DOI: https://doi.org/10.53350/pjmhs22162919

ORIGINAL ARTICLE

Frequency and Outcome of Full Term Pregnant Patients with Previous Cesarean Section

SHAZIA NASEEB[1], FOUZIA BIBI[2], SHAISTA RASHID[3], BEENA BARKAT ALI[4]
[1]Associate prof. Fcps, jinnah post graduate medical centre
[2]Fcps postgraduate trainee, jinnah post graduate medical centre
[3]Associate prof. Fcps, karachi medical dental college
[4]Fcps postgraduate trainee, jinnah post graduate medical centre
Correspondence to: Shaista Rashid, Email: drshahkmdc@gmail.com, Cell: 03202048440

ABSTRACT

Objectives: To determine the frequency of repeat Cesarean Section in patients with previous one cesarean section To compare the maternal and perinatal outcome in vaginal birth after Cesarean and repeat caesarean section

Material and Methods: This Cross sectional study was conducted at Obstetrics & Gynecology unit1 JPMC Karachi from Jan 2020 to31 Dec2020.A total of 137 women with history of previous one cesarean section were included in this study. All patients' history and examination was taken. The data was collected on a predesigned Performa. Mean and Standard Deviation for quantitative variables and percentage for categorical qualitative variables. Maternal and perinatal outcomes was compared between women who have VBAC and those who have repeat Cesarean section by using chi-square test with P-values less than or equal to 0.05 significant.

Results: The average age of the women was 29.88±3.26 years. Frequency of repeat caesarean section in patients with previous one cesarean section was 52.55%. PPH was observed in 37.96% cases while prolong hospital stay in 28.47%. There were 15.33% still birth, Apgar score less than 7 in 42.34% at 1 minute, and NICU admission was observed in 23.38%. Rate of Postpartum hemorrhage and prolong hospital stay was significantly high in repeated caesarean section.

Conclusion: All of the maternal and prenatal outcomes were significantly high in repeated Cesarean section as compare to vaginal deliveries. The trial of labor in women with a single previous caesarean delivery can safely reduce rate of caesarean section.

Keywords: Caesarean section, vaginal birth after Cesarean, repeats caesarean section

INTRODUCTION

Caesarean section is one of the commonest operations performed on child bearing women.[1]The increase in the rate of Cesarean Section is a global phenomenon that has got the professionals, the public and those who care for women's health worried because its rise has not contributed to an improved pregnancy outcome. [2]World Health Organization (WHO) recommended cesarean section rate to be low as 15%.[3]

For women who have previous Caesarean, choices for mode of birth in their next pregnancy is either trial of VBAC (vaginal birth after cesarean section) or repeat cesarean section. The chance of achieving vaginal birth after VBAC has been variably reported between 72% and 76%.[4] The rate of repeat caesarean birth following a previous caesarean have risen commensurately reaching 83% in Australia and almost 90% in US.[1]Although neither route is risk free, the crucial issue is to ensure better maternal and perinatal outcomes. In an appropriate clinical setting and properly selected group of women, VBAC offers distinct advantages over a repeat Cesarean section. Trial of labor after cesarean provides women who desire a vaginal delivery with the possibility of achieving that goal-a VBAC.[5]

In a recent study about 64% patients had VBAC while 35% had repeated cesarean section[6]. Postpartum hemorrhage was reported in 22.9% in Cesarean section and 9.3% in VBAC. Scar dehiscence was seen 13% in cesarean sections and 2% VBAC's. 8.6% cases of prolonged hospital stay due to wound infection in operative cases, 4.6% in VBAC's was identified. Perinatal complications included, Stillbirth 4.3% in Cesarean section but none in VBAC. NICU admission requirement was 39.1% for neonates delivered by repeat Cesarean section and 45.16% in VBAC. Unlike 5.3% cases in VBAC, no newborn delivered by CS had an Apgar score less than 7 at 5 minutes.[7-9]

This trend has also found its way in developing countries like ours. This study is planned in a busy tertiary care obstetric unit; aim is to assess the maternal and perinatal outcomes of delivery in women with one prior CS.So that a safe protocol can be designed for selection of patient who is fit for trial of labour. It can help us reducing the rapidly rising rates of repeat CS thus risk of surgery and morbidity related to it.

