

Elective and Emergency Caesarean Section: analysis of fetal morbidity in a teaching hospital

ANILA ANSAR¹, ANSAR LATIF², AROOJ ZAHRA³, TARIQ MUKHTAR FARANI⁴

¹Professor & Head of Department of Obstetrics & gynaecology, Khawaja Safdar Medical College, Sialkot.

²Professor & Head of Surgery Department, Khawaja Safdar Medical College, Sialkot.

³House Officer, Surgery Department, Allama Iqbal Memorial Teaching Hospital, Sialkot.

⁵Assistant Professor Surgery, CMH Lahore Medical College, Lahore

Correspondence to Dr Anila Ansar, Email: anilaansar2013@gmail.com Cell 03338606090

ABSTRACT

Aim: To analyse the complications and its involved factors amongst the fetuses born after caesarean delivery in elective and emergency settings.

Study Design: Prospective Study.

Place and Time of study: Department of Gynaecology and Obstetrics, Khawaja Muhammad Safdar Medical College, Sialkot from May 2017 to July 2019.

Methods: Between May 2017 and July 2019; A total of 14000 patients presenting to obstetric department for either elective caesarean section or in labour room and thus landing in caesarean section. These patients were grouped in group I and II depending upon their indication of surgery was elective or emergency.

Amongst fetal data, the fetuses were segregated in those requiring admission and those who were sent home after neonatal resuscitation and vaccination. Data were collected both in the admitted cases and OPD follow-up visits and some families were consulted on telephone to complete the proformas prepared for data entry and analyzing fetal complications. The data of those fetuses were excluded who did not report after 3 months or could not be contacted on phone. Minimum 3 months follow up was mandatory for inclusion in the study.

Results: Our study include 12086 fetuses born through C-section, out them 3993 born through elective C-section and 80693 born through emergency C-section. Those who require admission in nursery the ratio is 1:3 more admission is required by the fetus born through emergency C-section. Those fetuses who required average hospitalization the ratio was 1:4 more admission were required by the babies who born through emergency C-section. The fetuses having URTI the ratio of admission were 1:2, those having ear infection the ratio of affected fetuses was 1:2, those who were having skin infection was showing 1:2 proportion of admission, those who have congenital cardiac malformation show equal ratio 1:1 and those who underwent sepsis after birth the ratio between emergency and elective C-section were 1:3 the fetal mortality in elective and emergency C-section were 1:4.

Conclusion: Morbidity is much higher in fetuses born after emergency Caesarean Section than elective Caesarean Section. The factors being un-booked patients and a bit compromised preoperative workup and associated uncontrolled medical conditions in the mothers lead to increased fetal complications.

Keywords: APGAR score, IUGR, sepsis

INTRODUCTION

Caesarean section is major obstetric procedure. It involves termination of pregnancy by delivering the baby by giving incision to mother's abdomen. It is usually performed when vaginal delivery would put mother's and baby's life at risk. C-section involves making incision in mother's abdomen and cutting the abdominal muscles and incision is given on uterus and baby is delivered and stitched in reverse order¹. Most of time C-section is done to avoid maternal complications like maternal death due to toxemia caused by premature rupture of membranes, or, maternal cardiac failure due to massive hemorrhage caused by multiple factors² i.e. uterine atony anemia etc. Now we find the fetal indications are greatly extended with a growing tendency to supplant the more difficult and hazardous type of vaginal operations with caesarean section³. In addition it is being used to terminate pregnancies in which serious complications exist, in the interest of the mother rather than the fetus. While this trend is justifiable⁴. The major fetal

complication leading for C-section are poor APGAR score, prematurity, fetal anomaly, macrosomia, fetal incompatible to life. Most reports dealing with caesarean section consider the fetal mortality as only a small facet in the problem as a whole. Fetal and neonatal mortality associated with caesarean section will remain higher than that associated with vaginal delivery providing strict indications are followed for the performance of the operation^{5,6,7}. Many previous studies show anesthesia complication during C-section often leads to TTN in newborn which need urgent attention to save life of fetus⁸. The previous studies shows fetal and neonatal mortality can be reduced by adequate and efficient care of the premature infants born. The avoidance of excessively long trial labors^{9,10}, and over-vigorous attempts at instrumental delivery in the presence of obvious obstacles the intelligent use of anesthesia with proper regard to the fetus, particularly when premature or already showing evidence of embarrassment.

Since no work is done related to the topic in our setup so we collected data of our patients to see our statistics.

Received on 07-08-2019

Accepted on 18-12-2019

PATIENTS AND METHODS

Between May 2017 and July 2019; A total of 14000 patients presenting to obstetric department for either elective caesarean section or in labour room and thus landing in caesarean section. These patients were grouped in group and II depending upon their indication of surgery was elective or emergency.

