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ORIGINAL ARTICLE

Maternal Outcomes of Pregnancy in Women with Previous One C-Section in Qazi Hussain Ahmad Medical Complex, Nowshehra

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ABSTRACT

Objective: This prospective study was conducted to find the maternal outcomes of pregnancy in women with a previous one C-Section in terms of mode of delivery and maternal complication

Material & Methods: This prospective cross sectional study was carried out in QHAMC Nowshera from July 2018 to June 2019. A convenient sample of 180 women, all booked and unbooked, with gestational age 37 weeks or more, singleton fetus and cephalic presentation that came to Gynae OPD with history of previous one C/section were included . Informed consent was taken after explaining risks and benefits of planned repeat c/section and VBAC .While those having IUD, placenta previa, breech presentation or gestational age less than 37 weeks were excluded.
Data was obtained on pre- designed structured proforma .SPSS 17 software was used for statistical purposes.

Results: Results showed that of the total participants 71.1 % had undergone C-section again, and 28.8 % delivered as VBAC. 34.3% of the total C-sections were emergency lower segment C-sections and 65.6% were planned repeat C-sections.

Conclusions: It is concluded from our study that VBAC is a safe option for patient with previous one scar with minimal morbidity and no mortality but required good antenatal assessment one to one care and vagilant monitoring with quick resumption to emergency csection when required

INTRODUCTION

Women with a previous 1 C-section are categorized as high-risk pregnancies because of associated maternal and fetal risks. According to World Health Organization (WHO) in 2015, rate of the C-sections in women who had a previous 1 C-section in high, middle and low-income countries ranges between 78.1%-79.4%, 85.2%-87.5% and 63.2%-72.1% respectively [1]. In the past ten years, the rates of C-section have risen enormously [2]. Previous C-section has the major contributions to high C-section rate in following pregnancies [3][4][5][6][7]. Factors which does not go in favour of sucessful VBAC include induced labor, no previous vaginal birth, high BMI and previous C-section for dystocia [8].

VBAC is one of the options [9]. VBAC is a successful vaginal delivery after a C-section that can protect women from repeated C-sections and thus lowers the associated maternal mortality and morbidity and perinatal morbidity.It also lowers the risks associated with previous scar in subsequent pregnancies [10][11]. There are many controversies regarding VBAC and trial of scar after previous 1 C-section. In developed countries like the USA it was a dictum popularized that (once a cesarian, always a cesarian) but it was a misleading term; upto 70% of women with previous C-sections who labour achieve a vaginal delivery [12][13].

Pregnant women with previous one scar and their obstetricians always have concerns that a scarred uterus may get ruptured thus resulting in maternal morbidity and mortality and perinatal complications. This prevents obstetricians and pregnant women with previous one c-section from adopting a Trial of scar after previous 1 C-section worldwide [14]. To avoid uterine rupture people go for an Elective or Emergency C-section but on the other hand, it causes maternal complications including thromboembolism, bladder dysfunction, prolong recovery prolong hospital stay and on the fetal side increases the risk of Respiratory Distress Syndrome and Transient Tachypnea of the Newborn. s

Modern techniques and skills have reduced the risk of uterine scar rupture in trial of scar [15].Such cases should be dealt by senior obstetricians for timely anticipation and management of complications [16].

This study aims to determine the outcome of pregnancy in women with a previous 1 C-section in QHAMC, Nowshera as VBAC or repeat C-section and maternal complication In Pakistan, especially in KPK, where the large family size is a social norm and families cannot afford health complications economically, it is an important issue to address.

MATERIAL AND METHODS

This prospective study was conducted by the Gynae and Obs department of QHAMC, after ethical approval of the ethical committee of QHAMC; from July 2018 to June 2019.In this study, a convenient sample of 180 women, all booked and unbooked, with gestational age 37 weeks or more, singleton fetus and cephalic presentation that came in labor or to antenatal opd and had previous one C-section were included. While those having IUD, placenta previa, breech presentation or gestational age less than 37 weeks were excluded. Total 180 women considered eligible were included in the study.

Data was obtained from all patients who fulfilled the inclusion criteria and pregnancy outcomes like mode of delivery(planned repeat c/section vs VBAC) and maternal complication like postpartum heamorrhage, vaginal tears, infected episiotomy laparotomy, prolonged hospital stay were recorded on structured proforma. SPSS 17 software was used for statistical purposes.

RESULTS

Among 180 pregnant females having a previous 1 C-section, 84 (46%) of patients underwent planned repeat csection(PRCS) due to the reason mentioned in table 3.Ninety six (56%) of patient opt for trial of scar among them 52 (28.88%) delivered as VBAC, while emergency C/section was performed in 44(45%) of patients for indications mentioned in table 2 .Maternal complications were given in table 4.

