



TRIAL OF LABOUR AFTER PREVIOUS ONE LOWER SEGMENT CAESAREAN SECTION IN SMS MEDICAL COLLEGE, JAIPUR

Gynaecology

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ABSTRACT

Aims & Objectives : To assess the fetomaternal outcome of spontaneous term vaginal birth after a previous one lower segment caesarean delivery.

Materials & Methods : A prospective study was conducted in the Department of Obstetrics & Gynaecology, SMS Medical College, Jaipur from March 2015 to October 2016. 120 pregnant women with a history of one previous LSCS were enrolled in the study.

Results : In our study, 60% cases had a successful VBAC and 40% underwent a repeat emergency LSCS for failed trial of labour after caesarean section. The incidence of scar dehiscence was 5.83%. There was no maternal or neonatal mortality.

Conclusion : TOLAC can be given in selected cases with good monitoring of FHS and progress of labour under supervision of trained staff at a tertiary care hospital.

KEYWORDS

Vaginal birth after caesarean delivery, previous caesarean delivery, trial of labour after caesarean section

INTRODUCTION

The dictum "once a caesarean section always a caesarean section" no longer holds true. Several studies suggest that in women with prior lower segment caesarean section for non recurrent cause, a trial of labour is as safe as elective repeat Caesarean section.

For successful delivery after a previous caesarian section the Obstetrician requires to have the expertise to carefully select the patients for trial of labour because rupture of scar can endanger the life of both mother and her child. Successful trial of labour shortens the duration of hospital stay and gives more patients satisfaction¹ plus the complications associated with the surgical procedure are also eliminated. Hence, the present study was done to assess the fetomaternal outcome after a previous one lower segment caesarean delivery.

MATERIAL & METHODS

This prospective study was done in the Department of Obstetrics & Gynaecology, SMS Medical College, Jaipur from March 2015 to October 2016. During study period we included women with a previous one lower segment caesarean section with cephalic presentation admitted in labour room with spontaneous labour. Women with estimated fetal weight >3.5 kg, malpresentation, history of postoperative wound infection following previous LSCS and previous history of any unknown uterine surgery, contraindications to vaginal delivery like cephalopelvic disproportion, major degree placenta previa, abruptio placentae and transverse lie and previous preterm caesarean section <34 weeks were excluded from the study. A total of 120 cases that fulfilled the selection criteria were enrolled in the study. After taking informed consent labour was closely monitored. Strict Fetal heart monitoring was done (by cardiotocography). Progress of labour was monitored on regular basis by using standard WHO partograph and 4 hourly internal examination performed to assess progress of labour and when necessary labour was augmented with oxytocin. Patients were vigilantly monitored for scar tenderness or delay in progression of labour and if need arises immediate LSCS was done.

STATISTICAL ANALYSIS

Statistical analysis was performed with the SPSS, Trial version 23 for Windows statistical software package (SPSS inc., Chicago, IL, USA) and Primer. The Categorical data were presented as numbers (percent) and were compared among groups using Chi-square test. Groups were compared for quantitative data were presented as mean and standard deviation and were compared using by students t-test. Probability p-value <0.05 was considered statistically significant.

RESULTS

Table – 1: Distribution of Cases According to Mode of Delivery

Mode of Delivery	No.	%
LSCS	48	40.00
Successful VBAC	72	60.00
Total	120	100.00

In our study TOLAC was applied on 120 cases, out of them 72 (60%) had successful VBAC and 48 (40%) had emergency LSCS {Table-1}. Majority of cases were in the age group of 26-30 yrs.

Table – 2: Distribution of Cases According to Maternal Morbidity

Maternal Morbidity	Emergency LSCS (n = 48)		Successful VBAC (n = 72)		Total (n = 120)	
	No.	%	No.	%	No.	%
1 ^o Perineal Tear	0	0.00	2	2.78	2	1.67
2 ^o Perineal Tear	0	0.00	3	4.17	3	2.50
Atonic PPH	1	2.08	2	2.78	3	2.50
Cervical Tear	0	0.00	1	1.39	1	0.83
Scar Dehiscence (+)	7	14.58	0	0.00	7	5.83

$\chi^2 = 13.333$, d.f. = 4, $p = 0.010$, Sig

This study shows maternal morbidity in the form of 1^o perineal tear in 2 (1.67%) cases, 2^o perineal tear in 3 (2.5%) cases, atonic PPH in 3 (2.5%) cases, cervical tear in 1 (0.83%) case and scar dehiscence was present in 7 (5.8%) cases.

Table – 3: Distribution of Cases According to Neonatal Birth Weight

Neonatal Birth Weight (in kg)	Emergency LSCS		Successful VBAC		Total	
	No.	%	No.	%	No.	%
< 2.5	5	27.78	13	72.22	18	15.00
2.5	43	42.16	59	57.84	102	85.00
Total	48	40.00	72	60.00	120	100.00
Mean SD	2.77	0.269	2.73	0.338	2.74	0.311

$\chi^2 = 0.787$, d.f. = 1, $p = 0.375$, NS

In our study mean birth weight of newborn in emergency LSCS group was 2.77 ± 0.269 kg while in successful VBAC group was 2.73 ± 0.338 kg.

