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TRIAL OF VAGINAL DELIVERY AFTER ONE CAESAREAN SECTION

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HOW TO CITE THIS ARTICLE:

Vaishali Vhawal, Zainab Nayani, N. S. Kshirsagar, M. M. Laddad, Sneha Nagar. "Trial of Vaginal Delivery after One Caesarean Section". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 62, November 17; Page: 13708-13715, DOI: 10.14260/jemds/2014/3832

ABSTRACT: OBJECTIVE: In today's obstetric practice we encounter increasing number of post caesarean pregnancies because of rise in primary caesarean due to multi factorial reasons. There is increasing concern by obstetricians for managing these cases for medical and legal point of view. Present study was undertaken to decide appropriate mode of delivery and to conduct the proper management of patients with previous lower segment caesarean section.

KEYWORDS: Previous caesarean delivery, modern obstetric practice.

INTRODUCTION: The dictum, "once cesarean section always cesarean section" no longer holds true. Several studies suggest that in women with prior caesarean section for non-recurrent cause, a trial of labor is safer than elective repeat cesarean section. This tendency to resist cesarean section arose from the wish not to compromise a patient's obstetric future, because the dictum "twice a cesarean section always a cesarean section" holds true. ^[1]

Reasons to consider vaginal birth after cesarean section: ^[2, 3]

- No abdominal surgery.
- Shorter hospital stay.
- Lower risk of infection.
- Less blood loss.
- Less need for blood transfusion.
- Less risk of neonatal respiratory failure.
- Iatrogenic prematurity avoided.
- Some women may feel more positive psychologically about having a vaginal delivery versus a caesarean section.

STUDY DESIGN: This is a prospective study carried out on 173 women with previous lower segment caesarean section. From JUNE 2011 to JUNE 2013 at Krishna Institute of Medical Sciences, Karad Maharashtra. Duration of study was 2 years. Patient enrolled in study are with previous lower segment caesarean section (classical CS), Inverted T incision other medical complications (Hypertension, diabetes mellitus, anemia, heart disease, cardiac disease patients excluded.) Patients were evaluated thoroughly by history and examination and mode of delivery was decided. Informed consent was taken of the patients who were fit for VBAC (Vaginal Birth after caesarean section). Women who were given trial of VBAC, they progressed into labor spontaneously. Labor was constantly supervised by competent staff and meticulously monitored by cardiotocography.

MATERIALS AND METHODS: This prospective study was carried at Krishna hospital of medical sciences, Karad, Maharashtra from June 2011 to June 2013.

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INCLUSION CRITERIA: All patients with history of previous cesarean section were included in this study.

EXCLUSION CRITERIA:

- History of uterine rupture, hysterotomy or previous uterine surgery (e.g. myomectomy).
- Previous caesarean section scar other than lower segment transverse incision i.e. classical incision, T shaped incision or lower segment vertical incision.
- Any medical complications like (Hypertension, diabetes mellitus, anaemia, heart disease, cardiac disease.)
- Any Fetal anomaly which can lead to mechanical difficulty at birth.

173 cases were selected after applying inclusion and exclusion criteria.

Whenever patient with previous LSCS comes, detailed history is taken. Thorough general & systemic examination is carried out. Obstetric examination is done to note –gestational age (SFH, AG) Uterine contractions are noted. Lie, presentation, presenting part, position of fetus and engagement of presenting part is noted. FHS is noted for rate and rhythm.

Scar is visualized for, type (vertical or transverse), thickness (whether healed by secondary intention) and palpated for tenderness. Per vaginal examination under all aseptic precautions is done only if patient is in labor to note the cervical dilatation, effacement, condition of membrane and station of presenting part. At the same time pelvis is assessed for its shape, size and adequacy. If the head is floating assessment of CPD is done by Muller Kerr method in a patient who is at or near term.

Necessary relevant lab investigations are carried out. USG is done in all cases to assess maturity of fetus, amount of liquor location of placenta and thickness of scar. Doppler studies are carried out in certain cases-IUGR, DM or preeclampsia is associated. Discharge card and papers of previous caesarean section were examined for indication of previous caesarean section and intra operative/post-operative complications if any.

STUDY GROUP WAS DIVIDED INTO 2 PARTS:

A. Patients requiring elective/emergency CS: Following were the criteria for selecting the patients for repeat caesarean;

- More than 1 previous caesarean section.
- Malpresentation and malposition.
- Presence of scar tenderness.
- Presence of any other obstetric complication (PROM, Fetal Distress, or any other high risk factor).
- Scar healed by secondary intention.

