

A Hospital Based Prospective Observational Assessment of Maternal-Fetal Outcome in Women Undergoing Repeat Caesarean Section after Previous 2 Caesarean Sections

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Abstract

Aim: This prospective observational study was conducted to study the maternal and fetal outcome in patients undergoing repeat caesarean section in case of previous 2 caesarean deliveries in a tertiary care centre in Bihar region.

Methods: The present study was conducted in the Department of obstetrics and gynaecology, Patna medical College and Hospital, Patna, Bihar, India. The Study included women with Previous 2 cesarean deliveries admitted in the Department of obstetrics and gynaecology. The period of the study was 6 months and 120 patients were included in the study.

Results: Study observed that majority of cases 45 (37.5%) are in the gestational age of 38-39 weeks, followed by 25 (20.84%) of cases are in the gestational age of 39-40 weeks and 24 (20.84%) of cases are in the gestational age of 37-38 weeks. The mean gestational age is 38.30 weeks. Most of the patients (29.16%) were taken for elective repeat caesarean section (ERCS) at term i.e. 37 completed weeks. Study observed that 100 (83.34%) of cases are observed term deliveries and 20 (16.66%) of cases are observed pre-term deliveries. Majority of neonates 60 (50%) birth weight is in the range 2.6-3.0 kg followed by 20 (16.66%) neonates birth weight is in the range of > 3 kg and 31 (25.84%) of neonates birth weight is in the range of 2.1-2.5 kg and 116 (96.66%) of cases Apgar score at 5 minute is ≥ 5 .

Conclusion: With an increase in the proportion of patients with a history of previous LSCS it is necessary for health care personnel to have proper antenatal counselling regarding VBAC and a well-defined management protocol to increase the no. of VBAC. Cesarean section should not be always followed by a repeat caesarean section.

Keywords: Caesarean section, perinatal outcome, maternal outcome

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Introduction

Cesarean section is one of the most commonly performed abdominal operations on women in most countries. Cesareans section aims at reducing

maternal and fetal mortality and morbidity by virtue of its cautions and careful approach. In many countries, C-sections have become the mode of delivery in over a quarter of all the birth. The World Health

Statistics (WHS), 2012 said 9% of all births in India were by Caesarian section.

The latest figure has gone up by 5% since nearly one in 10 women in India, who gave birth between 2005 and 2010, had gone under the surgical knife. [1] Using the data of national family health survey India (1992-93) Mishra and Ramanathan found that among 18 large states two states has CS rate near 15 percent and the rest had less than 5 percent. [2] Studies showed that a first successful vaginal delivery, even if instrumental, increases the chances of vaginal delivery in the subsequent pregnancy, while a first delivery by CS has been associated with an increased risk of repeat CS in the subsequent deliveries. [3]

According to the

World Health Organization (WHO) in 2015, CS rates in women who had a previous CS ranged between 78.1 and 79.4% in high-income countries, 85.2 and 87.5% in middle-income countries and 63.2 and 72.1% in low-income countries. [4] Previous CS is one of the main indications for CS in sub-Saharan Africa. [5,6] Even when the decision is made for a trial of labor (ToL), there are conflicting recommendations about how to manage both labor and delivery, for instance with regard to augmentation of labor. Doctor and patient preferences vary widely and fear of litigation is increasing, causing variations in clinical management. [7,8]

There is always a dilemma for the gestational age at which caesarean can be planned in cases of previous two caesarean sections to reduce both maternal and fetal adverse outcome. Obstetricians always try to balance between poor perinatal outcomes of early term delivery and poor maternal outcomes of late term delivery. There will be more chances of prematurity, respiratory distress, need for NICU admission and rarely fetal deaths when cesarean conducted in early term gestation. [9] There will be more chances of uterine scar dehiscence, scar rupture, need for

blood and blood product transfusions, uterine atony, need for uterine artery ligation peripartum hysterectomy, need for ICU admission, wound site infection, prolonged hospital stay when cesarean conducted in late term gestation. [10]

This prospective observational study was conducted to study the maternal and fetal outcome in patients undergoing repeat caesarean section in case of previous 2 caesarean deliveries in a tertiary care centre in Bihar region.

Methods

The present study was conducted in the Department of obstetrics and gynaecology, Patna medical College and Hospital, Patna, Bihar, India. The Study included women with Previous 2 cesarean deliveries admitted in the Department of obstetrics and gynaecology. The period of the study was 6 months and 120 patients were included in the study.

Inclusion criteria: Women with previous two caesarean deliveries at 34 -42 weeks of gestation with singleton live pregnancy admitted in PMCH, obstetrics and gynaecology department for repeat caesarean section.

Exclusion criteria: Pregnancy association with medical and obstetric complications requiring early delivery like:

1. Hypertensive disorders of pregnancy
2. Gestational Diabetes
3. Antepartum Haemorrhage
4. Multiple gestation
5. Liquor abnormalities

Methodology

A prospective observational cohort study was conducted a PMCH, obstetrics and gynaecology department, a teaching tertiary care facility in the setting of a level III neonatal intensive care unit (NICU). The study proposal was approved by the Institutional Ethical Committee. Data was prospectively collected from the medical records within 48 h of mother/newborn

discharge. Women satisfying the selection criteria will be enrolled in the study after taking informed written consent. Hospital policy was to post Previous 2 Caesarean Cases at 37 completed weeks for ERCS (Elective Repeat Caesarean Section) unless any emergent condition arises such as Preterm labour, PPRM, Scar Dehiscence etc. Detailed history of present pregnancy and detailed examination, routine investigations (Blood group Rh typing, CBC, OGTT, HIV, HBsAg, HCV & Urine sample was taken at the time of admission. Gestational age was determined on the basis of ultrasound done in the first

trimester of pregnancy. Obstetric Ultrasound was done and AFI, BPP, EFW, placental location & scar thickness was documented.

