European Journal of Molecular & Clinical Medicine

ISSN 2515-8260 Volume 9, Issue 3, Winter 2022

ORIGINAL RESEARCH

Evaluation of Intraoperative and Postoperative Complications Associated with Lower Segment Cesarean Section

[1]Shiv Lahari Agrawal, [2]Avantica Agarwal, [3]Lokesh Kumar Aggarwal

[1]Junior Specialist, Department of Obstetrics and Gynaecology, Government Hospital, Karauli, Rajasthan, India
[2]Associate Professor& Unit Head, Department of Obstetrics and Gynaecology, Dholpur Medical College, Dholpur, Rajasthan, India
[3]Senior Consultant, Laparoscopic, General and Uro Surgery, Raman Hospital, Dholpur, Rajasthan, India

Correspondence:
Dr. Lokesh Kumar Aggarwal
Senior Consultant, Laparoscopic, General and Uro Surgery, Raman Hospital, Dholpur, Rajasthan, India
Email: drlokesh1975@gmail.com

ABSTRACT

Background: Caesarean section is one of the commonly performed surgical procedures in obstetric and is certainly one of the oldest operations in surgery. The present descriptive study was conducted over a period of 6 months to analyze the intraoperative and postoperative complications associated with lower segment caesarean section (LSCS).

Materials and Methods: The present descriptive study was conducted over a period of 6 months to analyse the intraoperative and postoperative complications associated with lower segment caesarean section (LSCS). After completing surgery in study patients' clinical details, intra and post-operative complications were noted. All data was collected and compiled in Microsoft excel and analysed using SPSS software version 21.

Results: Amongst intra-operative complications, hemorrhage occurred in 4% patients. Urinary tract infection(19%) and spinal headache (10%) was the commonest post-operative maternal complication encountered following caesarean section. Aspiration of meconium and respiratory distress was the reported post-operative fetal complication..

Conclusion: The present study concluded that amongst intra-operative complications, hemorrhage was the most common problem encountered. Urinary tract infection was the commonest post-operative maternal complication encountered following caesarean section.

Keywords: Intraoperative and Postoperative Complications, Lower Segment Caesarean Section (LSCS), Fetal Complication.

INTRODUCTION

Caesarean section is one of the commonly performed surgical procedures in obstetric and is certainly one of the oldest operations in surgery.[1] There are two types of Caesarean section (CS). According to type of incision, these two types include the classical Caesarean section (CS) and lower uterine segment section (LSCS).The classical Caesarean section involves a longitudinal incision in upper uterine segment which allows a larger space to deliver the baby. The lower uterine segment section is the procedure most commonly used today; it involves a transverse cut just above the edge of the bladder and results in less blood loss and

is easier to repair. It may be transverse (the usual) or vertical in the different conditions that involves presence of lateral varicosities, constriction ring to cut through it and deeply engaged head.[2] India has also experienced increases in cesarean delivery rates similar to those observed in the rest of the world. Based on our calculations, cesarean delivery rates have more than doubled in India as a whole, from 8%in 2005 through 2006 to 17% in 2015 through 2016.[3] According to one of the largest studies, serious maternal morbidity increases with increasing number of caesarean deliveries specifically from triad of placenta previa, placenta accreta and caesarean hysterectomy.[4-6] The present descriptive study was conducted over a period of 6 months to analyse the intraoperative and postoperative complications associated with lower segment caesarean section (LSCS).

MATERIALS AND METHODS

The present descriptive study was conducted over a period of 6 months to analyse the intraoperative and postoperative complications associated with lower segment caesarean section (LSCS). Before the commencement of the study ethical approval was taken from the ethical committee of the institute and informed consent was taken from the patient.

Details such as age, parity, detailed obstetric history, course of present pregnancy, indication of previous caesarean, antenatal, intra and post-operative complications in previous pregnancy, any history of surgical procedure like D and C, findings of physical and obstetric examination, investigations (ultrasonography especially for placental localization) were noted. Patients with history of previous abdominal surgeries other than caesarean section, cases presenting with rupture uterus were excluded from the study. Patients posted for LSCS, had intraoperative surgical complication (e.g. as uterine incision extensions, adhesions, thinned lower uterine segment, advanced bladder, extension of uterine incision, scar dehiscence, excess blood loss, uterine rupture, bladder injury, caesarean hysterectomy) were included in the study. After completing surgery in study patients, post-operative maternal complications (e.g., spinal headache, urinary tract infection, wound infection, pelvic & genital infection) and post-operative fetal complications (e.g., aspiration of meconium, respiratory distress) were noted. Any other surgical findings, additional procedures, complications were also noted. All data was collected and compiled in Microsoft excel and analyzed using SPSS software version 21. The quantitative data was represented as their mean ± SD. Categorical and nominal data was expressed in percentage. Chi square test was applied for qualitative type if data and t test for quantitative type of data for statistical analysis. P value less than 0.05 was significant.