Amongst fetal data, the fetuses were segregated in those requiring admission and those who were sent home after neonatal resuscitation and vaccination. Data were collected both in the admitted cases and OPD follow-up visits and some families were consulted on telephone to complete the proformas prepared for data entry and analyzing fetal complications. The data of those fetuses were excluded who did not report after 3 months or could not be contacted on phone. Minimum 3 months follow up was mandatory for inclusion in the study. While lack of followup was criteria for exclusion. Data analysis was done using spss v 22.

RESULTS

General demographic data: Statistical data in general for the two groups is shown in Table I

Table I: General data

	Group I	Group II
Total patients managed in the department	16105	
Patients fulfilling inclusion criteria	12056	n=100
Diabetics	1078	(27.04%)
Hepatitis C positive	3745	(93.95%)
Hypertensive	1598	(40.09%)
Primigravida	2834	(71.09%)
Multiparity	9222	(99.98%)
Total no (n)	3986	8070

Table II: General data as regards indications of ceasarean delivery

	Group I	Group II
Total no (n)	3986	8070
Age>35years	1455(36.53%)	2321(28.76%)
History of previous LSCS	3004(75.36%)	4432(54.91%)
History of previous D&C	789(19.79%)	1876(23.24%)
Malpresentations (other than cephalic)	160(4.01%)	751(9.30%)
Fetal anomalies	398(9.98%)	3067(38.00%)
Decreased amniotic fluid index	199(4.99%)	1129(13.99%)
Obstructed labour	371(9.30%)	1227(15.20%)
Postmaturity	638(16.00%)	2582(31.99%)
Cord prolapse	159(3.98%)	405(5.01%)
Atepartum haemorrhage	797(19.99%)	3228(40.00%)
PIH	1993(50.00%)	4840(59.97%)
Macrosomia	596(14.95%)	1856(22.99%)
Cephalopelvic disproportion	398(9.98%)	2018(25.00%)
Fetal distress/ CTG findings	1195(29.97%)	4842(60.00%)
Placenta previa	797(19.99%)	5649(70.00%)
Abruptio placentae	879(22.05%)	3066(37.99%)
Multiple pregnancy	179(4.49%)	743(9.20%)

Table II: General demographic data

	Group I	Group II	Ratio of %age
Total fetuses in the study	12086 n=3993 (100%)	n=8093 (100%)	
Requiring admissions	1007(25.21%)	6829(84.38%)	1:3
URTI	1246(31.20%)	5428(67.07%)	1:2
EAR infections	897(22.46%)	3478(42.91%)	1:2
Skin diseases	1324(33.15%)	4998(61.79%)	1:2
Congenital cardiac disease	1453(36.38%)	2478(30.61%)	1:1
Sepsis	989(24.76%)	6187(76.44%)	1:3
Average hospitalization	993(24.12%)	7852(97.02%)	1:4
Mortality	1005(25.00%)	7578(93.73%)	1:4

Table III shows fetal outcome.

	Group I n=3993 (100%)	Group II n=8093 (100%)
Perinatal mortality	359(8.99%)	1456(17.99%)
APGAR score <7 at 5 mins	315(7.88%)	1133(13.99%)
Congenital anomalies	638(15.97%)	1699(20.99%)
Preterm babies	1277(30.72%)	3078(38.03%)
Low birth weight	718(17.98%)	2589(31.99%)
Meconium aspiration	878(21.98%)	3722(45.99%)
Sepsis neonatorum	519(12.99%)	2267(28.01%)
Intra uterine growth retardation	738(18.48%)	2832(34.99%)
Infections	1546(15.66%)	3654(46.87%)

DISCUSSION

In the study by Clark SL et al¹¹, the perinatal mortality shown was 22.4%, but our study had 359(8.99%) in elective group and 1456(17.99%) in emergency cesareans sections. In our study APGAR score <7 at 5 min was 7.8% in elective group and 13.99% in emergency cases, whoever in the study by Bernardo LS et al¹², the rates was 20.3%. congenital anomaly. In study by Lemburock C et al¹³, was high as compared to our study the values was 15.97% in elective and 20.99% in emergency cases. In the study by Azam S L et al¹⁴, the rate of preterm babies was 23.4% whereas in our study the percentage was high elective cases30.72% and in emergency cases was 38.08%. Our study show low birth weight in elective cases was 17.9% and in emergency cases was31.88%, but study by Victora CG et al¹⁵, show 23.7% incidence. Study by Abha Set al¹⁶, show the rate of meconium aspiration was 14% and in our study it was 21.8% in elective and 45.9% in emergency cases. Regarding sepsis neonatrum our study show 12.99% in elective and in emergency cases 28.01% while study by Clark SL et al¹¹, show 32.1% incidence of sepsis in newborn. In study by Abha S et al¹⁶, IUGR rate in their study was 27.6% whereas in our study 18.48% cases had occurred in elective cases and 34.99% in emergency cases.fetus born through emergency C-section were more prone to infection 45.667% in our study whereas study Victora CG et al¹⁵, show 23.6% data.