Table 1:

S. No	Pregnancy Outcome	Participants out of 180	Percentage
1	VBAC	52	28.88 %
2	C-section	128	71.1 %
	Total	180	100%
	C-section		
	2(a)Emergency Lower Segment C-section	44	34.3 %
	2(b)Planned repeat C-section	84	65.6 %
	Total	128	100%

Table 2: Frequency and percentage of different indications of Emergency Lower Segment C-section

S.No	Indications	Frequency of outcome (total = 44)	Percentage
1.	Fetal distress	12	27.2 %
2.	Suspected scar dehiscence (feto-maternal tachycardia)	8	18.18 %
3.	Failure to progress in first stage of labor	8	18.18 %
4.	Scar rupture	2	4.54 %
5.	Oligohydromnios	5	11.36 %
6.	Transverse lie in labor	2	4.54 %
7.	Cord presentation in labor	2	4.54 %
8.	Twins	3	6.81 %
9.	PROM with poor Bishop	2	4.54 %

Table 3: Frequency and percentage of different indications of Planned Repeat C-section

S. No	Indications	Frequency of outcome	Percentage
1.	Post dates pregnancy	12	14.28 %
2.	Bad Obstetrical History (BOH)	8	9.52 %
3.	Breech	10	11.90 %
4.	Fear of scar rupture (Maternal decision)	6	7.14 %
5.	Previous C-section Cephalo Pelvic Disproportion (Difficult delivery)	10	11.90 %
6.	Diabetes Mellitus in pregnancy	8	9.52 %
7.	Pregnancy Induced Hypertension/ Pre-eclampsia Toxemia	10	11.90 %
8.	Cephalo Pelvic Disproportion	12	14.28 %
9.	Short Inter-pregnancy Interval	2	2.38 %
10.	Twins	2	2.38 %
11.	Polyhydromnios	2	2.38 %
12.	Oligohydramnios	2	2.38 %
		Total = 84	

Table 4: Maternal complications associated with different mode of deliveries in previous 1 scar women

S.NO	Complications	VBAC(52)	PRC/S(84)	Emergency C/S(44)
1.	Postpartum hemorrhage	6(11%)	8(9%)	5(11%)
2.	Vaginal tears	3(5.7%)	0	0
3.	Infections	0	4(5%)	8(18%)
4.	Infected episiotomy	0	0	0
5.	Laparotomy for Ruptured uterus	2(3.8%)	0	0
7.	Hospital stay	1-2 days	2-3 days	3-4 days

DISCUSSION

This study provided valuable information regarding the outcomes of pregnancies in women with a previous one scar. Out of 180 pregnant females who were observed and managed for the outcome of pregnancy only 52 were delivered by VBAC and the rest 128 went through repeated C-section either emergency or elective.But the other interpretation of this finding could be that only 96(53%) of the patient opt for vaginal delivery and out of them 52 (54%) of patient delivered vaginaly .so,previous one scar is not a contraindication for vaginal delivery patient do delivered vaginally. The most common indication for emergency C-section was fetal distress and for elective C-section was post-date pregnancies and cephalo-pelvic disproportion.only 7% of the patient refused trial of scar due to fear of scar rupture.

In 2018 a prospective study was published to determine the outcome of pregnancy in women with a previous 1 C-section, at Shimla (India) from June 2013 to May 2014. 152 participants were given a trial of labor among which 107(70.39 %) had successful VBAC and 45(29.61%) had repeat emergency C-sections.[17} As compared to this study our study showed a low VBAC percentage because all participants were not given a trial of labor [17]. In the Kingdom of Saudi Arabia, a retrospective Cohort study was conducted that was published in 2019 and had 299 women under study, 73.9% of the participants had successful vaginal births with no reports of any morbidity or mortality. Their results were comparable to that of US and UK hospitals which represents the benefits of modern updates to management protocols [19][20][21]. In our study we also have no mortility.regarding maternal morbidity postpartum heamorrhage was high in VBAC and PRCS .Only two rupture uterus were observed in VBAC group which is comparable to documented risk of rupture in VBAC of 1/200 .In our study rate of infected wound was highest in emergency c/section patients table 4.A retrospective study in Rwanda was done between June 2013 and December 2014 on women with previous C-sections. In this study, 435 women had previous C-section, out of which 138 (31.7%) women choose for elective repeat c/section (ERCS) and 297(68.3%) were given a trial of labor which was successful in 134 out of 297(45%) and no maternal deaths occurred. In our study, the rate of C-sections is higher than WHO recommendations [22][23]. In a retrospective study conducted at the Mafraq Hospital, Abu Dhabi between January to August 2011 on 151 pregnant women with a previous 1 C-section. 96(83.47%) out of 115 women, who were given Trial of Scar, had VBAC and 19(16.5%) had a repeat C-section. This study has a significantly high rate of VBAC in contrary to our study because most of their participants had a previous vaginal birth and especially VBAC [24][25][26]. A cross-sectional study was conducted in Qoum, Iran from 2016 to 2018 on 150 pregnant women who were candidates for VBAC. 85.33% was the success rate of VBAC and 14.67% of the patients had to repeat a C-section after failure in vaginal delivery. The high success rate of VBAC in this study was credited to the long inter-delivery interval of 2 to 4 years that is good enough for scar healing [27].