Patient requiring repeat caesarean were admitted in ward. Out of this group patients who had/developed scar tenderness, fetal distress or labor pains, had to be taken up for emergency caesarean section

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Patients who can be allowed for trial of vaginal birth: Following were the criteria on which patients were selected for trial of scar;

- Vertex presentation.
- No CPD.
- Post-operative period of previous caesarean section is smooth and without any complications.
- No more than 1 prior lower transverse Caesarean delivery.
- No other uterine scar or history of uterine scar rupture.
- Any documents related to previous caesarean section indicating intra operative complications like-hematoma, tears and post-operative complications like puerperal sepsis.

Patients selected for trial of scar at the time of their enrollment in the study were explained for regular follow up and to come immediately when labor pains start, bleeding P/V and / or leaking P/V occurs or if there is decreased/loss of fetal movement or supra pubic pain. Such patient is counseled not to eat or drink when such complaints develop and reach hospital urgently.

MANAGEMENT DURING TRIAL OF SCAR FIRST STAGE: Once patient with previous LSCS in labor is selected for trial of scar, patient was allowed to go into spontaneous labor. When the patient is received in labor room, admission test is done. Written informed consent for VBAC is taken (explaining patient and her relative about advantages and risk involved in trial of scar)

- IV line is secured, Blood collected for cross match and necessary investigations if required and IV fluid started and patient kept nil orally.
- FETAL MONITORING is done on continuous or intermittent basis on an electronic fetal monitor.
- Progress of labour is charted on partogram.
- Close watch is kept on;
 1. General condition of the mother.
 2. FHS-rate and rhythm.
 3. Scar tenderness and supra pubic pain for diagnosis of impending scar dehiscence or rupture.

Per-vaginal examination is done when the membrane ruptures to know color of liquor, station of head, dilatation and effacement of cervix and to rule out cord prolapse.

Trial of labor was discontinued when there is Fetal or maternal distress, Incoordinate uterine action, Scar tenderness suggesting impending rupture of the scar. These patients were immediately taken for caesarean section.

SECOND STAGE: Progress in 2nd stage was judged by progressive descent, rotation and flexion of presenting part. Second stage is shortened by episiotomy, outlet forceps or ventouse to prevent extra strain on the scar

THIRD STAGE: Placenta is allowed to separate on its own and is delivered with controlled cord traction.

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FOURTH STAGE: Patient is observed for two hours after delivery in the recovery room.

Age groups in years	No of patients	Percentage
21-25	50	50%
26-30	30	30 %
31-35	16	16 %
>35	4	04%
Total	100	100 %

Table 1: Age distribution

96 (96%) patients in present study were from age group between 21-35 years.

Parity	Present study	
	(n=100)	
	No	Percentage
Para – 1	60	60%
Para – 2	30	30%
Para – 3	06	06%
Para - 4 or more	04	04%

Table 2: Parity distribution

Maximum number of patients 90(90%) patients were para1 & para2, compared to just 10(10%) patient falling in higher parity.

Sr. no	Complication	number=40
1	Scar dehiscence	2
2	Bladder advanced	13
3	Extension of incision	3
4	Post spinal headache	3
5	Atonic pph	3
6	Puerperal sepsis	0
7	Wound infection	3
8	Adhesions	9
9	Placenta accreta	1
10	Couvelaire uterus	1
11	Ruptured uterus	0
12	Bladder injury	2

Table 3: complications associated with repeat caesarean section

Almost 13% had bladder advancement, 2% scar dehiscence, 3 % extension of incision, 3% atonic pph, 1% placenta accreta, 1% couvelaire uterus and 2% bladder.

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Indication	No (n=38)	Percentage
Fetal distress	20	52.63
Persistent occipitoposterior	5	13.15
DTA	5	13.15%
Cervical dystocia	2	5.26%
Threatened scar rupture	3	7.89%
Scar dehiscence	2	5.26%
Imminent eclampsia	1	2.63%
Total	38	100%

Table 4: Indications of present CS

In present study, LSCS was performed in maximum no. of patient for fetal distress i.e. 52.6%.