MATERIALS AND METHODS

This was a prospective, cross sectional study was conducted in Gynae & obstetric department, JPMC Karachi from Jan202 to Dec2020 after ethical approval of Institutional Review Board, JPMC, Karachi. After taking an informed consent 137 singleton term pregnancies with previous one caesarean section.[7-9]

those women who underwent caesarean section because of preterm caesarean section ,medical complications, gross cephalopelvic disproportion and women having either congenital pelvic deformity or previous pelvic surgery due to trauma previous two LSCS ,classical or T shaped uterine scar, unknown

uterine incision, previous rupture, myomectomy in which cavity has been opened, multiple pregnancy, placenta previa, active genital herpes infection , Women with obstetric or medical contraindication to VBAC were excluded.

Obstetric cases 25 t0 35 years having at term gestation (37-40weeks) assessed on LMP with history of previous one cesarean section and scheduled for delivery during study period. Singleton pregnancy with cephalic presentation confirmed on ultrasound. Consecutive patients meeting the inclusion criteria admitted in ward-8 through OPD & Causality was included in study. The study objectives, procedure of study and was explained and informed written consent was taken. All patients had a detailed history and examination; all relevant investigations were carried out. The investigator was collected data on a predesigned Proforma containing demographic variables (name, age gravida, para) variables like Mode of Delivery VBAC or Repeat cesarean section(CS) Outcome(Maternal: i.e. PPH, prolonged Hospital stay. Perinatal: i.e. Stillbirth, Apgar score and NICU admission. All the diagnosis and observations was done by trainee herself under supervision of an expert obstetrician fellow of CPSP. The exclusion criteria were strictly followed to control bias and confounders in the study results.

Statistical Analysis: The data analysis was on computer packages SPSS (statistical package of social sciences) version 19.0. Mean and Standard Deviation (S.D) for quantitative variables (age, gestational age, Apgar score at 1 & 5 minutes) and percentage/proportion for categorical qualitative variables (gravida, parity, mode of delivery, maternal and perinatal complication) Maternal and perinatal outcomes was compared between women who have VBAC and those who have repeat Cesarean section by using chi-square test (or Fisher exact test where appropriate) P-values less than or equal to 0.05 was considered significant. Stratification with respect to age, parity, gestational age and booked and non-booked cases was done to control the effect modifiers. Post stratification chi-square test was applied.

RESULTS

A total of 137 obstetric cases having previous one cesarean section and scheduled for delivery during study period were included in this study. The average age and gestational age of the women was 29.88±3.26 years and 38.29±0.923 weeks as shown in table 1.Out of 137 cases, 52(37.96%) were booked and 85(65.04%) were Un-booked .

Frequency of repeat caesarean section in patients with previous one cesarean section was observed in 52.55% women while 47.45% were delivered normally as shown in figure 1. Regarding maternal outcome, PPH that was observed 37.96% cases while prolong hospital stay was 28.47% .Similarly perinatal outcome, there were 21(15.33%) still birth, Apgar score less than 7 was observed in 58(42.34%) at 1 minutes, Apgar score less than 7 was observed in 39(28.47%) at 5 minutes and NICU admission was observed in 27(23.38%) as shown in figure 7 to 11. Average Apgar score at 1 and 5 minutes of the neonate.

Comparison of maternal and perinatal outcome in vaginal birth after cesarean section and repeated cesarean section is presented. Rate of PPH and prolong hospital stay was significantly high in repeated caesarean section as compare to vaginal delivery. Similarly perinatal outcome was also significantly high in repeated caesarean section as compare to vaginal delivery.

