FREQUENCY OF DIFFERENT MODES OF DELIVERIES IN PREVIOUS ONE CAESAREAN SECTION IN KUWAIT TEACHING HOSPITAL

Naila Nasr Malik[1], Sajida Habib[1], Sharafat Bibi[2], Robina Akhtar[3]

Aim: To determine frequency of different modes of deliveries in cases of one previous caesarean section and determine the frequency of different indications of repeat caesarean section in our setup.

Materials and Methods: This Cross Sectional Descriptive study was done in the Department of Obstetrics and Gynaecology , Kuwait Teaching Hospital , Peshawar, from January 2015 to December 2016. All patients with history of one previous lower segment caesarean section (LSCS) presenting to OPDs and in labour room during the study period were included in the study. After delivery, the modes of delivery was recorded in proforma . Results were presented in the form of mean and percentages using SPSS 18.

Results: A total of 243 patients with previous one caesarean section were included in the study. Age of the study sample ranged from 19 – 55 years, with mean of 29 years ± 14 SD. Repeat caesarean sections were done in 219 (90%) of cases. Successful vaginal birth after casearean section (VBAC) was achieved in only 24 (10%) cases. The commonest indication for repeat caesarean section was premature rupture of membranes (PROM) , which was seen in 33 (15%) cases, followed by oligohydromnia in 30 (14.1%) cases, fetal distress in 29 (14%) cases, contracted pelvis in 10 (4.5%) cases, Transverse lie in 4 (1.9%),Unstable lie in 2 (1%),Failed induction in 7 (3%), Handled cases in 5 (2.5%) cases, breech presentation in 27 (12%) cases, macrosomic baby in 22 (10%) cases, maternal wish in 20 (9%) cases, post term baby in 8 (3.5%) cases, imminent rupture in 8 (3.5%) cases, failure to progress in labour in 12 (5%) cases, and severe pregnancy induced hypertension in 2(1%) cases.There was no maternal or neonatal mortality.

Conclusion: The frequency of repeat caesarean section in subsequent pregnancies after first caesarean section is very high in our setup. Commonest cause of repeat caesarean section is premature rupture of membranes , followed by oligohydromnia in our setup. Female education and regular antenatal checkups should be ensured on the part of pregnant females to improve maternal and fetal health , especially in low socioeconomic setup.

Key words: Lower segment cesarean section, Vaginal birth after caesarean section, Breech presentation, scar rupture.

INTRODUCTION

Caesarean section is the surgical intervention that can save the life of both the mother as well as the baby in emergency situations[1,2]. However, the procedure is associated with certain maternal and fetal risks and complications[1,2]. Therefore, it should be performed only when indicated [1,2]. The appropriate mode of delivery in patients who have undergone one caesarean section in the previous pregnancy has remained controversial[3,4]. In 1916, there was a dictum developed by Craig that once a caesarean section , always a caesarean section[3,5]. This led to a very high rate of caesarean sections in pregnant females[3]. However, the obstetricians later on developed the concept of "vaginal birth after caesarean section" (VBAC) , in order to control the increasing rate of repeat caesarean sections in females[4]. VBAC is a trial of vaginal delivery in cases who have undergone one previous caesarean section in hospital[4]. Presently, the morbidity and mortality related to the caesarean section is greatly reduced[4]. The dictum now is "once a caesarean section, always an institutional delivery in a well-equipped hospital"[4]. The reasons which changed the old dictum are improvement in the assessment of scar integrity, fetal well-being, and enhanced facilities of emergency caesarean section[4]. Worldwide, the caesarean section related births account for 18% of all births [3,6]. The rate of vaginal delivery after one previous caesarean section has decreased worldwide from 40% in 1996, to less than 10 % in the present[3]. The current trend worldwide is that the rate of caesarean section is increasing while that of VBAC is decreasing[3,7]. In Pakistan the concern of a higher caesarean section rate after previous caesarean is even more significant due to prevelance of grandmultiparity[3]. VBAC is on a decline in Pakistan because of fear of maternal and perinatal risks and complications[8,9]. Because of this recent rising rate of primary caesarean section, a large numbers of women have to undergo repeat caesarean sections during labour[3,10].