Cases with previous CS	Total (n=100)	Vaginal delivery		Repeat CS	
		No	%	No	%
H/O	–	14	10	4	28.6%
Vaginal Delivery					
No H/O	–	86	52	34	39.5%
Vaginal Delivery					

Table 5: H/O Vaginal delivery; its effect on outcome of labor

In this study, 60.5% patients had no previous vaginal delivery had successful vaginal delivery, while 71.4% of parous patients had vaginal delivery.

Mode of delivery	Number
Vaginal delivery	62
Repeat LSCS	38
Total	100

Table 6: Delivery outcome of previous 1 LSCS (n=100).

Repeat LSCS was required in 38% of patients

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Table: Mode of delivery in successful Trial of scar.

Mode of delivery	Total =62	100%
FTVD with episiotomy	32	51.61%
Forceps	1	1.61%
Vacuum	29	46.77%
Total	62	100%

TABLE 7: COMPARISION STYDY

Sr. no.	Complications	Number=4
1	vaginal tear	2
2	Atonic PPH	0
3	Episiotomy gaping	2
4	puerperal sepsis	0
5	Cervical tear	0

Table 8: complications associated with ventouse and forceps delivery

Out of total 30 instrumental deliveries, 13.33% had complications in all three groups; patient delivered maximally whose baby weight was between 2 and 3 kg.

Route of delivery	Less than 2kg	2 to 2.5kg	2.6 to 3kg	3.1 to 3.5kg	3.6 and above	Total
Normal	4	12	14	2		32
Ventouse or forceps		10	12	6	2	30
Repeat LSCS		13	17	6	2	38

Table 9: Birth weight according to mode of delivery

Study	Total No. of cases	Vaginal delivery		Repeat CS	
		No	%	No	%
Chhabara (2006)	713	324	45.5%	389	54.5%
Rubina Bashir (1996-98)	260	108	41.5%	152	58.4%
Shah Jitesh (2005-06)	385	197	51.2%	188	48.8%
Present	50	32	32%	68	68%
Study		(n=20)			

TABLE 10: COMPARISION STYDY

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Similar results were found in various studies mentioned above clearly a doubt is cast on the validity of the dictum 'once a caesarean section, always a caesarean section. Women who have previous lower transverse scar on the uterus from previous caesarean delivery and Without recurrent indication can deliver vaginally with a high degree of safety. Similar results were found in Appleton B et al [4] and Shipp TA et al [5].

In any case in whom vaginal delivery is now contemplated, the adequacy of pelvis should be beyond all questions. Trial of labor too in these patients should be carefully monitored so as to prevent scar dehiscence and other morbidity related to caesarean section after prolonged trial of labor. [6]

RESULTS AND DISCUSSION:

- During the period of 2 years, 173 cases of previous LSCS were studied. Out of which, 73 cases were excluded due to previous two LSCS, CPD, placenta previa and malpresentation.
- 100 cases were selected for trial of labour. Out of these 100 cases, 62% had vaginal delivery. From these 62%, 32% had spontaneous vaginal delivery, 29% required ventouse and 1% required forceps. Rest 38% patients had repeated caesarean section for failed trial of labour.
- The incidence of scar dehiscence was 2% and there was no uterine rupture. There was no maternal death in this study. Repeat caesarean section group suffered higher morbidity in terms of bladder injury in 2%, atonic pph in 35%, bladder advanced in 13%. Extension of uterine incision in 35, adhesions in 9 patients, couvelaire uterus in one patient and post-operative wound infection in 2 patient.
- Repeat LSCS rate is higher due to trend towards less trial of labour and early decision of repeat LSCS.
- Indication of previous LSCS plays an important role in taking decisions and an outcome in present pregnancy. Patients with non-recurrent indication had more chance of delivering vaginally when they come in active stage of labour.
- In present study, commonest indication for repeat LSCS was fetal distress.
- Vaginal delivery is more likely when there is past history of vaginal delivery before and after previous LSCS.
- Abandoning of a trial was mainly due to fetal distress and non-progress of labour in majority of cases.

CONCLUSION:

- For successful delivery after a previous cesarean section, the obstetrician requires to have the expertise to carefully select the patients, for trial of vaginal birth because rupture of scar can endanger the life of the mother and the child.
- VBAC should be considered in cases of previous one caesarean section done for non-recurrent indications. Repeat LSCS rate is higher due to trend towards less trial of labour and early decision of repeat LSCS.

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Date of Submission: 17/09/2014.
Date of Peer Review: 18/09/2014.
Date of Acceptance: 12/11/2014.
Date of Publishing: 15/11/2014.