

Original Research Article

Vaginal versus caesarean delivery: an institutional experience from North India

Fiza Amin^{1*}, Tavseef Ahmad Tali², Rifat Ara¹, Huda Amin³

¹Department of Gynaecology and Obstetrics, SKIMS Medical College, Srinagar, Jammu and Kashmir, India

²Department of Radiation Oncology, Sher I Kashmir Institute of Medical Sciences, Soura, Srinagar, Jammu and Kashmir, India

³Department of Community Medicine, GMC Baramulla, Jammu and Kashmir, India

Received: 15 July 2023

Revised: 31 July 2023

Accepted: 02 August 2023

*Correspondence:

Dr. Fiza Amin,
E-mail: fizamink@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: The purpose of this study was to recognise and evaluate the common maternal concerns that emerge following vaginal and caesarean deliveries.

Methods: In this retrospective study, hospital records of 300 pregnant patients who delivered in our hospital between July 2021 to December 2021 were analysed.

Results: In total of 300 patients, 110 had caesarean and 190 had vaginal delivery, 16 (14.5%) patients developed wound infection in caesarean and 6 (3.15%) in vaginal delivery, 12 patients developed post-partum haemorrhage after undergoing vaginal delivery and 6 patients after caesarean. There were 2 deaths reported in caesarean mode and only 1 in vaginal mode of delivery.

Conclusions: The study's findings indicate that caesarean had greater rates of maternal problems than vaginal delivery did.

Keywords: Caesarean, Vaginal delivery, Maternal

INTRODUCTION

According to the WHO, 15% of deliveries have a clear indication that a caesarean section is necessary to preserve the health of the mother or the foetus. In certain situations, a C-section may be anticipated and scheduled beforehand, such as when there are twins or other multiples, a woman has diabetes or high blood pressure, an infection that could be transmitted to the baby during birth, like HIV or genital herpes, or there are placenta problems. A C-section might also be required if the baby is very big and the mother's pelvis is tiny, or if the baby is not in a heads-down position and attempts to put it in this position prior to birth have failed. Growing incidence of lower segment caesarean sections raise numerous concerns about whether an LSCS is necessary. The safety

of caesarean sections has been the subject of conflicting reports. While many caesarean deliveries are carried out for obstetrical reasons, some are merely carried out at the mother's request and carry many dangers for the unborn child.¹⁻⁴

Compared to C-sections, vaginal births often necessitate shorter hospital stays and recuperation periods. State rules may differ, but a vaginal delivery is typically followed by a 24- to 48-hour hospital stay. The dangers of major surgery, such as serious bleeding, scars, infections, responses to anaesthesia, and more intense pain, are often avoided with vaginal births. Additionally, a mother might be able to start nursing earlier because there is no substantial surgery required. Compared to C-sections, vaginal births often necessitate shorter hospital stays and

recuperation periods. State rules may differ, but a vaginal delivery is typically followed by a 24- to 48-hour hospital stay. The dangers of major surgery, such as serious bleeding, scars, infections, responses to anaesthesia, and more intense pain, are often avoided with vaginal births. Additionally, a mother might be able to start nursing earlier because there is no substantial surgery required.⁵

The aim of this study is to identify and compare the typical mother-related issues that arise during vaginal and caesarean deliveries.

METHODS

This retrospective study was conducted in SKIMS medical college, Srinagar between July 2021 to December 2021 in which hospital records of 300 patients who underwent caesarean or vaginal birth during the study period were analysed. Patients characteristics including age, mode of delivery, association of mode of delivery with complications such as post-partum haemorrhage, wound infection, prolonged labour, surgical injury and maternal deaths were analysed.

Inclusion criteria

Pregnant women who have reached full-term (37 to 42 weeks gestation), women who have a documented medical record of either vaginal or caesarean delivery, patients with complete medical records including prenatal, delivery, and postpartum information, women who received antenatal care and delivered at the same healthcare institution and cases with clear indications for either vaginal or caesarean delivery (e.g., breech presentation, multiple pregnancies, maternal request, previous caesarean section) were included in study.

Exclusion criteria

Pregnant women with preterm delivery (<37 weeks) or post-term delivery (>42 weeks), patients with incomplete or missing medical records, women with medical conditions that could influence the mode of delivery (e.g., placenta previa, suspected fetal distress), cases with emergency situations during delivery requiring immediate intervention, patients with a history of significant medical or surgical complications that could affect the mode of delivery were excluded.

Statistical analysis

Statistical analysis was done using IBM SPSS Statistics for Windows from IBM Corp. (released 2020, Version 27.0. Armonk, NY, USA). Categorical variables were shown in form of frequencies and percentages. Since it was retrospective study, no ethical approval was required.

RESULTS

A total of 300 deliveries were analysed. Out of these 300, 110 underwent caesarean and 190 vaginal delivery (Table 1). Majority of the patients were in the age group of 30-40 years.

Table 1: Mode of delivery.