RESULTS

A total 200 patients underwent caesarean section (CS) in a period of 6 months. Maternal Age was 24.61 years and gestation age was 38.4weeks. While time taken for surgery was 59.24mins and approximate blood loss (ml) was 432.32ml. Most common indication for caesarean section was previous caesarean section (33%) followed by fetal distress (10%). Amongst intra-operative complications, hemorrhage occurred in 4% patients, extension of uterine incision/ tear occurred in 2% cases, bladder injury in 1% and caesarean hysterectomy in 1%.Urinary tract infection(19%) and spinal headache (10%) was the commonest post-operative maternal complication encountered following caesarean section. Aspiration of meconium and respiratory distress was the reported post-operative fetal complication (table 5).

Table 1: Baseline variables

Baseline variables	Caesarean section
Maternal Age (years)	24.61 ± 5.12
Gestation Age (weeks)	38.4 ± 2.7

Time taken for Surgery (mins)	59.24 ± 21.2
Approximate Blood Loss (ml)	432.32± 75.2

Table 2: Indication of caesarean section

Indication of caesarean section	N(%)
Previous CS	66(33%)
Fetal distress	20(10%)
Twin	12(6%)
Malpresentation	12(6%)
Post date& failed induction	12(6%)
Severe pre-eclampsia	12(6%)
Placenta previa	10(5%)
IUGR	10(5%)
Failure to progress of labor	10(5%)
PROM	6(3%)
Cord presentation/prolapse	6(3%)
Pre- PROM	6(3%)
CPD	6(3%)
Fibroid	2(1%)
Chorioamnionitis	2(1%)
APH	2(1%)
Precious pregnancy	2(1%)
PIH	2(1%)
Cervical dystocia	2(1%)
Total no. of patients	200(100%)

Table 3: Intra-operative maternal complications

Complications	N(%)
Hemorrhage	8(4%)
Extension of uterine incision/ tear	4(2%)
Bladder injury	2(1%)
Caesarean hysterectomy	2(1%)
Total	30(15%)

Table 4: Postoperative maternal complications

Complications	N(%)	p-value
Spinal headache	20(10%)	<0.05
Urinary tract infection	38(19%)	
Wound infection	10(5%)	
Pelvic & genital infection	2(1%)	

Table 5: Post operative fetal complications

Complications	N(%)	p-value
Aspiration of meconium	6(3%)	<0.05
Respiratory distress	6(3%)	
Total	34(17%)	

DISCUSSION

Recently there has been a dramatic rise in the caesarean section rate worldwide especially in the developed countries. The reasons for this increase in caesarean birth are multifactorial and include the increasing number of women with prior caesarean delivery, the increase in multifetal gestations, use of intrapartum electronic fetal monitoring, changes in obstetric training, medico legal concerns, alterations in parental and social expectations of pregnancy outcome and maternal autonomy in decision – making regarding delivery mode.[7] Women are now four times more likely to have caesarean birth than 30 years ago. Many programmes have been developed to reduce the rate of caesarean delivery.[8]

A total 200 patients underwent caesarean section (CS) in a period of 6 months. Maternal Age was 24.61 years and gestation age was 38.4weeks. While time taken for surgery was 59.24mins and approximate blood loss (ml) was 432.32ml. Most common indication for caesarean section was previous caesarean section (33%) followed by fetal distress (10%). Similar to present study, Mussart N et al[9] reported that major maternal and fetal indications include fetal distress 9 (9%), malpresentation 6(6%), cord prolapse 3(3%), IUGR 5(5%) and pregnancy complicated by multiple fetuses 7 (7%). Furthermore, another study conducted by Bragg F et al[10]using multiple logistic regression model estimated the likelihood of women having a caesarean section given their maternalcharacteristics and clinical risk factors reported that women were more likely to have a caesarean section if they had had one previously (70.8%) or had a baby with breech presentation (89.8%). Analogous to our study, Quinlan JD et al[11]so revealed fetal distress as one of the major factorfor indication of caesarean section.Messaoudi F et al[12] reported scarred uterus constitutes the dominant indication (34%) followed by fetal suffering (24.7%), failure of trial of labor (14.2%) and breech presentation (12.7%).[10]

Shamshad[13] and another author Lubna Aliet al[14] found obstructed labor and fetal distress were the second and third common causes of C-section. Similar to our study, Ganiga P et al[15] found that the most common reason being respiratory distress in the study. Authors observed no neonatal morbidity.

