

Pregnancy Outcome in Women with Previous One Cesarean Section

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Abstract

Objective: The aim of the study was to have an audit of fetal & maternal outcome in all the cases of pregnancy with previous one cesarean admitted to Gynae A labour room in order to assess the safety of various modes of delivery & to make recommendations for improvements.

Methodology: This is a prospective observational study. Data was collected for all the patients admitted to labour room over a period of one year i.e., from Sep 2015 to 31st August 2016 with full term pregnancy & previous one scar i.e., who delivered in this period. Condition at admission, detailed obstetric history, decision about mode of delivery, intra & postpartum complications were all entered into the patient's record files & were collected from there.

Results: A total of 5630 patients delivered in this time out of which 336(5.96%) patients were admitted with previous one scar. 199(59.22%) patients had decision of repeat cesarean section at admission out of which 66(19.64%) patient had elective repeat cesarean section & 133(39.58%) patients had emergency cesarean section. Trial of scar was decided in 130(38.69%) patients out of which 95(73.07%) delivered vaginally. 7 (2.08%) patients were admitted with rupture uterus, all of whom tried to deliver locally without any consultation with senior obstetrician. Overall 9 fetal deaths, 3 early neonatal deaths & one maternal death was noted in the group admitted to labour room in advanced labour. 7 fetal deaths in patients who underwent laparotomy for rupture uterus & 3 early neonatal deaths in emergency cesarean group who were handled at village level by LHV.

Conclusion: Women with previous cesarean section comprise a high proportion of obstetric admissions. Ruptured uterus, haemorrhage & fetal death due to trail of labour at home because of fear of repeat cesarean is very common in these patients. Trail of labour in selected patients in a well equipped hospital is safe & successful & should be encouraged. They should have regular antenatal visits & should be counseled about mode of delivery by an experienced obstetrician well before labour. Limiting primary cesarean rate is important to reduce the maternal morbidity & mortality in this group of patients.

Key Words: VBAC, TOLAC

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Introduction

Morbidity Worldwide cesarean rate is increasing. The most common indications for a cesarean section are labour dystocia and repeat cesarean section.¹ In developing country like ours where large family size is the social norm, the emergency repeat cesarean rate is rising due to fear of complications of the primary cesarean section like rupture uterus, excessive bleeding etc, this will cost too much to physical and financial resources, even to the life of the mother and the fetus. Moreover maternal & perinatal mortality is still

very high despite an increase in cesarean rate.² Practical efforts should be made to reduce primary cesarean rate. In such a society where large family size is religiously required trail of labour becomes a necessity rather than a choice because successful trail of scar and subsequent vaginal delivery reduces cesarean rate & its associated morbidity & mortality. This is the consensus of clinical guide lines that planned VBAC is safe, appropriate mode of delivery for the majority of pregnant women with single previous

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lower segment cesarean section.^{1, 3, 4, 5}

So this study was conducted to analyze the mode of delivery in patients with previous one cesarean & to assess the success rate of vaginal delivery in a group of patients selected for trial of labour after cesarean (TOLAC) & to suggest recommendations that will improve the outcome.

Methodology

This is a descriptive study conducted at Gynae A unit Mardan Medical complex & teaching hospital over a period of one year. Approval of hospital ethical committee was taken. All cases admitted to labour room with previous one CS were included in the study. All the data was entered into patients file including condition at arrival, the decision about mode of delivery, full delivery notes & any maternal or fetal complications etc. Patients admitted for elective cesarean were also included. The initial history, examination & documentation were done by senior FCPS trainees & decision of mode of delivery & trial of the scar was taken by a senior obstetrician.

Induction of labour was not done in any case. Trial of labour was given in a selected group of patients presenting in spontaneous labour in active phase with vertex presentation and previous lower segment transverse incision. Patients were selected on the basis of clinical pelvimetry. Elderly, overweight conceiving after prolonged period of infertility, having any medical disorder, having any complication in the first cesarean section or when estimated fetal weight was >4kg were not given trial of labour. In 6 patients 2.5-unit oxytocin drip was used to augment labour.