A retrospective study was conducted in China, that included 14 hospitals from 10 provinces, between 2016 to 2017. The purpose of this study was to compare the outcome of pregnancy in women with the previous C-sections with the outcome of pregnancy in women with previous vaginal delivery.The former group (PCS) had 14,774 participants while the latter (PVD group) had 21,581 participants. In PCS group 13,703(95.85%) had repeat C-section and in PVD group 6,696(28.12%) undergone C-section. This study has a high repeat C-section rate as compared to our study because in China most C-sections are carried out at patients request without any medical indication [28].

The results of our study showed that the rate of C-sections was high as compared to international studies. Our rate of VBAC is lower as compared to other studies because our hospital is newly established hospital with less resources including human resources and less facilities for monitoring and management of a labouring patients with previous one scar as compared to developed countries and majority of pregnant patients have no antenatal checkups which make our pregnant population as high risk group .

Limitations of Study: Our study was limited to a single hospital. All of the participants were not managed from the start of their pregnancy because most pregnant women do not seek antenatal care until late in third trimester of pregnancy or present in labour.and due to lack of one to one care required in such patients make our obstetrician having low threshld for C/section

CONCLUSIONS

It is concluded from our study that VBAC is a safe option for patient with previous one scar with minimal morbidity and no mortality but required good antenatal assessment one to one care and vagilant monitoring with quick resumption to emergency csection when required

REFRENCES

1 Vogel JP, Betrán AP, Vindevoghel N, Souza JP, Torloni MR, Zhang J, Tunçalp Ö, Mori R, Morisaki N, Ortiz-Panozo E, Hernandez B. Use of the Robson classification to assess caesarean section trends in 21 countries: a secondary analysis of two WHO multicountry surveys. The Lancet Global Health. 2015 May 1;3(5):e260-70.

2 Betrán AP, Ye J, Moller AB, Zhang J, Gülmezoglu AM, Torloni MR. The increasing trend in caesarean section rates: global, regional and national estimates: 1990-2014. PloS one. 2016 Feb 5;11(2):e0148343.

3 Abdel-Aleem H, Shaaban OM, Hassanin AI, Ibraheem AA. Analysis of cesarean delivery at Assiut University Hospital using the Ten Group Classification System.Int J Gynaecol Obstet. 2013;123:119–123. doi: 10.1016/j.ijgo.2013.05.011.

4 Ferreira EC, Pacagnella RC, Costa ML, CecattiJG.The Robson ten-group classification system for appraising deliveries at a tertiary referral hospital in Brazil.International Journal of Gynecology & Obstetrics. 2015 Jun 1;129(3):236-9.

5 Tan JK, Tan EL, Kanagalingan D, Tan LK. Rational dissection of a high institutional cesarean section rate: an analysis using the Robson Ten Group Classification System. Journal of Obstetrics and Gynaecology Research. 2015 Apr;41(4):534-9.

6 Triunfo S, Ferrazzani S, Lanzone A, Scambia G. Identification of obstetric targets for reducing cesarean section rate using the Robson Ten Group Classification in a tertiary level hospital. European Journal of Obstetrics & Gynecology and Reproductive Biology. 2015 Jun 1;189:91-5.

7 Kankoon N, Lumbiganon P, Kietpeerakool C, Sangkomkamhang U, Betrán AP, Robson M. Cesarean rates and severe maternal and neonatal outcomes according to the Robson 10-Group Classification System in KhonKaen Province, Thailand. International Journal of Gynecology & Obstetrics. 2018 Feb;140(2):191-7.

8 Selo-Ojeme D, Abulhassan N, Mandal R, Tirlapur S, Selo-Ojeme U. Preferred and actual delivery mode after a cesarean in London, UK. International Journal of Gynecology & Obstetrics. 2008 Aug 1;102(2):156-9.

9 Bangal VB, Giri PA, Shinde KK, Gavhane SP. Vaginal birth after cesarean section. North American journal of medical sciences. 2013 Feb;5(2):140.