Mode of delivery	N	Percentages (%)
Caesarean	110	36.6
Vaginal	190	63.3

Out of 110 caesarean 40 were elective and 70 emergencies. And out of 190 vaginal, 90 were spontaneous and 100 with episiotomy (Table 2).

Table 2: Type of mode of delivery.

Mode of delivery	Percentages (%)
Elective caesarean	40 (36.3)
Emergency caesarean	70 (63.6)
Spontaneous vaginal delivery	90 (47.3)
Vaginal delivery with episiotomy	100 (52.6)

Infections in the wound were substantially more common in women who underwent caesarean section, with 16 (14.5%) patients developing them after the procedure and just six (3.15%) after vaginal birth (Table 3).

Table 3: Association of wound infection with mode of delivery.

Mode of delivery	Wound infection, n (%)
Caesarean, (n=110)	16 (14.5)
Vaginal, (n=190)	6 (3.1)

Following vaginal birth, 12 patients experienced post-partum haemorrhage, compared to just 6 patients following a caesarean section (Table 4).

Table 4: Association of PPH with mode of delivery

Mode of delivery	Post-partum haemorrhage, n (%)
Caesarean, (n=110)	6 (5.4)
Vaginal, (n=190)	12 (6.3)

Table 5: Association of prolonged labour with mode of delivery

Mode of delivery	Prolonged labour, n (%)
Caesarean, (n=110)	4 (3.6)
Vaginal, (n=190)	23 (12.1)

The 23 (12.1%) had prolonged labour in vaginal mode of delivery, prolonged labour was significantly higher among vaginal delivery (Table 5).

Patients who underwent vaginal delivery had an average stay of 12-24 hours in the hospital while as those who underwent caesarean had 48-72 hours, showing that it was significantly higher in caesarean mode of delivery. Also, these patients who underwent caesarean had more surgical injuries than who underwent vaginal delivery (Table 6). Breast feeding was started earlier i.e., within 1 hour of vaginal mode of delivery and was delayed in caesarean mode due to anaesthesia recovery time for the patient.

Table 6: Association of surgical injury with mode of delivery.

Mode of delivery	Surgical injuries, n (%)
Caesarean, (n=110)	5 (4.54)
Vaginal, (n=190)	3 (1.5)

There were 2 deaths reported in caesarean mode and only 1 in vaginal mode of delivery. The real cause of death could not be ascertained (Table 7).

Table 7: Association of maternal deaths with mode of delivery.

Mode of delivery	Maternal deaths, n (%)
Caesarean, (n=110)	2 (1.8)
Vagina, (n=190)	1 (0.5)

DISCUSSION

The advantages of a vaginal delivery over a caesarean section include a shorter hospital stay, faster recovery, increased chances of starting breastfeeding immediately after delivery, reduced risks associated with surgery, and reduced risk of complications in future pregnancies (uterine rupture, placental abruption, placenta previa or accreta).⁶⁻⁹ The advantages of a planned caesarean section include less pain in the perineum after delivery and in the first 3 months after delivery, and a reduced risk of urinary incontinence during the first 2 years after delivery.¹⁰⁻¹⁴ The disadvantages include a longer hospital stay, more difficulty in resuming regular life after surgery, more abdominal pain in the first 3 months after birth (including persistent wound pain for 12 or more months), reduced chances of starting to breastfeed after delivery.

This study shows that 110 (36.6%) respondents delivered by caesarean. Similar study done by Anand medical college, Ahmadabad, Gujarat, India reported that total number of deliveries during the period was 1632, out of them 411 deliveries were by caesarean section thereby making a lower segment caesarean section rate of 25.18%.¹⁵

Studies on the relation between actual mode of delivery and the risk of severe PPH show that caesarean delivery is associated with a higher risk of severe PPH but it is difficult to determine if planned caesarean delivery is associated with a higher risk of severe PPH than intended vaginal delivery.¹⁶ Similarly, another study by Holm found that planned caesarean delivery is associated with a reduced risk of severe PPH, compared with intended vaginal delivery.¹⁷ Similar results were seen in our study where 12 (10.9%) patients developed PPH in vaginal mode of delivery.

There was a significant correlation between mode of delivery and wound infection in our study and was higher among caesarean delivery. Similar study by Yokoe found that 5.5% of vaginal normal deliveries and 7.4% of abdominal deliveries were complicated with wound infection.¹⁸

In our study, caesarean delivery was associated with a 2-fold increase in the risk of maternal mortality, compared with vaginal delivery. Also, there was prolonged hospital stay, more surgical injuries, delayed breast feeding in caesarean mode of delivery as compared with vaginal mode of delivery in which recovery was very fast, breast feeding was started earlier, surgical injuries were minimum and maternal mortality was less. The rate of caesarean sections (C-sections) has escalated worldwide. Evidence shows that caesarean delivery is not only more expensive, but it is also linked to poorer maternal and neonatal outcomes. Women's fear and uncertainty about vaginal delivery and lack of empowerment in decision making generate decision conflict and is one of the main determinants of high caesarean section rates in low- and middle-income countries.