Partograph was maintained by a senior trainee medical officer and all the warning signs, scar tenderness, bleeding per vagina and colour of liquor were observed every half hourly. Pinards stethoscope & portable Doppler were used to monitor fetal heart sounds. Facility of continuous electronic fetal monitoring was not available at the time of study. I/v line was maintained & anesthetist and OT were alert. TOLAC patients were monitored by the one trainee medical officer from admission till delivery.

Trial of scar was terminated if there was deviation of graph to the right of alert line, scar tenderness, fetal distress, or patient's refusal to the continuation of trial. All the events of labour & surgery were noted & file was saved after patient was discharged.

Results

An audit of all patients admitted to labour room with previous one cesarean and full term pregnancy from first September 2015 to 31st August 2016 was done. During this period frequency of cesarean section in Gynae A unit was 14.67%. Total deliveries in this period were 5630 out of which 336 (5.96%) patients had previous one cesarean. 212(63%) were second gravid, 78(23%) were 3rd and 4th gravid 46(14%) were gravid 5 & above. All the patients except those for elective section were admitted in spontaneous labour. Induction was not done in any case.

Table no I: Frequency of mode of delivery in pregnant patients with previous one cesarean.

Mode of delivery	Number of cases	Percentage
VBAC	95	28.27%
Total EmRCS	168	49.99%
Direct EmRCS	133	39.58%
EmRCS in TOLAC	35	10.41%
Elective CS	66	19.64%
Rupture uterus	07	2.08%

Table II: Outcome of trial of labour after cesarean section.

Mode of delivery	NO of cases	Percentage
VBAC	95	73.07%
Em. repeat CS	35	26.92%

The success of VBAC in a selected group of patients inside this hospital under supervision was 73.07%. If we include all patients who came in established labour, but were not approved for TOLAC, instead direct emergency cesarean was decided for them, the emergency cesarean rate will rise & VBAC rate will fall therefore direct emergency cesarean sections are counted separately. In 130 (38.69%) patients who underwent TOLAC 95 delivered vaginally, out of which 70(73.68 %) were vacuum deliveries and 25(26.31%) were spontaneous vaginal deliveries. 35 patients in TOLAC group had emergency cesarean sections. Direct emergency cesarean section was decided for 133 patients who came in labour. They were not in a condition to be given further trial.

7(2%) patients came with rupture uterus & fetal death. All were mismanaged by local birth attendants. One patient could not recover from the shock, DIC and expired. In four patients subtotal hysterectomy & in other three, repair was done.

Table III: Indications for emergency cesarean section in TOLAC cases

Indication	Number of cases	Percentage
Labour dystocia	14	40%
Impending rupture	10	28.57%
Fetal distress	8	22.85%
Patients refusal	3	8.57

In TOLAC group protracted, slow progress & arrest of labour was the main indication for an emergency repeat cesarean. While the most common indication for elective repeat cesarean was contracted pelvis. Babies in the TOLAC group had a good outcome. Two patients in the VBAC group were admitted with dead fetuses.

10 babies in the surgery group were dead, 7 with a ruptured uterus, and 3 came in obstructed labour in an emergency with severely depressed babies & imminent rupture. Babies were shifted to NICU after early resuscitation but could not survive. Three babies in VBAC group delivered with the low apgar score but recovered with early resuscitation.

Table IV : Fetal Outcome According to Mode of Delivery

Decision of mode of delivery at admission	TOLAC(130)		EmRCS(133)	ERCS (66)
	VBAC (95)	CS (35)		
Characteristics				
Apgar score				
0---3	2	--	3	--
4---6	3	6	7	---
7---10	93	29	123	66
Condition after 24 hrs	93	35	130	66
Alive	97.89%	100%	97.74%	100%
still births	2	---	7 (rupture uterus)	--
Early neonatal deaths	---	---	3 2.25%	--

Discussion

Women with previous one section comprise a high proportion of obstetric admissions. Worldwide cesarean sections rate increased due to the introduction of electronic fetal monitoring, decrease in vaginal breech & forceps deliveries & high repeat cesarean rate.^{1,2,6} In an effort to reduce cesarean rate studies on TOLAC have shown that previous vaginal delivery & especially previous VBAC is the best predictor of successful VBAC & the dictum "once a cesarean always a cesarean" has now been changed to "once a cesarean always a hospital delivery".^{6,7} This policy will also reduce the fear of risk & litigation.⁸ Trials with

spontaneous onset and standard rate of progress of labour usually end up at successful VBAC.