[1] Department of Gynae/obs Kuwait Teaching hospital Peshawar Medical College, Peshawar
[2] Department of Gynae/obs Govt Naseer ullah baber memorial hospital Peshawar
[3] Department of Gynae/obs HMC Peshawar

Address for correspondence:
Dr. Naila Nasr Malik
Department of Gynae/obs Kuwait Teaching hospital, Peshawar Pakistan
Email: nnasrmalik@yahoo.com
Cell No: 03335031144

There are different publications and recommendations available for how to attempt trial of labour after caesarean section (TOLAC)[3,11]. But still, the rate of VBAC is very low[3,11]. VBAC is considered as cost effective, and associated with low rate of maternal complications, reduced hospital stay and earlier return to routine work as compared to repeat elective caesarean sections[10-12]. However, VBAC is associated with higher risk of rupture of uterine scar , which results in maternal and perinatal morbidity and mortality[3,4,12]. Due to this reason, the rates of VBAC have decreased significantly worldwide , and therefore , an increase in rates of caesarean section has resulted[3,13-15].

The present study was done to determine the frequency of modes of deliveries in cases of previous one caesarean section in our setup, and to determine the indications of repeat caesarean sections in such cases.

MATERIALS AND METHODS

This cross sectional descriptive study was done in Kuwait Teaching hospital, Peshawar, from January 2015 to December 2016. A total of 243 cases were included in the study. The inclusion criteria in the study was taken as patients presented to Obstetric and Gynaecology department of Kuwait teaching hospital between 36-38 weeks of gestation and with one previous caesarean section. Exclusion criteria was women who had undergone more than one previous caesarean section. After going through the patients records , a decision regarding mode of delivery was taken by a senior obstetrician. The patients were given a trial of vaginal delivery , until there was satisfactory progress. The trial was terminated by emergency repeat CS, when there was evidence of unsatisfactory progress, scar tenderness, or fetal distress. The on-duty doctors conducted the delivery and caesarean section was performed by the consultant on call . Mode of delivery was noted down on the proforma and data analysis was carried out using the SPSS version 18.

RESULTS

A total of 243 pregnant patients with history of one previous caesarean section were included in the study. Age of the study sample ranged from 19 - 55 years, with mean of 29 years ± 14 SD.

The frequency of different modes of deliveries in the study sample is shown in table 1. The different indications of repeat caesarean section are shown in table 2.

DISCUSSION

There was a time when vaginal delivery after one previous caesarean section was considered impossible[3,16]. Patients who underwent caesarean section once were considered for caesarean section in subsequent pregnancies[3,16]. However, now it is suggested that vaginal delivery can be possible in cases of previous caesarean section and hence, the dictum “once a caesarean, always a caesarean” has been challenged[3,16,17].

There are several systematic reviews and guidelines available that suggest that the trial of labour after one caesarean (TOLAC) is relatively safe after previous caesarean section[17-20]. TOLAC decreases the risk of morbidity in the future pregnancies[21]. However, TOLAC is associated with certain maternal risks , especially uterine scar rupture [3,22,23]. Other factors that are associated with an increased risk of uterine scar rupture include maternal age above 40 years, pregnancy beyond term, obesity, and macrosomic babies[24-28].

Table 1: Different modes of delivery in 243 patients having done one previous caesarean section.

Modes of delivery	n (%)
Repeat caesarean section	219 (90%)
Vaginal birth after caesarean section	24(10%)

Table 2: Modes of repeat caesarean section in 219 cases.

Modes repeat caesarean section	n (%)
Repeat emergency caesarean section	179 (82%)
Repeat elective caesarean section	40(18%)

Table 3: Indications of repeat caesarean section in 219 cases

Indications of repeat caesarean section	n (%)
Premature rupture of membranes (PROM)	33 (15%)
Oligohydromnios	30 (14.2%)
Fetal distress	29 (14%)
Breech presentation	27(12%)
Macrosomic baby	22 (10%)
Maternal wish	20 (9%)
Imminent rupture	8 (3.5%)
Post term baby	8 (3.5)
Failure to progress in labour	12(5%)
Pregnancy induced hypertension (PIH)	2 (1%)
Contracted pelvis	10 (4.5%)
Transverse lie	4 (1.9%)
Unstable lie	2 (1%)
Failed induction	7 (3%)
Handled cases	5(2.5%)

Table 4: Indications of repeat caesarean section in 219 cases

Indications	n (%)	
	Emergency caesarean section	Elective caesarean section
Premature rupture of membranes (PROM)	33(15%)	-
Oligohydromnios	17(8.2)%	13(6%)
Fetal distress	29 (14%)	-
Breech presentation	20(9.5%)	7(2.5%)
Macrosomic baby	19 (8.5%)	3(1.5%)
Maternal wish	1 (0.5%)	19 (8.5%)
Imminent rupture	8 (3.5%)	-
Post term baby	5 (2%)	3(1.5%)
Failure to progress of labour	12(5%)	-
Pregnancy induced hypertension (PIH)	1 (0.5%)	1(0.5%)
Contracted pelvis	5(2.2%)	5(2.2%)
Transverse lie	2(1%)	2(1%)
Unstable lie	-	2(1%)
Failed induction	7(3%)	-
Handled cases	5(2.5%)	-