Table – 4: Distribution of Cases According to APGAR Score at 5 Minutes

APGAR Score	Emergency LSCS		Successful VBAC		Total	
	No.	%	No.	%	No.	%
5/10	2	66.67	1	33.33	3	2.50
6/10	16	88.89	2	11.11	18	15.00
7/10	30	30.30	69	69.70	99	82.50
Total	48	40.00	72	60.00	120	100.00

$\chi^2 = 22.694$, $d.f. = 2$, $p < 0.001$, *Sig*

In our study 99 (82.5%) babies had APGAR score $> 7/10$. Only 21 (17.5%) babies had APGAR score less than 7/10. 18 (15%) babies had APGAR score 6/10, out of them 8 babies had delayed cry and these babies were kept under observation in nursery for 2 hours.

Table-5: Distribution of Cases According to Neonatal Morbidity

Neonatal Morbidity	Emergency LSCS		Successful VBAC		Total	
	No.	%	No.	%	No.	%
No Morbidity	38	35.51	69	64.49	107	89.17
Morbidity	10	76.92	3	23.08	13	10.83
Birth Asphyxia	8	88.89	1	11.11	9	7.50
MAS	1	100.00	0	0.00	1	0.83
Septicaemia	1	33.33	2	66.67	3	2.50
Total	48	40.00	72	60.00	120	100.00

$\chi^2 = 6.210$, $d.f. = 1$, $p = 0.013$, *Sig*

In our study neonatal morbidity occurred in 13/120 (10.83%), out of them 9/13 had birth asphyxia, 1/13 had meconium aspiration syndrome, 3/13 had septicaemia. No neonatal death occurred in our study.

Table – 6: Distribution of Cases According to Relationship Between Scar Tenderness and Scar Dehiscence Among Emergency LSCS Cases

LSCS (n = 48)	No.	%
Scar Tenderness	11	22.92
Scar Dehiscence Among Tenderness	7	63.64

In our study among emergency LSCS cases, scar tenderness was present in 11 (22.92%) cases. Among scar tenderness positive women, scar dehiscence was present in 7 (63.64%) cases intraoperatively.

OBSERVATIONS & DISCUSSION

With the significant rise in the incidence of primary CS for various indications, an increasing proportion of the pregnant women coming for antenatal care report with a history of a previous CS. In our study, we included only those women that came in the labour room with good Apgar score and fulfilled the selection criteria.

In comparison of other studies: - Shakti V et al (2006)² shows 72% successful VBAC cases and 28% emergency LSCS cases.

Bangal VB et al (2013)³ shows rate of emergency LSCS 15% and 85% successful VBAC.

Gupta P et al (2014)⁴ shows 59% successful VBAC cases and 41% emergency LSCS cases.

Incidence of complication in successful VBAC cases 8/72 (11.11%) was less than incidence of complication in emergency LSCS cases 8/48 (16.67%).

Farmer RM et al (1991)⁵ give 0.7% incidence of scar dehiscence in normal infant deliveries. In our study scar dehiscence was significantly more in emergency LSCS cases (14.58%) than successful VBAC cases (0%) { p -value < 0.05 }.

Shakti V et al (2006)² study shows that one case of scar dehiscence (0.5%), three cases of cervical tear (1.5%) and one case of second degree perineal tear (0.5%) was present in successful VBAC cases. While in our study 2 cases of one degree perineal tear (2.78%), 3 cases of second degree perineal tear (4.17%), 2 cases of atonic PPH (2.78%) and one case of cervical tear was present in successful VBAC cases.

Gupta P et al (2014)⁴ study shows that maternal morbidity was more in emergency LSCS cases than successful VBAC cases.

In our study 102 (85%) babies had birth weight 2.5 kg, out of them 43 (42.16%) babies delivered by emergency LSCS and 59 (57.84%) babies delivered vaginally.

There was no significant difference between two groups with respect to neonatal birth weight because p -value was > 0.05 . This may be due to we have included only those cases who have sonographically weight of fetus 3.5 kg.

Bangal VB et al (2013)³ shows that birth weight more than 3 kg was associated with a lower success rate of VBAC (18.7%).

Similar observations were made by Irani FF et al (1971)⁶, Whiteside DC et al (1983)⁷, Ollendorff DA et al (1988)⁸, Landon MB et al (2005)⁹ and Zelop CM et al (2001)¹⁰.

Out of 18 babies, 3 babies had septicemia and 7 babies had birth asphyxia. These babies were kept in ICU until recovery. 3 (2.5%) babies had APGAR score 5/10 out of them, 2 babies had birth asphyxia and one baby had meconium aspiration syndrome. Babies were kept in ICU until period of recovery.

Bangal VB et al (2013)³ study reported APGAR score less than 6/10 in 4% babies.

Babies delivered by emergency LSCS had low APGAR score than delivered vaginally and this result was statistically significant because p -value was < 0.05 .