TOLAC rate(38.69%) in this study is similar to most of the studies.⁹ while emergency cesarean rate (39.58%) is high as compared to other studies² because most of the patients are brought in advanced labour already mismanaged, they could not be subjected to further trial of labour. In TOLAC patient's commonest indication for emergency cesarean was labour dystocia which is similar to other studies.¹⁰ Specialized care & timely intervention in cases of labour dystocia abates all the complications but due to fear of repeat cesarean our patients who are mostly illiterate & unaware of the consequences, prefer to attempt delivery at their home/village by local birth attendants. Neither they go for regular antenatal visits nor consult an obstetrician before labour, about the possible mode of delivery. Hence it is of utmost importance that patients & their attendants at the time of discharge from hospital after primary cesarean section should be informed about the importance of regular antenatal visits to a qualified obstetrician in future pregnancies.

An important consideration, while choosing the mode of delivery and counseling the patients, is that successful VBAC has fewest complications while failed TOLAC has the greatest risk of adverse outcome¹. In this study, TOLAC was conducted in a properly selected group & the successful VBAC rate was 73.07% which is similar to other studies¹¹ and this high success rate suggests TOLAC is less expensive and more cost effective than an ERCD when considering long-term consequences.¹² Our successful VBAC rate is higher than many studies^{10,13} This shows a very strict selection protocol for the eligible cases. Patient's will & cooperation is also necessary for the success of trial. Regular antenatal check-ups and early report to the hospital at onset of labour increase the TOLAC rate & reduce the chances

of repeat cesarean sections.¹⁰ In this study, patients were brought in an emergency in the active phase of spontaneous labour and no inductions were done. Induction of labour is associated with two to three fold increase in rupture rate & 5 fold increase in cesarean rate.¹⁴ Augmentation is also associated with high rupture rate i.e, 1.9%.¹⁵ While in spontaneous labour risk is only 0.4%.¹⁶ In this study, labour was augmented in only 6(4.6%) cases & outcome was good.

Rupture rate of 2% in this study is higher compared to other studies.¹⁷ All of these cases were admitted with rupture already mismanaged by a local birth attendant. Hysterectomy rate was also high (1.19%vs 0.5%) compared to other studies.¹ Most of the time the type of the previous incision is not known. One of the patients had a trail of labour by a local birth attendant in the presence of classical cesarean scar & was brought In shock with rupture uterus. Trail of scar in the presence of Classical incision is totally contraindicated.¹ Due to insufficient evidence, it is recommended that a senior obstetrician on individual base should decide about VBAC in previous inverted T or J incisions, low vertical & previous myomectomy incision.¹ ACOG recommended that attempts at TOLAC should be encouraged but it cautioned that TOLAC should only be attempted in appropriately equipped hospital where anesthetist & facility of emergency cesarean section is immediately available.¹⁸

In this study 9 still births & 3 early neonatal deaths were noted (total 12,3.7%), 7 patients with rupture uterus & dead babies, two in the TOLAC group came with PROM & intra uterine death while 3 in the direct emergency cesarean group were severely depressed at arrival & were admitted to NICU after early resuscitation but failed to survive. This is similar to the perinatal death rate in other studies i.e., between 2-16%¹⁹ and most of the deaths are due to rupture uterus.¹⁷ This high perinatal mortality was in cases mismanaged in periphery where labour is conducted by unqualified ladies without fetal monitoring. They use high doses of oxytocic drugs. The three "Ds" kill the mother & the baby. The actual situation is much more worst as most of the patients with a previous cesarean scar who are handled by local untrained birth attendant never survive to reach hospital & hence not counted in any statistics. In other words, increase in risk to the mother and the baby in cases of previous cesarean section necessitates that if on the one hand, TOLAC should be in well equipped hospitals where staff should be immediately available, the primary cesarean rate

should also be reduced by controlling injudicious cesareans in both public and private sector.