CONCLUSION

Morbidity is much higher in fetuses born after emergency Cesarean Section than elective Cesarean Section. The factors being un-booked patients and a bit compromised preoperative workup and associated uncontrolled medical conditions in the mothers lead to increased fetal complications.

Acknowledgement: The general demographic data of this study is the same as shown in “ Elective And Emergency Cesarean Section: Analysis Of Maternal Complications At Allama Iqbal Memorial Teaching Hospital Sialkot.” ; as both the studies have been conducted at the same time in the same set up.

REFERENCES

1. Vogel JP, betran AP, vindevoghel N, Souza Jp, torloni MR, et al. Use of the robson classification to assess cesarean section trends in 21 countries: a secondary analysis of two WHO multicountry survey. *Lancet Glob Health*. 2015 May;3(5):e260-70
2. D'Esopo, D. A. Review of cesarean section at Sloane Hospital for Women, 1942-1947, *Amer. J. Obstet. Gynec.* 59: 77-95; 104-07, 1950.
3. VillerJ, Valladares E, WojdylaD, Zavaleta N, Carroli G, Velazco A, et al. Cesarean delivery rates and pregnancy outcome: the 2005 WHO global survey on maternal and perinatal health in Latin America. *Lancet*. 2006 Jun 3;367(9525):1819-29
4. HendersonJ, McCandlish R, Kumeiga L, PETRous S. Systematic reviews of economic aspects of alternative modes of delivery. *BJOG* 2001 Feb;108(2):149-57.
5. World Health Organization. *Pregnancy, Childbirth, Postpartum and newborn Care: A Guidelines for Essential Practice*. Geneva:WHO;2006
6. World Health Organization. *WHO/MPS/07/0*. Geneva:WHO;2007. WHO Recommended Interventions for Improving Maternal and Newborn Health.
7. Hogan L, Ingemarsson I, Throngren-Jerneck K, Herbst A. How often is a low 5- min Apgar score in term newborns due to asphyxia? *Eur J Obstet Gynecol Repord Biol*. 2007 Feb;130(2):169-75
8. Hannah ME, Hannah WJ, Hewson SA, Hodnett ED, Saigal S, Willan AR. Planned cesarean section versus planned vaginal birth for breech presentation at term; Term Breech Trail Collaborative Group. *Lancet*. 2000. Oct 21;356(9239):1375-83
9. Najam R, SharmaR. Maternal and fetal outcomes in elective and emergency cesarean sections at a teaching hospital in North India: A retrospective study. *JARBS* 2013;5(1):5-9
10. Ali M, Hafeez R , Ahmed M. Maternal and fetal outcome; comparison between emergency ceseraen section veruses elective caeseraqen section. *Prof Med J*. 2005 Mar;12(1):32-9.
11. Clark SL, Belfort MA, Dildy GA, Herbst MA, Meyers JA, Hankins GD. Maternal death in the 2st century: causes, prevention, and relationship to cesarean delivery. *Am. J. Obstet. Gynecol*. 2008;199:36
12. Bernardo LS, Simões R, Bernardo WM, Toledo SF, Hazzan MA, Chan HF, et al. Mother-requested cesarean section compared to vaginal delivery: a systematic review. *Rev Assoc Med Bras*. 2014;60(4):302-4. <https://doi.org/10.1590/1806-9282.60.04.006>
13. Lembrouck C, Mottet N, Bourtembourg A, Ramanah R, Riethmuller D. Can we decrease cesarean rate at a university hospital treating high risk pregnancies?. *J. Gynecol. Obstet. Biol. Reprod. (Paris)*. 2015.
14. Azam S, Khanam A, Tirlapur S, Khan K. Planned cesarean section or trial of vaginal delivery? A meta-analysis. *Curr Opin Obstet Gynecol*. 2014;26(6):461-8. <https://doi.org/10.1097/GCO.0000000000000114>
15. Victora CG, Aquino EM, Leal MC, Monteiro CA, Barros FC, Szwarcwald CL. Maternal and child health in Brazil: progress and challenges. *Lancet*. 2011;377(9780):1863-76. [https://doi.org/10.1016/S0140-6736\(11\)60138-4](https://doi.org/10.1016/S0140-6736(11)60138-4)
16. Abha S, Reema C. A recent way of evaluating cesarean birth. *J Obstet Gynecol India*. 2009;59:547-51.