|| ISSN(online): 2589-8698 || ISSN(print): 2589-868X ||
International Journal of Medical and Biomedical Studies
Available Online at www.ijmbs.info
NLM (National Library of Medicine ID: 101738825)
Index Copernicus Value 2019: 79.34
Original Research Article
Volume 5, Issue 8; August: 2021; Page No. 18-21

AUDIT OF CESAREAN SECTION IN A RURAL TEACHING HOSPITAL AS PER WHO GUIDELINES (ROBSON'S TEN GROUP CLASSIFICATION SYSTEM)

Dr Priyanka Sharma[1], Dr Apra Attri[2]

[1,2]Junior Resident, Department of Obstetrics and Gynaecology, Dr. Rajendra Prasad Government Medical College, Kangra at Tanda, Himachal Pradesh

Article Info: Received 28 May 2021; Accepted 24 July 2021
DOI: https://doi.org/10.32553/ijmbs.v5i8.2061
Corresponding author: Dr Apra Attri
Conflict of interest: No conflict of interest.

Abstract

Background: Rate of cesarean section (CS) is one of the most frequently used indicators of healthcare quality at the national and international levels for clinical governance. Audit of indications of CS and to propose measures to reduce the rate of CS in our institution

Methods: Prospective observational study was conducted at Department of Obstetrics and Gynaecology at Dr Rajendra Prasad Government Medical College Kangra at Tanda (HP)

Results: In our study, previous CS (group 5) contributed the most (30.44%) of overall CS.Second largest contributor was nulliparous women with cephalic presentation at term (group 1 and 2).Induction of labor (group 2) was associated with higher CS (23.66%), as compare spontaneous labor (group1). Women with breech presentation (group 6 and 7) also showed high CS rate.

Conclusion: In conclusion, RTGCS permits the easy identification of the leading contributing groups to CS increases. RTGCS is an internationally accepted classification that is much needed to scientifically study the effects of the rising CS rate. It identifies the contributors to differences in the CS rate but does not provide any explanation for these differences across various subgroups.

Keywords: RTGCS, CS, NVD, Women.

Introduction

Rate of cesarean section (CS) is one of the most frequently used indicators of healthcare quality at the national and international levels for clinical governance. The rate of CS has been increasing in the last 50 years.[1] Rate ofCS has reached high levels (30% to 40%) in several countries. Despite the World Health Organization (WHO) recommendation for an optimal CS rate of 10% to 15%, the rate is still increasing worldwide.[2] CS is performed to reduce the risks of complication for the mother and her child. However, at a rate beyond the one recommended by WHO, there are no proven advantages for maternal or perinatal morbidity or mortality.[3,4]

This worldwide rise in the rate of CS is a major public health concern and cause of considerable debate due to potential maternal and perinatal risks, cost issues and inequity in access.[5,6] An increase in the use of CS particularly in low-resource settings may notably affect health services by increased maternal/neonatal complications.[7,8]Primary CS has important implications for maternal morbidity in the current pregnancy as well as in subsequent pregnancies.[9] The rising trends of CS rate will provide valuable insight into possible targets and interventions to reduce the CS. Currently, the rising rate has been attributed to maternal request, medico-legal concerns, obesity, increased complexity of cases and increasing maternal age.[10] Women who use supplementary health care or receive private care undergo operative delivery more frequently than those who are managed by the public health system.[11] There is a growing concern about the higher incidence of long-term complications following one or more CS such as placenta accreta, retained placenta, and uterine rupture with possible need for peripartum hysterectomy.[12,13]

Material and methods

Study Period

March 2018 to February 2019

Place of Study

Department of Obstetrics and Gynaecology at Dr Rajendra Prasad Government Medical College Kangra at Tanda (HP)

Type of Study

Prospective observational study

Inclusion Criteria

All pregnant women who deliveredby CS in this institution during the specified time period.

Exclusion Criteria

- All pregnant women who delivered before 28 weeks

period of gestation (POG) were excluded from the study.

- Refusal to participate in the study

In all pregnancies, gestational age was confirmed by accurate history, pregnancy test report, stethoscope detected fetal heart sound record/Doppler detected first fetal heart sound record, date of last menstrual period (LMP) and available ultrasound in the first or second trimester.

The data of all the women undergoing CS were obtained from the hospital records. Subsequently, data were analyzed to assess indication of CS in each group (as per RTGCS).

Statistical analysis

The data were recorded in a proforma and entered in to excel sheet. Data were presented and frequency, percentage, mean, and/or standard deviation.

Observations

In our study, previous CS (group 5) contributed the most (30.44%) of overall CS.Second largest contributor was nulliparous women with cephalic presentation at term (group 1 and 2).Induction of labor (group 2) was associated with higher CS (23.66%), as compare spontaneous labor (group1). Women with breech presentation (group 6 and 7) also showed high CS rate.