10 Asgarian A, Rahmati N, Nasiri F, Mohammadbeigi A. The failure rate, related factors, and neonate complications of vaginal delivery after cesarean section.Iranian journal of nursing and midwifery research. 2020 Jan;25(1):65.

11 Abdelazim IA, Shikanova S, Kanshaiym S, Karimova B, Sarsembayev M, Starchenko T. Cesarean section scar dehiscence during pregnancy. Journal of Family Medicine and Primary Care. 2018 Nov;7(6):1561.

12 Ugwumadu A. Does the maxim “once a caesarean, always a caesarean” still hold true?.PLoS medicine. 2005 Sep;2(9):e305.

13 Rozenberg P, Goffinet F, Philippe HJ, Nisand I. Ultrasonographic measurement of lower uterine segment to assess risk of defects of scarred uterus. The Lancet. 1996 Feb 3;347(8997):281-4.

14 Kabir AA, Pridjian G, Steinmann WC, Herrera EA, Khan MM. Racial differences in cesareans: an analysis of US 2001 National Inpatient Sample Data. Obstetrics & Gynecology. 2005 Apr 1;105(4):710-8.

15 Kerr JM. The technic of cesarean section, with special reference to the lower uterine segment incision.American Journal of Obstetrics and Gynecology. 1926 Nov 1;12(5):729-34.

16 Schwarz OH, Paddock R, Bortnick AR. The cesarean scar: An experimental study. American Journal of Obstetrics and Gynecology. 1938 Dec 1;36(6):962-74.

17 Mittal M, Kandoria M, Sood R, Chauhan M, Rao R. Outcome of pregnancy in women with previous one cesarean section. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2018 Aug 1;7(8):3258.

18 Stamilio DM, Shanks A. Vaginal birth after cesarean (VBAC) outcomes associated with increasing number of prior VBACs. Women’s Health. 2008 May;4(3):233-6.

19 Almeida MA, Camano L, Peixoto AB, Martins WP, Mattar R. Impact of cesarean section in a private health service in Brazil: indications and neonatal morbidity and mortality rates. Ceskagynekologie. 2018 Jan 1;83(1):4-10.

20 Colmorn LB, Krebs L, Klungsøyr K, Jakobsson M, Tapper AM, Gissler M, Lindqvist PG, Källen K, Gottvall K, Bordahl PE, Bjarnadóttir RI. Mode of first delivery and severe maternal complications in the subsequent pregnancy.ActaobstetriciaetgynecologicaScandinavica. 2017 Sep;96(9):1053-62.

21 Mendis R, Flatley C, Kumar S. Maternal demographic factors associated with emergency caesarean section for non-reassuring foetal status. Journal of perinatal medicine. 2018 Aug 1;46(6):641-7.

22 Robson MS. Can we reduce the caesarean section rate?. Best practice & research Clinical obstetrics &gynaecology. 2001 Feb 1;15(1):179-94.

23 Betran AP, Torloni MR, Zhang J, Ye J, Mikolajczyk R, Deneux-Tharaux C, Oladapo OT, Souza JP, Tunçalp Ö, Vogel JP, Gülmezoglu AM. What is the optimal rate of caesarean section at population level? A systematic review of ecologic studies.Reproductive health. 2015 Dec;12(1):1-0.

24 Landon MB, Hauth JC, Leveno KJ, Spong CY, Leindecker S, Varner MW, Moawad AH, Caritis SN, Harper M, Wapner RJ, Sorokin Y. Maternal and perinatal outcomes associated with a trial of labor after prior cesarean delivery. New England Journal of Medicine. 2004 Dec 16;351(25):2581-9.

25 Hendler I, Bujold E. Effect of prior vaginal delivery or prior vaginal birth after cesarean delivery on obstetric outcomes in women undergoing trial of labor. Obstetrics & Gynecology. 2004 Aug 1;104(2):273-7.

26 Caughey AB, Shipp TD, Repke JT, Zelop C, Cohen A, Lieherman E. Trial of labor after cesarean delivery: the effect of previous vaginal delivery. American journal of obstetrics and gynecology. 1998 Oct 1;179(4):938-41.

27 Sakiyeva KZ, Abdelazim IA, Farghali M, Zhumagulova SS, Dossimbetova MB, Sarsenbaev MS, Zhurabekova G, Shikanova S. Outcome of the vaginal birth after cesarean section during the second birth order in West Kazakhstan.Journal of family medicine and primary care. 2018 Nov;7(6):1542.

28 Hou L, Li G, Zou L, Li C, Chen Y, Yuan Y, Wang X, Jia C, Zhang W. Cesarean delivery rate and indications in mainland China: a cross sectional study in 2011. Zhonghuafuchankezazhi. 2014 Oct 1;49(10):728-35.