous labour. (Fig-2)



Out of 100 women who had labour, most of the women 58(58.0%) were delivered by normal vaginal delivery Out of 58 women who had normal delivery, 23(67.6%) had augmentation labour, 17(50.0%) had induced labour and 18(56.3%) had spontaneous labour. (Table No.II)

Fetal outcome in all the women was determined. Seventy seven (77.0%) babies had Apgar score >

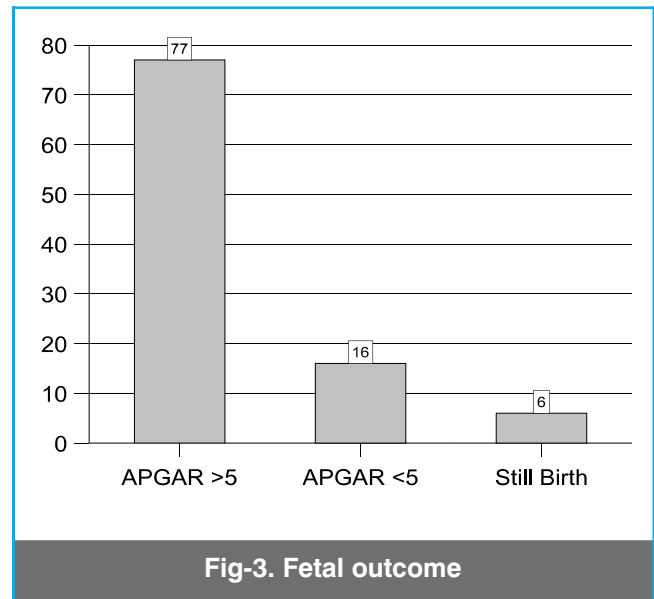
Mode of	Spontaneous (N=32)		Augmentation (N=34)	Total (N=100)
NVD	18 (56.3%)	17 (50.0%)	23 (67.6%)	58 (58%)
Instrumental	02 (06.3%)	05 (14.5%)	04 (11.8%)	11 (11%)
Cesarean	12 (37.5%)	12 (35.3%)	07 (20.6%)	31 (31%)

Table-II. Mode of delivery in relation to trial of labour
 χ^2 value = 3.864 df = 4, P-value = 0.42*

5 (Mean ± SD, 7.1 ± 0.72). Sixteen (16.0%) delivered with apgar score < 5 (Mean ± SD, 3.68 ± 2.18). 6 (6.0%) women (Mean+ SD, 7.1 ± 0.80) delivered still birth babies (Fig-3).

Eighty one,(81.0%) had no complications during or after delivery, however, 19 developed complications, twelve women had Genital tract trauma, 5 women had postpartum haemorrhage, 1 woman had uterine rupture and retained placenta respectively. (Fig-4)

Maternal outcome in relation to type of labour showed, genital tract trauma was seen in 12(12.0%) women and more frequent who had induced labour, however PPH and retained placenta was more common in women with augmentation of labour (Table No.III)

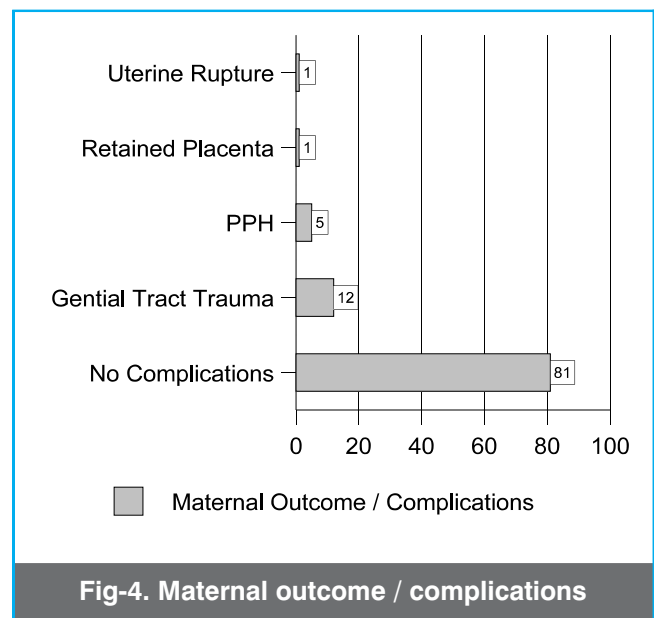


DISCUSSION

This study was conducted in a tertiary care hospital, where a large number of high risk and complicated cases of labour; like prolonged labour, prolonged rupture of membranes, neglected transverse lie, mismanaged breech, and obstructed labour are referred from periphery. According to inclusion criteria, pregnant women, with gestational age between 37-42 weeks who underwent trial of labour were included in this study.