In the present study, about 210 (90%) cases underwent repeat caesarean section, while 24 (10%) cases had vaginal delivery. The commonest indication of repeat caesarean section was premature rupture of membranes (seen in 15% cases), followed by oligohydromnias (in 14% cases).The rate of repeat caesarean section in the present study is very high as compared to various local and international studies. In a study done by Bangel VB in 2013, about 85% cases had vaginal delivery, while 15% cases had repeat caesarean section[4]. The commonest indication of repeat caesarean section was fetal distress (in 46% cases) , followed by scar rupture (in 13% cases)[4]. In a study done by Malic U in 2016 , about 32% cases had repeat caesarean section, while 68% cases had vaginal delivery[3]. Guise JM and Mozurkewich reported a 74% and 73% rate of VBAC in their studies respectively[29,30]. Crowt has reported a success rate of 43% VBAC[31]. Landon reported 85-90% success in such cases[32]. A local study done in Lahore General Hospital by Taj G also reported 70% success rate of VBAC in Pakistani females[9]. In all these studies, rate of repeat caesarean section is very low as compared to the present study.

The present study showed that the rate of repeat caesarean section is very high in our setup. The reasons for high rate of caesarean section in the present study is maternal wish and macrosomic babies. Rate of elective caesarean section was highest in cases of maternal wish. Also the obstetricians keep threshold of caesarean section low in order to avoid any maternal and fetal mortality. The obstetricians are always in a dilemma that what should be the mode of delivery in the pregnant females who had undergone one caesarean section in the previous pregnancy[4]. As the uterus has scar due to previous caesarean section, so the obstetrician is more concerned about the management of labor as compared to normal labour[4]. Some researchers suggest an elective Caeserean Section in such cases, while others choose a trial of labor[4].

Although the government is trying to educate the people about the small family size ,yet the couples desire to have more number of children, especially the male children[4]. This trend is high among the uneducated people living in the rural areas [4]. Many women do not accept the methods of sterilization even during the second caesarean section [4]. This decision exposes them to complications in the subsequent pregnancies[4]. Female education can help reduce maternal and perinatal morbidity and mortality in selected cases [33].

The limitation of the study was that the study was carried out in a single tertiary care centre. There is a need to carry out bigger studies in multiple health care centres to generate data that can be applied to whole population.

CONCLUSION

The rate of repeat caesarean section is very high in our setup due to large catchment area. Desire to have more children , and not accepting the sterilization even after the second caeserean section in multipara exposes the females to the development of complications in subsequent pregnancy and labor[a]. Education of women about sterilization or there methods of contraception, risks of caesarean section, and ensuring regular antenatal visits can help lower the rate of repeat caesarean

section and thus reduce morbidity and mortality .