Table 1: Contribution of RTGCS Group

RTGCS Group		n	%
Group 1	Nulliparous women with single cephalic pregnancy, ≥37 weeks gestation in spontaneous labor	447	14.9%
Group 2	Nulliparous women with single cephalic pregnancy, ≥37 weeks gestation *Induced* *CS before labor*	712 *647* *65*	23.7% *21.5%* *2.2%*
Group 3	Multiparous women without a previous uterine scar, with single cephalic pregnancy, ≥37 weeks gestation in spontaneous labor	118	3.9%
Group 4	Multiparous women without a previous uterine scar, with single cephalic pregnancy, ≥37 weeks gestation *Induced* *CS before labor*	134 *108* *26*	4.5% *3.6%* *0.9%*
Group 5	All multiparous women with at least one previous uterine scar, with single cephalic pregnancy, ≥37 weeks gestation	916	30.4%
Group 6	All nulliparous women with a single breech pregnancy	252	8.3%
Group 7	All multiparous women with a single breech pregnancy, including women with previous uterine scars	154	5.1%
Group 8	All women with multiple pregnancies, including women with previous uterine scars	48	1.6%
Group 9	All women with a single pregnancy with transverse or oblique lie, including women with previous uterine scars	17	0.6%
Group 10	All women with a single cephalic pregnancy <37 weeks gestation, including women with previous scars *Spontaneous* *Induced* *CS before labor*	211 *90* *75* *46*	7% *3%* *2.5%* *1.5%*

Discussion

In our study, Robson group 1 contributed for 14.92% of all CS during the study period. Yadav and Maitra reported that the rate of CS was 25.44% in group 1 which was higher than our study.[14] They reported the high CS rate for non-reassuring fetal heart rate pattern which was similar to our study.14.92% contribution of group 1 contrasts markedly with other published rates such as the 6.7 % in the National Maternity Hospital in Dublin in 2006[3], or closer to 14.8 % in New Jersey in 2004, but is lower to the WHO global survey in Latin America (27.7 %).[15] Given the fact that fetal distress and CPD were the major indications for CS in group 1, close attention needs to be given to these factors, possibly ensuring strict criteria for CS and including training on interpretation of fetal cardiotocographic recordings, and proper use and interpretation of partograms. Such measures may be expected to play a role in reducing primary CSs.

In our study, Robson group 2 contributed for 23.66% CS rate as compared to 14.92% in primigravida who had spontaneous onset of labor. In the study by Kazmi et al.[16], contribution of group 2 was 8.1%. Our findings are in similar with Zimmo et al. who reported contribution of group 2 as 27.2%.[17] The higher rate in this group in our study was due to large number of induced women with high-risk pregnancies and being tertiary care centre (severe preeclampsia, gestational diabetes, fetal growth restriction etc). Induction of labor due to various reasons is increasing which is ultimately reflecting increased CS. Induction of labor should be evidence-based and unnecessary induction with no clear-cut benefits should be limited by making standard protocols for improving case selection for

induction, which will not only affect the total CS rate but also help in reducing the women in group 5 in future.

In our study, contribution of RTGCS group 3 was 3.92%, which is lower to 4.8% reported by Yadav et al.[14] This group is relatively low risk group with lesser obstructive indications for CS; thus, the CS rate is expected to be low.

In the present study, RTGCS group 4 contributed for 4.45% of all CSs. In the study by Dhodapkar et al.[16], Group 4 contributed for 6.5% of all the CSs. Our findings are similar with Gomathy et al who reported 4.4% contribution by group 4. In the study by Tura et al.[43], group 4 contributed for 5.2% of the CSs.Overall incidence of CS in group is relatively low.

Group 5 has the greatest contribution 30.4% to the all groups in the present study.

In a study by Chong et al.[21], multiparous women with a previous caesarean birth (Group 5) were the greatest contributor to the CS rate.The CS rate in group 5 was lower with those seen in Latin America and Lithuania, [53] but similar to those in the UK and Canada, and lower than those in Ireland, Norway and Sweden.[54]

The large contribution of group 5 in the present study hospitals could be explained by repeated CS (not willing for VBAC). However, the large number of primary caesarean sections in other RTGCS groups will inevitably increase the number of women in group 5 which will thereby become an even more important contributor to the future overall CS rate. Therefore, efforts to curb the trend of rising caesarean section rates need to address this group in order to be successful.

Encouraging women about VBAC beginning right from their very first antenatal visit, assisting them in making an informed choice and conducting periodic staff training for conducting safe VBACs would surely help in decreasing CS rate in this groups.

In the present study, overall contribution of group 6 was 8.31%. Our findings are lower than Dhopadkar et al.[15] and Gomathy et al.[18] who reported 1.7% and 0.93%. In the study by Tura et al.[19], contribution of group 6 was 3.8%.CS rate can be reduced by external cephalic version at 36 weeks if not contraindicated, and trial for assisted vaginal breech delivery in suitable cases.

Group 7 contributed for 5.12%. In the study by Seth et al.[20] and Reddy et al.[21], contribution of group 7 was 1.57%, and 1.5% respectively.