In appropriately selected women with a previous CS, a trial of labor is safer than elective repeat CS; suggested by several studies^{9,10,11,12}. Published literature shows that there has been a 60-80% success in attempts at vaginal birth after a cesarean section¹³.

Fifty eight (58.0%) women were delivered



Mode of delivery	Spontaneous (N=32)	Induced (N=34)	Augmentation (N=34)	Total (N=100)
Retained Placenta	-	-	1 (2.9%)	1 (1.0%)
Uterine rupture	-	1 (2.9%)	-	1 (1.0%)
PPH	-	-	5 (14.7%)	5 (5.0%)
Genital tract Trauma	2 (6.3%)	5 (14.7%)	5 (14.7%)	12 (12.0%)
No Complications	30 (93.8%)	28 (82.4%)	23 (67.6%)	81 (81.0%)

Table-III. Maternal outcome in relation to type of labour

P-value = 0.03 *df* = 8 χ^2 value = 16.28

**P* value is statistically significant (0.05) calculated by Pearson's chi-square test

vaginally while 31(31.0%) women were delivered by cesarean and 11(11.0%) women had instrumental deliveries in present study. High rate of vaginal delivery was seen by F. Maqsood et al in their study, in which 78% delivered vaginally and 22% had operative delivery¹⁴. A collective series of 11580 cases of trial of labour, the longest in USA gave the success rate of 79.6%¹⁵. Similarly the rate of vaginal birth after trial of labour was 82%,¹⁶ and 80%¹² in studies conducted in Middle East.

The trial of labor may be left to spontaneous onset and progress of labour; however the judicious use of oxytocin is not contra-indicated while syntocinon should be used with cautions¹⁷.

In this study, labour was induced and augmentation in 34(34.0%) women respectively and 32(32.0%) women had spontaneous labour, out of 100 subjects. In contrast the study by Asma Usmani et al have shown labour and delivery were spontaneous in 232 (74%) of the 314 patients. Augmentation with oxytocin was required in 66(21.0%) patients, while induction of labour was carried out in 16 patients¹⁷. In another study by Hassan A et al 83% of the patients had a spontaneous onset of labour and 17% needed induction of labour with prostaglandin E2 pessaries and augmentation of the labour with oxytocin⁸. Similarly in another study by Mumtaz A et al, 70.8% of patients had spontaneous onset of labour and 29% of patients needed induction of

labour. Induction of labour was done with foley's catheter, prostaglandin E2 pessaries and syntocinon, augmentation of labour was done with syntocinon when needed¹⁸. Patients who went into spontaneous labour had significantly better chance of being delivered vaginally than those who were induced; however in this study chance of being delivered vaginally was equal in both spontaneous as well induced.

Fetal outcome in this study was better than in a study of 100 women by Zahid et al, in which 23 babies were stillborn while 45 had Apgar score below 5 at five minutes and required admission in nursery. The rate of still birth in present study was 6.0% and women delivered 16(16.0%) babies having Apgar score < 5¹⁹.

Eighty one,(81.0%) had no complications during or after delivery, however, 19 developed complications, twelve women had Genital tract trauma, 5 women had postpartum haemorrhage, 1 woman had uterine rupture and retained placenta respectively. Whereas in study by Mumtaz A et al, maternal complications were noted in the form of post-partem haemorrhage, wound infection, fever and scar dehiscence, and one case of ruptured uterus (0.4%)¹⁸. Similarly there was also one case of uterine rupture (0.4%) in another study by Hassan A et al⁸. PPH and retained placenta was more common in women with augmentation of labour when maternal outcome was compared

with type of labour.

Trial of labour in carefully selected women with high probability to deliver their babies vaginally decreases the rate of LSCS, thereby reducing the maternal morbidity and mortality associated with it. However augmentation of labour is associated with increased rate of maternal complications as compared to spontaneous or induced labour.

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PREVIOUS RELATED STUDY

Nazia Amjad, Tayyaba Imran, Ahsen Nazir Ahmed. FETOMATERNAL OUTCOME OF PREGNANCY BETWEEN 40 AND 42 WEEKS (Original) Prof Med Jour 15(3) 317-322 Jul, Aug, Sep, 2008.