REFERENCES

1. Tharaux DC, Carmona E, Colle MH, Bréart G. Postpartum Maternal Mortality and Caesarean Delivery. Obstet Gynecol. 2006; 108: 541–8.
2. Hyde MJ, Mostyn A, Modi N, Kemp PR. The health implications of birth by Caesarean section. Biol Rev. 2012; 87: 229–43.
3. Malik U, Ishtia S, Baloch A. Frequency and safety of successful vaginal birth after previous single cesarian section.Isra Med J . 2016; 8(4) ; 253-6.
4. Bangal VB, Giri AP, Shinde KK, Gavhane SP. Vaginal Birth after Caesarean Section. N Am J Med Sci. 2013 5(2): 140–4.
5. Cragin EB. Conservatism in Obstetrics. N Y Med J. 1916;104:1–3.
6. Betrán AP. The Increasing Trend in Caesarean Section Rates: Global, Regional and National Estimates. Molar PLoS One. 2016;11(2):474.
7. Seffah JD, Adu Bonsaffoh K. Vaginal birth after a previous caesarean section: current trends and outlook in Accrra. J West Afr Coll Surg. 2014; 4(2): 10-11.
8. Kashif S, Mansoor M. Vaginal birth after Caesarean Delivery to evaluate factors for successful outcome. Professional Med J 2010:17(4):665-69
9. Taj G, Sohail N, Cheema SZ, Zahid N. Review of Study of Vaginal birth after Cesearean Section. Annals of Surgery 2008;14(1):13-16.
10. Schoorel EN, Kuijk SM, Melman S. Vaginal birth after a caesarean section: the development of a Western
11. Wymer KM, Shih YC, Plunkett BA. The cost-effectiveness of a trial of labor accrues with multiple subsequent vaginal deliveries. Am J Obste Gynecol 2014; 211:56.
12. Grobman WA, Lai Y, Landon MB, et al. Development of a nomogram for prediction of vaginal birth after caesarean delivery. Obstet Gynecol 2014;211(1):56.
13. Wells CE. Vaginal birth after caesarean delivery: views from the private practitioner. Semin Perinatol. 2010;34(5):345- 50.
14. National Institutes of Health Consensus Development Conference Panel. National Institutes of Health Consensus Development conference statement: vaginal birth after caesarean: new insights. Obs Gynecol. 2010;115(6):1279-95.
15. Sentilhes L, Vayssière C, Beucher G, et al. Delivery for women with a previous caesarean: guidelines for clinical practice from the French College of Gynecologists and Obstetricians (CNGOF). Eur J Obstet Gynecol Reprod Biol 2013; 170(1):25-32.
16. Armstrong C. ACOG Updates. Recommendations on vaginal birth after previous caesarean delivery. Am Fam Physician. 2011;83(2):215-17.
17. Royal College of Obstetricians and Gynaecologists. Birth After Previous Caesarean Birth. Green-top Guideline No. 45. London: RCOG;2007. Website: [www.rcog.org.uk/ womens-health/clinical-guidance/birth-after previous caesarean.]
18. Dodd JM, Crowther CA. Elective repeat caesarean section versus induction of labor for women with a previous caesarean birth. Cochrane Database Syst Rev 2012;16;(5):4906
19. Guise JM, Eden K, Emeis C, Denman MA, Marshall N, Fu R, et al. Vaginal Birth After Caesarean: New Insights. Evid Rep Technol Assess (Full Rep). 2010 [Cited 2016 June 2] Website:[191):1-397 (https://www.ncbi.nlm.nih.gov/ pubmed/20629481]
20. National Institute for Health and Clinical Excellence. Caesarean section. NICE clinical guideline132. Manchester: NICE; 2011 [Cited 2016 March 05] Website: [www.nice.org.uk/guidance/ cg132/evidence].
21. American Congress of Obstetricians and, Gynecologists (Aug 2010). "ACOG Practice bulletin no. 115: Vaginal birth after previous caesarean delivery." Obstetrics and Gynecology 2010;116(2): 450–63.
22. Fitzpatrick KE, Kurinczuk JJ, Alfirevic Z, Spark P, Brocklehurst P, Knight M. Uterine rupture by intended mode of delivery in the UK: a national case-control study. PLoS Med. 2012;9(3): e1001184.
23. Dekker GA, Chan A, Luke CG, Priest K, Riley M, Halliday J, 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(11):1358–65.
24. Zwart JJ, Richters JM, Ory F, de Vries JI, Bloemenkamp KW, Roosmalen J. Uterine rupture in The Netherlands: a nationwide population-based cohort study. BJOG 2009;116(8):1069-78
25. Stubblefield PG. Risk factors for uterine rupture among women who attempt a vaginal birth after a previous caesarean: a case-control study. J Reprod Med 2011;56(8):313–20.
26. Weimar CH, Lim AC, Bots ML, Bruinse HW, Kwee A. Risk factors for uterine rupture during a vaginal birth after one previous caesarean section: a case-control study. Eur J Obstet Gynecol Reprod Biol 2010;151(1):41–45.
27. Bujold E, Gauthier RJ. Risk of uterine rupture associated with an interdelivery interval between 18 and 24 months. ObstetGynecol 2010;115(5):1003–6.
28. Bergeron ME, Jastrow N, Brassard N, Paris G, Bujold E. Sonography of lower uterine segment thickness and prediction of uterine rupture. Obstet Gynecol 2009;113(2):520–22.
29. Guise JM, Berlin M, McDonagh M, Osterweil P, Chan B, Helfand M. Safety of vaginal birth after caesarean: a systematic review. Obstet Gynecol 2004;103:420–29.
30. Mozurkewich EL, Hutton EK. Elective repeat caesarean delivery versus trial of labor: a meta-analysis

of the literature from 1989 to 1999. Am J Obstet Gynecol 2000;183(5):1187–97.

31. Crowther CA, Dodd JM, Hiller JE, Haslam RR, Robinson JS; Birth After Caesarean Study Group. Planned vaginal birth or elective repeat caesarean: patient preference restricted cohort with nested randomised trial. PLoS Med .2012;9(3):e1001192

32. Landon MB, Leindecker S, Spong CY, Hauth JC, Bloom S, Varner MW, et al.; National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. The MFMU Caesarean Registry: factors affecting the success of trial of labor after previous caesarean delivery. Am J ObstetGynecol 2005;193(3):1016–23.

33. Islam A, Ehsan A, Arif S, Murtaza J, Hanif A. Evaluating trial of scar in patients with a history of caesarean section. N Am J Med Sci. 2011;3:201–5