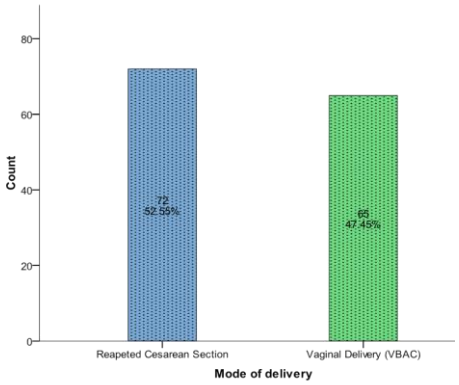

Figure 1: Mode of delivery in women with previous cesarean section

Table 1: Maternal and neonatal outcome in women with previous cesarean section

	Repeated C-section	Vaginal delivery (VBAC)	P-value
Age	29.71±3.6	30.08±2.8	0.511
Gestational age	38.52±1.1	38.03±0.7	0.002
Gravida	3.25±1.2	3.02±0.9	0.208
Parity	2.25±1.2	2.02±0.9	0.202
Booking status			
Booked	9 (17.3%)	43 (82.7%)	<0.001
Unbooked	63 (74.1%)	22 (25.9%)	
Duration	6.39±2.4	2.28±.6	<0.001
PPH	45 (86.5%)	7 (13.5%)	<0.001
Prolonged labor	39 (100.0%)	0 (0.0%)	<0.001
Outcome			
Stillbirth	21 (100.0%)	0 (0.0%)	<0.001
APGAR (1 minute)			
Mean	6.10±1.40	8.71±1.2	<0.001
<5	57 (98.3%)	1 (1.7%)	<0.001
>5	15 (19.0%)	64 (81.0%)	
APGAR (5 minutes)			
Mean	6.90±1.8	8.97±1.0	<0.001
<5	38 (97.4%)	1 (2.6%)	<.0.001
>5	34 (34.7%)	64 (65.3%)	
NICU admission	26 (96.3%)	1 (3.7%)	<0.001

Stratification analysis was performed and observed that there were no significant difference between age groups and parity in the rate of repeated cesarean section while significant difference was

observed in between gestational age group and booking status .Similarly comparison of maternal and prenatal outcome in vaginal birth after cesarean section and repeated cesarean section with respect to age groups, parity, gestational age and booking status showed that All of the maternal and prenatal outcomes were significantly high in repeated cesarean section as compare to vaginal birth after cesarean section.

DISCUSSION

Pregnancy and delivery are considered as normal physiological phenomena in women. Caesarean section is common surgical operation now and most estimated prevalence rate of 33%; prevalence ranges from 4% in Africa to 29% in Latin America and Caribbean. Increased caesarean section rate in the developed countries is mainly due to fear of litigation, health insurance system, caesarean section by choice, increased use of electronic fetal cardiac monitoring and increased proportion of breech deliveries by caesarean section.[10] In developing countries the reasons for increasing caesarean section rate are different. Poor socioeconomic conditions, low literacy level, lack of primary health care and low threshold of some doctors for caesarean section are the main reasons.

A total of 137 pregnant women with 25 t0 35 years of age were included in this study. The average age of the women was 29.88±3.26 years. Majority of our patients were in age group 25–30 years showing that the trend of early marriages is reduced and less likely to develop complications. In this study incidence of vaginal birth after previous one caesarean section was 47.45% which is very much less than72-76% reported in recent studies.[11,12]

Frequency of repeat caesarean section in patients with previous one cesarean section was observed in 52.55% women in this study which is higher from other studies 11 to 24%, 30%.[13-16] It could be due to mostly patients come to this institute as referral/ or in established labor or associated with medical complications or obstetrical problems without proper regular antenatal care.

Postpartum hemorrhage was seen in 37.96% cases while prolong hospital stay was found in 28.47% Thompson JF at el in their study reported that a woman who has had a cesarean delivery typically remains hospitalized longer than one who has had a vaginal delivery and has increased risk for readmission.[17]

perinatal outcome, there were 21(15.33%) still birth, Apgar score less than 7 was observed in 58(42.34%) at 1 minutes, Apgar score less than 7 was observed in 39(28.47%) at 5 minutes and NICU admission was observed in 27(23.38%) Most of the neonates, who were delivered by emergency caesarean section, were taken to NICU for observation, as most of the emergency caesarean sections were done in view of fetal distress and failure to progress and more babies admitted for observation in NICU after vaginal birth. We found perinatal outcome were also significantly high in repeated caesarean section as compare to vaginal delivery. Our study was well comparable with studies of Jha M et al.[18]and Shah Jitesh Mafatlal et all and Kamath BD et al who found that Infants born after successful VBAC (36%) had low NICU admission and the lowest resuscitation needs as compared to those born by failed vaginal birth.[19,20]

CONCLUSION

All of the maternal and prenatal outcomes were significantly high in repeated Cesarean Section as compare to vaginal deliveries. Trial of labor is a relatively safe procedure but it is not risk free. Individualized management of labor in patients who had one caesarean section represents sound and practical obstetrical approach. The trial of labor in women with a single previous caesarean delivery can reduce rate of caesarean section safely.