In our study, RTGCS group 8 contributed for 1.6% of all CSs which is similar with Seth et al.[20] and Reddy et al.[21] who reported that group 8 contributed for 1.01% and 2% of all CSs. In the study by Tura et al.[19], contribution of group 8 was 6%.

In the present study, group 9 contributed the least with 0.56%. Our findings are in similar with Reddy et al.[21] reported that that contribution of group 9 was 0.9%.This group has 100% CS rate. We may reduce the primary CS rate which can permit the case for external cephalic version at 36 weeks if not contraindicated and therefore CS rate can be reduced.

In the present study, RTGCS group 10 contributed for 7% of all CSs. Our findings are similar with Dhodapkar et al[15], Seth et al[20], and Reddy et al.[21]

Conclusion

In conclusion, RTGCS permits the easy identification of the leading contributing groups to CS increases. RTGCS is an internationally accepted classification that is much needed to scientifically study the effects of the rising CS rate. It identifies the contributors to differences in the CS rate but does not provide any explanation for these differences across various subgroups.

References

1. World Health Organization. Appropriate technology for birth. Lancet 1985; ii: 436-7.
2. Anderson GM. Making sense of rising cesarean section rates – Time to change our goals. BMJ. 2004; 329:696-7.
3. Sachs BP, Kobelin C, Castro MA, Frigoletto F. The risks of lowering the cesarean delivery rate. N Engl J Med. 1999; 340:54-7.
4. Sur S, Mackenzie IZ. Does discussion of possible scar influence preferred mode of delivery after cesarean section? J ObstetGynecol. 2005; 25:338-41.
5. Zelop C, Heffner LJ. The downside of cesarean delivery: short and long term complications. Clin ObstetGynecol. 2004;47:386-93.
6. Center for Disease Control and Prevention. C-sections rise, so do premature births. Hindustan Times. New Delhi. 2005; 23 Nov.
7. Desai G, Anand A, Modi D, Shah S, Shah K, Shah A, et al. Rates, indications, and outcomes of caesarean section deliveries: A comparison of tribal and non-tribal women in Gujarat, India. PLoS ONE. 2017;12:e0189260
8. Mackenzie IZ, Cooke I, Annan B. Indications for cesarean section in a consultant unit over the decades. J ObstetGynecol. 2003;23:233-8
9. FIGO Committee for the Ethical Aspects of Human Reproduction and women's Health. GynecolObstet Invest. 1999;48:73-7
10. Birchard K. Defence Union suggests new approach to handling litigation costs in Ireland. Lancet. 1999;354:1710
11. Robson MS. Can we reduce the caesarean section rate? Best Pract Res Clin ObstetGynaecol 2001; 15:179-94
12. Brennan DJ, Robson MS, Murphy M, O'Herlihy C. Comparative analysis of international caesarean delivery rates using 10-group classification identifies significant variation in spontaneous labor. Am J ObstetGynecol. 2009;201:e301-e308

13. World Health Organization, UNFPA, UNICEF and AMDD. Monitoring Emergency Obstetric Care: a Handbook. WHO, Geneva, 2009.
14. Yadav RG, Maitra N. Examining Cesarean Delivery Rates Using the Robson's Ten-group Classification. J ObstetGynaecol India. 2016;66(Suppl 1):1-6.
15. Dhodapkar SB, Bhairavi S, Daniel M, Chauhan NS, Chauhan RC. Analysis of caesarean sections according to Robson's ten group classification system at a tertiary care teaching hospital in South India. Int J Reprod Contracept ObstetGynecol. 2015;4:745-9
16. Kazmi T, Saiseema S, Khan S. Analysis of cesarean section rate according to Robson's 10-group classification. Oman Med J. 2012;27:415-7
17. Zimmo MW, Laine K, Hassan S, Bottcher B, Fosse E, Ali-Masri H, et al. Caesarean section in Palestine using the Robson Ten Group Classification System: a population-based birth cohort study. BMJ Open. 2018;8:e022875
18. Gomathy E, Radhika K, Kondareddy T. Use of the Robson classification to assess caesarean section trends in tertiary hospital. Int J Reprod Contracept ObstetGynecol. 2018;7:1796-1800
19. Tura AK, Pijpers O, de Man M, Cleveringa M, Koopmans I, Gure T, et al. Analysis of caesarean sections using Robson 10-group classification system in a university hospital in eastern Ethiopia: a cross-sectional study. BMJ Open 2018;8:e020520
20. Seth A, Mishra R, Sahai A, Kumar A. Analysis of caesarean-section rates at an Urban Municipal Maternity Hospital according to Robson's ten group classification system. International Journal of Medical and Health Research. 2017;3:66-9
21. Yadav RG, Maitra N. Examining Cesarean Delivery Rates Using the Robson's Ten-group Classification. J ObstetGynaecol India. 2016;66(Suppl 1):1-6.