CONCLUSION

The perception of caesarean delivery as a low-risk surgery is growing. The current study, however, amply reveals that, when compared to vaginal birth, there are significantly more maternal problems. Prolong labour was high in vaginal delivery while wound infection, surgical injury, late recovery, delayed breast feeding and maternal death was high in caesarean delivery. Therefore, it's important to educate pregnant women about their options for delivery and assess their acceptability.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Megregian M, Emeis C, Nieuwenhuijze M. The Impact of Shared Decision-Making in Perinatal Care: A Scoping Review. *J Midwifery Womens Health*. 2020;65:777-88.
2. Wagner M. Choosing caesarean section. *The Lancet*. 2000;356:1677-80.

3. Colomar M, Opiyo N, Kingdon C, Long Q, Nion S, Bohren MA et al. Do women prefer caesarean sections? A qualitative evidence synthesis of their views and experiences. Ortiz-Panozo E, editor. *PLOS one*. 2021;16:e0251072.
4. Fioretti B, Reiter M, Betrán A, Torloni M. Googling caesarean section: a survey on the quality of the information available on the Internet. *BJOG Int J Obstet Gynaecol*. 2015;122:731-9.
5. Mazzoni A, Althabe F, Liu N, Bonotti A, Gibbons L, Sa´nchez A et al. Women’s preference for caesarean section: a systematic review and meta-analysis of observational studies: Women’s preference for caesarean section: systematic review. *BJOG Int J Obstet Gynaecol*. 2011;118:391-9.
6. Mascarello KC, Horta BL, Silveira MF. Maternal complications and cesarean section without indication: systematic review and meta-analysis. *Rev Sau´de Pu´blica*. 2017;51:105.
7. National Institute for Health and Care Excellence. Caesarean section: clinical guideline CG132. Available at: <https://www.nice.org.uk/guidance/cg132>. Accessed on March 20, 2023.
8. Hofmeyr GJ, Hannah M, Lawrie TA. Planned caesarean section for term breech delivery. Cochrane Pregnancy and Childbirth Group, editor. *Cochrane Database Syst Rev*. 2015.
9. Visco AG, Viswanathan M, Lohr KN, Wechter ME, Gartlehner G, Wu JM et al. Cesarean delivery on maternal request: maternal and neonatal outcomes. *Obstetr Gynecol*. 2006;108(6):1517-29.
10. Tahtinen RM, Cartwright R, Tsui JF, Aaltonen RL, Aoki Y, Ca´rdenas JL et al. Long-term Impact of Mode of Delivery on Stress Urinary Incontinence and Urgency Urinary Incontinence: A Systematic Review and Meta-analysis. *Eur Urol*. 2016;70:148-58.
11. Hankins GDV, Clark SM, Munn MB. Cesarean Section on Request at 39 Weeks: Impact on Shoulder Dystocia, Fetal Trauma, Neonatal Encephalopathy, and Intrauterine Fetal Demise. *Semin Perinatol*. 2006;30:276-87.
12. Hansen AK, Wisborg K, Uldbjerg N, Henriksen TB. Elective caesarean section and respiratory morbidity in the term and near-term neonate. *Acta Obstet Gynecol Scand*. 2007;86:389-94.
13. Darmasseelane K, Hyde MJ, Santhakumaran S, Gale C, Modi N. Mode of Delivery and Offspring Body Mass Index, Overweight and Obesity in Adult Life: A Systematic Review and Meta-Analysis. Dewan A, editor. *PLoS one*. 2014;9:e87896.
14. Bager P, Wohlfahrt J, Westergaard T. Caesarean delivery and risk of atopy and allergic diseases: meta-analyses. *Clin Exp Allergy*. 2008;38:634-42.
15. Anand N, Ajesh D, Kansara V, Patel S, Kagathra B, Patel R. Analysis of Trends in LSCS Rate and Indications of LSCS: A Study in a Medical College Hospital Gmers, Sola, Ahmedabad. *Int J Phar Bio*. 2015;2(1).
16. Rossen J, Okland I, Nilsen OB, Eggebo TM. Is there an increase of postpartum hemorrhage, and is severe hemorrhage associated with more frequent use of obstetric interventions? *Acta Obstet Gynecol Scand*. 2010;89:1248-55.
17. Holm C, Langhoff-Roos J, Petersen KB, Norgaard A, Diness BR. Severe postpartum haemorrhage and mode of delivery: a retrospective cohort study. *BJOG*. 2012;119(5):596-604.
18. Yokoe DS, Christiansen CL, Johnson R, Sands KE, Livingston J, Shtatland ES, Platt R. Epidemiology of and surveillance for postpartum infections. *Emerg Infect Dis*. 2001;7(5):837-41.

Cite this article as: Amin F, Tali TA, Ara R, Amin H. Vaginal versus caesarean delivery: an institutional experience from North India. *Int J Community Med Public Health* 2023;10:3115-8.