Gupta P et al (2014)⁴ study reported that perinatal morbidity occurred in 35/370 (9.45%), out of them 15/35 babies had birth asphyxia, 14/35 MAS, 3 babies were premature, 3 had congenital anomalies with 3 perinatal death.

In our study, morbidity in emergency LSCS cases was 10/48 (20.83%) than successful VBAC delivery 3/72 (4.17%) because p -value was < 0.05 .

In our study neonatal morbidity significantly higher in emergency LSCS cases as compared to VBAC cases (20.83% v/s 4.17%).

Bangal VB et al (2013)³ in their study reported 3 times higher morbidity in emergency LSCS cases than those with a successful VBAC delivery.

Dayal V (1985)¹¹ and Obara H et al (1998)¹² shows similar observation in their study.

Phelan JP et al (1987)¹³ in their study of 1,796 cases reported a perinatal mortality 4.5/1000 deliveries.

In our study incidence of scar dehiscence was 5.83% and for scar rupture 0%.

Palerm GR et al (1977)¹⁴ reported that the incidence of uterine rupture was 1.3% with lower segment caesarean and 0.07% with lower segment transverse scar.

Dayal V et al (1985)¹¹ reported a higher rate (4.2%) of scar rupture.

Phelan JP et al (1987)¹³ reported scar dehiscence in 1.9% cases and uterine rupture in 0.3% cases.

Bangal VB et al (2013)³ reported scar dehiscence in 2% cases no case of scar rupture was present.

Our study shows maternal morbidity in the form of 1° perineal tear in 2 (1.67%) cases, 2° perineal tear in 3 (2.5%) cases, atonic PPH in 3 (2.5%) cases, cervical tear in 1 (0.83%) case and scar dehiscence was present in 7 (5.8%) cases and In our study no maternal mortality was present. Incidence of maternal morbidity was 13.33%. Incidence of morbidity in successful VBAC cases (11.11%) was less than in emergency LSCS cases (16.67%). Farmer RM et al (1991)⁵ give 0.7% incidence of scar dehiscence in normal infant deliveries. In our study scar dehiscence was significantly more in emergency LSCS cases (14.58%) than successful VBAC cases (0%) { p -value < 0.05 }. Shakti V et al (2006)² study shows that one case of scar dehiscence (0.5%), three cases of cervical tear (1.5%) and one case of second degree

perineal tear (0.5%) was present in successful VBAC cases. While in our study 2 cases of one degree perineal tear (2.78%), 3 cases of second degree perineal tear (4.17%), 2 cases of atonic PPH (2.78%) and one case of cervical tear was present in successful VBAC cases. Gupta P et al (2014)⁴ study shows that maternal morbidity was more in emergency LSCS cases than successful VBAC cases. In our study 102 (85%) babies had birth weight 2.5 kg, out of them 43 (42.16%) babies delivered by emergency LSCS and 59 (57.84%) babies delivered vaginally ($\chi^2 = 0.787$, d.f=1, $p=0.375$). Bangal VB et al (2013)³ shows that birth weight more than 3 kg was associated with a lower success rate of VBAC (18.7%). Similar observations were made by Irani FF et al (1971)⁶, Whiteside DC et al (1983)⁷, Ollendorff DA et al (1988)⁸, Landon MB et al (2005)⁹ and Zelop CM et al (2001)¹⁰.

In our study 18 (15%) babies had APGAR score 6/10, out of them 8 babies had delayed cry and these babies were kept under observation in nursery for 2 hours. Out of 18 babies, 3 babies had septicemia and 7 babies had birth asphyxia. These babies were kept in ICU until recovery. 3 (2.5%) babies had APGAR score 5/10 out of them, 2 babies had birth asphyxia and one baby had meconium aspiration syndrome. Babies were kept in ICU until period of recovery. Bangal VB et al (2013)³ study reported APGAR score less than 6/10 in 4% babies. Babies delivered by emergency LSCS had low APGAR score than delivered vaginally ($\chi^2 = 22.694$, d.f=2, $p<0.001$). There was no neonatal mortality in our study. In our study neonatal morbidity significantly higher in emergency LSCS cases as compared to VBAC cases (20.83% v/s 4.17%). Similar observations were reported in Bangal VB et al (2013)³, Dayal V (1985)¹¹ and Obara H et al (1998)¹² studies. The mean duration of hospital stay for emergency LSCS cases was 5.67 days while for successful VBAC cases was 2.39 days. Similar observations were made by Bangal VB et al (2013)³, Gibbs CE et al (1980)¹⁵ and Traynor JD et al (1998)¹⁶. Horowitz BJ et al (1981)¹⁷ carried out a survey of the benefits of a successful VBAC and found out that a shorter hospital stay in a VBAC delivery has a positive impact on the psychology of the women and decrease the total cost of hospitalisation. In our study incidence of scar dehiscence was 5.83% and for scar rupture 0%. Similar observations were made by Dayal V et al (1985)¹¹ and Bangal VB et al (2013)³.

CONCLUSION

So after conducting the above study I have arrived at a conclusion that TOLAC. Can be given at a Tertiary Care Hospital in carefully selected women with lesser maternal and neonatal morbidity.

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