In the present study, amongst intra-operative complications, hemorrhage was the most common problem encountered whereas Nidhi G et al[16] found that intraoperative morbidities encountered in the study were adhesions (38.33%), advanced bladder (20%); however excess blood loss (10%) as third factor as intra-operative complicationscontrary to our studywhere it was reported as most common complication followed by placenta accreta(1.67%), thinned out scar (5%), bladder injury (1.67%) whereas no cases of uterine rupture, bowel injury or caesarean hysterectomy noted.[9]

In our study,urinary tract infection (19%) and spinal headache (10%) was the commonest post-operative maternal complication encountered following caesarean section which revealed significant p value.Another available literature by Quinlan JD et al[11]on-counseling issues and complication management of cesarean deliveryreported that post–cesarean delivery complications include pain, endomyometritis, wound separation/ infection, urinary tract infection, gastrointestinal problems, deep venous thrombosis, and septic thrombophlebitis. Similarly, Hillan EM[17] reported that caesarean section experienced a greater number of postnatal problems, an increased incidence of febrile morbidity, more blood transfusions in the postnatal period and a higher proportion had a urinary catheter left in situ after surgery. The incidence of wound infection, intrauterine infection and chest infection was higher in the emergency group and this resulted in an increased proportion of the women requiring antibiotic therapy in the postnatal period.

CONCLUSION

The present study concluded that amongst intra-operative complications, hemorrhage was the

most common problem encountered. Urinary tract infection was the commonest post-operative maternal complication encountered following caesarean section.

REFERENCES

1. Kwawukume EY. Caesarean section. In: Kwawukume EY, Emuveyan E, editors. Comprehensive obstetrics in the tropic. Asante and Hittcher Printing Press Limited, 2000. p. 321-9.
2. Lower segment Caesarean section Primary Surgery: Volume One: Non-trauma. Prev. Chapter 10. The surgery of labour.
3. Bhatia M, Banerjee K, Dixit P, Dwivedi LK. Assessment of Variation in Cesarean Delivery Rates Between Public and Private Health Facilities in India From 2005 to 2016. JAMA Netw Open. 2020;3(8):e2015022.
4. Juntunen K, Makarainen L, Kirkinen P. Outcome after a high number of repeat caesarean section.BJOG 2004;111(6):561-3.
5. Gillian M,Rosenberg D, Davis F.The likelihood of placenta previa with greater number of caesarean deliveries and higher parity.ObstetGynecol 2002;99(6):976-80.
6. Kirkenen P.Multiple caesarean sections; outcome and complications Br J ObstetGynecol1998;95:778- 82.
7. Mishra US, Ramanathan M. Delivery-related complications and determinants of caesarean section rates in India. Health Policy Plan 2002; 17: 90- 8.
8. Frigoletto FD Jr, Lieberman E, Lang JM, Cohen A, Barss V, Ringer S et al. A clinical trial of active management of labor. N Eng J Med 1995; 333: 745-50.
9. Mussart N, Qureshi S, Roohi M. Lower segment cesarean section (LSCS); indications and complications at teahcing hospital, Faisalabad. Professional Med J 2013;20(6): 916-923.
10. Bragg F, Cromwell DA, Edozien LC, Gurol-Urganci I, Mahmood TA, Templeton A, van der Meulen JH. Variation in rates of caesarean section among English NHS trusts after accounting for maternal and clinical risk: cross sectional study. Bmj. 2010 Oct 6;341.
11. Quinlan JD, Murphy NJ. Cesarean delivery: counseling issues and complication management. American family physician. 2015 Feb 1;91(3):178-84.
12. Messaoudi F et al: Caesarean deliveries in the maternity of military hospital of Tunis. Tunis Med 2007 Aug 85(8):659.
13. Shamshad. Factors leading to increased caesarean section rate. Gomal J Med Sci 2008;vol 6, no 1, page 1-5.
14. Lubna Ali, Subhana Tayyab, Fouzia Perveen. Caesarean c-section rate: current trends. J Surg Pak 2007; 12(2):64-6.
15. Ganiga P, Rudrappa S. A prospective study of maternal and fetal outcome in repeat LSCS mother. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2019 Apr 1;8(4):1327-31.
16. Nidhi Gohil, Rajni Parikh, Deepika Koli. To study the incidence and type of surgical difficulties encountered in repeat cesarean section in comparison with the primary cesarean sections, International Journal of Medical and Biomedical Studies, 4(1), January: 2020; Page No. 23-26.
17. Hillan EM. Postoperative morbidity following Caesarean delivery. Journal of advanced nursing. 1995 Dec;22(6):1035-42.