Acknowledgment: We would like to thank all women participating in the study.
Conflict of Interest: None
Funding: none

REFRENCES

1 Crowther CA, Dodd JM, Hiller JE, Has tam RR, Robinson JS. Planned vaginal birth or elective repeat caesarean: patient preference restricted cohort with randomized trial. PLoS Med. 2012;9(3):e1001192
2 Fatimah Alkhamis. Pregnancy outcome in women with Previous One Cesarean Section,Experience from Kingdom of Saudi Arabia .ejhm.journals.ekb.eg. 2019 ;77 (3):5109-5113
3 Kaur J, Singh S, Kaur Kl. Current trend of caesarean sections and vaginal births. AdvApplSci Res. 2013;4(4):196-202.
4 Wingert A, Johnson C, Featherstone R, Sebastianski M, Hartling L, Douglas Wilson R. Adjunct clinical interventions that influence vaginal birth after cesarean rates: systematic review. BMC Pregnancy Childbirth. 2018 Nov 21;18(1):452. Doi: 10.1186/s12884-018-2065-x. PMID: 30463530; PMCID: PMC6249876.
5 American college of obstetricians and Gynecologists. ACOG Practice bulletin no.115: vaginal birth after cesarean delivery Obstet Gynecol. 2010;116:450-63.
6 Saadia S, Shamyela H, Rabia N. Trial of scar after CS A study of 100 cases. JFJMC. Sept 2012;6(3):71-5.
7 Geol SS, Tiwari M, Hariharan C, Shrivastava DS Outcome of post cesarean pregnancy and comparision of maternal and fetal outcome following vaginal birth versus repeat cesarean section in a rural hospital. Int J ReprodContraceptObstet Gynecol. 2013 Mar;2(1):16-22.
8 Ugwu GO, Lyoke CA, Onah HE, Egwuatu VE, Ezugwu FO. Maternal and perinatal outcomes of delivery after a previous Cesarean section in Enugu, Southeast Nigeria: a prospective observational study. Int J Womens Health. 2014 Mar;6:301–5.
9 Bangal VB, Giri PA, Shinde KK, Gavhane SP. Vaginal birth after cesarean section. N Am J Med Sci. 2013 Feb;5(2):140-4.
10 Betran AP, Merialdi M, Lauer JA. Rates of caesarean section: analysis of global, regional and national estimates. Paediatr Perinat Epidemiol. Mar 2007;21(2):98-113.
11 wingertA,Johnson c,FeatherstoneR,Sebastianski M, Harting L , Douglas WR. Adjunct clinical interventions that influence vaginal birth after cesarean rates: Systematic review.BMC Pregnancy childbirth. 2018; 18(1):452.
12 LiYX,Bai Z , Long DJ , Wang HB ,Reilly K H , etal. Predicting the success of vaginal birth after cesarean

delivery: a retrospective cohort study in China .BMJ open. 2019; 9 (5):e027807.
13 Mi Y, Qu P, Guo N, Bai R, Gao J, Ma Z, et al .Evaluation of factors that predict the success rate of trial of labor after the cesarean section. BMC Pregnancy Childbirth 2021; 21: 527. https://doi.org/10.1186/s12884-021-04004-z
14 Nasira Tasnim, Kausar Masoom, Rafia Asif, Saba Masood, Shumaila Naeem .Vaginal Birth after Cesarean Section (VBAC) Success Rate and Predictors of Success in a Tertiary Care Hospital.JSOGP 2021 April-June ;11 (2): Online: 2307-7115.
15 NighatShaheen, Sofia Khalil,PulwashaIftikhar.Prediction of successful trial of labour in patients with a previous caesarean section .JPMA.2014;64(5):542-45.
16 Royal College of Obstetricians and Gynaecologists. Birth After Previous Caesarean Birth.2015 .RCOG Green-top Guideline No. 45. m: https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg45
17 Thompson JF, Roberts CL, Currie M, Ellwood DA. Prevalence and persistence of health problems after childbirth: associations with parity and method of birth. Birth. 2002;29:83-94.
18 Jha M. Pregnancy outcome of single previous cesarean section. Nepal Health Res Counc. 2009;7:25-8.
19 Shah JM, Mehta MN.Analysis of mode of delivery in women with previous one cesarean section. J ObstetGynecol India. 2009;59:136-9
20 Kamath BD, Todd JK, Glazner JE, Lezotte D, Lynch AM.Neonatal outcomes after elective cesarean delivery. Obstet Gynecol. 2009;113:1231-8.