Conclusion

Cesarean rate is on the rise not only because of primary cesarean sections but also due to increasing tendency of repeat cesareans. Planned VBAC in selected patients is mostly successful in hospital setup & should be encouraged. Regular antenatal visits to an obstetrician and counseling the patients about plan of delivery before onset of labour is essential.

References

1. Royal College of Obstetricians and Gynaecologists. Birth After Previous Caesarean Birth. Green-top Guideline No.45. London: RCOG; OCT,2015.
2. Syed S, Arshad F, Bano N, Chaudhri R, Shaheen F. Rising Caesarean Section Rate: an Obstetric Epidemic. J. Soc. Obstet. Gynaecol. Pak. 2014; 4(2):146-150.
3. National Institute for Health and Clinical Excellence. Caesarean section. NICE clinical guideline 132. Manchester: NICE; 2011.
4. Cunningham FG, Bangdiwala SI, Brown SS, et al. NIH consensus development conference draft statement on vaginal birth after cesarean: new insights. NIH Consensus State Sci Statements.2010;27(3)1-46. https://consensus.nih.gov/2010/images/vbac/vbac_statement.pdf
5. Dodd JM, Crowther CA. Elective repeat caesarean section versus induction of labour for women with a previous caesarean birth. Cochrane Database Syst Rev 2012;(5):CD004906
6. Goetzing KR, Macones GA. Operative vaginal delivery: current trends in obstetrics. Womens Health 2008;4:281-90. (Level III)
7. Hamilton BE, Martin JA, Ventura SJ. Births: preliminary data for 2007. Natl Vital Stat Rep 2009;57(12):1-23. (Level II-3)
8. Fuglenes, D., Oian, P. & Kristiansen, I.S. (2009) Obstetricians' choice of cesarean delivery in ambiguous cases: is it influenced by risk attitude or fear of complaints and litigation? *American Journal of Obstetrics & Gynecology* 200, 48 e1-8.
9. Uddin SF, Simon AE. Rates and success rates of trial of labor after cesarean delivery in the United States, 1990-2009. *Maternal Child Health J.* 2013 ;17(7):1309-14. doi: 10.1007/s10995-012-1132-6.
10. Begum KS, Khan NU, Akter F Factors Affecting the Pregnancy Outcome in Patients with Previous One Caesarean Section Medicin today.2014;26(1):1-3.
11. Lekshmi Balachandran, Pooja R Vaswani, and Ramakone Mogotlane.³ Pregnancy Outcome in Women with Previous One Caesarean Section Clin Diagn Res. 2014; 8(2): 99-102.
12. Gilbert SA, Grobman WA, Landon MB et al. Lifetime cost-effectiveness of trial of labor after cesarean in the United States. *Value Health.* 2013; 16(6):953-964.
13. National Institutes of Health Consensus Development Conference Panel. National Institutes of Health Consensus Development conference statement: vaginal birth after cesarean: new insights March 8-10, 2010. *Obstet Gynecol.* 2010; 115:1279.

14. Grobman WA, Gilbert S, Landon MB, , et al. Outcomes of induction of labor after one prior cesarean. *Obstet Gynecol* 2007;109:262–9. (Level II-2)
15. Fitzpatrick KE, Kurinczuk JJ, Alfirevic Z, et al Uterine rupture by intended mode of delivery in the UK: a national case-control study. *PLoS Med* 2012;9:e1001184.
16. Dekker GA, Chan A, Luke CG, et al. Risk of uterine rupture in Australian women attempting vaginal birth after one prior caesarean section: a retrospective population-based cohort study. *BJOG* 2010;117:1358–1365.
17. Zwart JJ, Richters JM, Öry F, De Vries JI, Bloemenkamp KW, Van Roosmalen J. Uterine rupture in the Netherlands: a nationwide population-based cohort study. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2009;116(8):1069-1080.
18. American Society of Anesthesiologists. Optimal Goals For Anesthesia Care In Obstetrics-2008. ASA Standards, Guidelines and Statements. October 2007.
19. Guise JM, Eden K, Emeis C, et al. Vaginal Birth After Cesarean: New Insights. Evidence Reports/Technology Assessments, No. 191. Rockville, Maryland, USA: Agency for Healthcare Research and Quality; 2010