Maternal Outcome was measured in terms of: Intra operative Complications (Scar Dehiscence, PPH {atonic & traumatic}, Placental Abnormalities) and Post-Operative complications (Febrile illness, Wound complications)

Fetal outcome was measured in terms of: Birth weight, Apgar score, NICU admission.

Results

Table 1: Gestational age at delivery wise distribution of cases

Gestational age in weeks	N	%
< 36 weeks	5	4.16
36-37 weeks	15	12.5
37-38 weeks	25	20.84
38-39 weeks	45	37.5
39-40 weeks	25	20.84
> 40 weeks	5	4.16
Total	120	100
Mean GA in weeks	38.32 ± 1.69	

Study observed that majority of cases 45 (37.5%) are in the gestational age of 38-39 weeks, followed by 25 (20.84%) of cases are in the gestational age of 39-40 weeks and 25 (20.84%) of cases are in the gestational age of 37-38 weeks. The mean gestational age is 38.30 weeks.

Table 2: Indication for delivery wise distribution of cases

Indication for delivery	N	%
Previous 2 caesarean in labor	15	12.5
Threatened scar rupture	30	25
37 Completed gestational age	35	29.16
PROM	20	16.66
PPROM	15	12.5
Reduced AFI	2	1.66
Post dated	3	2.5
Total	120	100

Most of the patients (29.16%) were taken for elective repeat caesarean section (ERCS) at term i.e. 37 completed weeks.

Table 3: Fetal outcome wise distribution of cases

Fetal outcome		N	%
Time of delivery	Term	100	83.34
	Pre-term	20	16.66
Birth weight	1.5—2.0 kg	9	7.5

	2.1—2.5 kg	31	25.84
	2.6—3.0 kg	60	50
	> 3kg	20	16.66
Apgar score at 5 min	< 5	4	3.34
	≥ 5	116	96.66

Study observed that 100 (83.34%) of cases are observed term deliveries and 20 (16.66%) of cases are observed pre-term deliveries. Majority of neonates 60 (50%) birth weight is in the range 2.6-3.0 kg followed by 20 (16.66%) neonates birth weight is in the range of > 3 kg and 31 (25.84%) of neonates birth weight is in the range of 2.1-2.5 kg and 116 (96.66%) of cases Apgar score at 5 minute is ≥ 5 .

Discussion

In recent years there is a significant increase in primary cesarean section for various indications, thus increasing the proportion of pregnant women with previous one cesarean section. Women with previous cesarean sections constitute a high-risk group in obstetrics. Vaginal birth after cesarean (VBAC) or trial of scar (TOS) represents a significant change in modern obstetric practice. However, the concern that a scarred uterus might end up in rupturing the uterus, leading to severe maternal and perinatal morbidity, still prevents a large number of obstetricians and pregnant women worldwide, from adopting a TOS after previous one cesarean section. Both, attempting a vaginal birth and opting for an elective repeat cesarean section (ERCS) are associated with different risks for the mother and newborn; and, deciding a delivery plan involves a difficult weighing of those cases. [11]

In the present study majority of cases were taken for ERCS at 37 completed weeks as per hospital policy. Hence, there were statistically less significant maternal complications in present study. Similar results were observed by Mohammed K et al. [12] The implication of scheduling delivery to 37 weeks is that a proportion of

ERCS may go into labor prior to the scheduled date of surgery if they are scheduled at 39 completed weeks. Maternal and neonatal outcomes may be adversely affected when CS is preceded by labor, even if labor is not advanced especially in patients with higher order caesarean section. [13]

It has been that the success rate of VBAC is significantly associated with history of previous vaginal delivery this results are well comparable with studies by Goel SS et al, Doshi Het al, Shah JM et al, concluding that patients who had a successful VBAC following a caesarean section have a very good chance of another successful VBAC. [14-17]

Therefore, preventive strategies are of utmost importance, such as educating pregnant women during ANC about success factors, risks and prospects of various modes of delivery, monitoring labor by correct use of partogram, augmentation of labor with oxytocin and prevention of unnecessary first and subsequent CSs performed in the second stage of labor by training, equipping and empowering midwives as well as medical officers and associate clinicians to perform vacuum deliveries.

Neonatal complications were significant but majority were arising due to prematurity. A number of studies examined the outcome of parturients with two or more previous cesarean deliveries and found increased maternal and neonatal morbidities and recommended delivery prior to 39 weeks' gestation. [18,19]

Conclusion

With an increase in the proportion of patients with a history of previous LSCS it

is necessary for health care personnel to have proper antenatal counselling regarding VBAC and a well-defined management protocol to increase the no. of VBAC. Cesarean section should not be always followed by a repeat cesarean section. Patient should have hospital delivery in a well-equipped hospital and complications should be diagnosed at an early stage so that we can prevent maternal and perinatal morbidity and mortality. There is also a need for more studies with bigger sample size.

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