Volume : 5 | Issue : 8 | August 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

Original Research Paper

Retrospective Analysis of Indications of Caesarean Section

Medical Science

KEYWORDS : Previous caesarean section, fetal distress, failed induction

* MOHANA DHANAPAL	ASSOCIATE PROFESSOR, DEPARTMENT OF OBSTETRICS AND, GYNAECOLOGY,GOVT.THOOTHUKUDI MEDICAL COLLEGE ,HOOTHUKUDI * Corresponding author
SUBHA SIVAGAMI SENGODAN	ASSOCIATE PROFESSOR, DEPARTMENT OF OBSTETRICS AND, GYNAECOLOGY,GOVT.THOOTHUKUDI MEDICAL COLLEGE, HOOTHUKUDI
VIJAYA SUBRAMANIYAN	PROFESSOR , DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY , MADRAS MEDICAL COLLEGE , CHENNAI
UMARANI PACHAMUTHU	ASSISTANT PROFESSOR, DEPARTMENT OF OBSTETRICS AND, GYNAECOLOGY, MADRAS MEDICAL COLLEGE, CHENNAI

ABSTRACT

INTRODUCTION:*The increasing caesarean rate has become a major public health issue, because more women being delivered abdominally. There are various factors involved in the rise of caesarean Section. There has been increase in primary caesarean section rate, decrease in VBAC trial, decrease in operative vaginal delivery, increase in litigation, decreased threshold of patients for bearing labour pains* ***METHODS AND MATERIALS: STUDY PERIOD :-*** *January 2013- December 2013 STUDY DESIGN :- Retrospective analytical study We conducted retrospective analysis of various indications of all caesarean Section done from January 2013 to December 2013 in our hospital ISO/ GOVT kasturiba Gandhi hospital .Chennai.*

RESULTS *In our study 5 major indications for caesarean sections are previous caesarean section(31.3%), fetal distress(16.1%), medical disorder complicating pregnancy(15.9%), oligohydamnios(10.8%) and failed induction(8.4%).*

CONCLUSION *Efforts must be taken to reduce the number of primary caesarean section to reduce the caesarean section rate to the minimum.*

INTRODUCTION

Caesarean Section is defined as delivery of a baby by an abdominal and uterine incision at the age of viability. Caesarean Section was introduced in clinical practice as a life saving procedure both for the mother and baby

The increasing caesarean rate has become a major public health issue, because more women being delivered abdominally. There are various factors involved in the rise of caesarean Section. There has been increase in primary caesarean section rate, decrease in VBAC trial, decrease in operative vaginal delivery, increase in litigation, decreased threshold of patients for bearing labour pains. There is a concern that the operative vaginal delivery can cause harm to mother and baby. But the ACOG recommends that forceps delivery remain an acceptable option for delivery. In recent data from US the total forceps rate of 1.6%[1]. Hence the use of forceps and training of junior obstetrician in operative obstetrics is the need of the hour[2].

Reduction in the rate of caesarean Section has long been goal for WHO ; WHO advocates a rate of not more than 15%[3] of all births. Husslein an Austrian obstetrician stated that" no other topic has dominated that obstetrical discussion to the same extent as caesarean Section. Robson showed low perinatal mortality , comparing the best of centers in the world with overall caesarean rate near 20% proving that increase in caesarean section is not a solution for reduction on maternal and perinatal mortality[4]

Inspite of remarkable improvement in safety of anaesthesia , blood transfusion, surgical techinques and antibiotics caesarean section has higher risk of maternal morbidity and mortality when compared with normal vaginal delivery.

Caesarean Section is not a risk free procedure ,it has a high risk of intra operative complication like adhesions , PPH and post operative complications like wound infection, and UTI[5,6], but these complications can be reduced by advanced surgical technique as well as post operative care[7].

More recent case series and national databases show that more obstetric hystrectomies are associated with caesarean delivery. Placenta accreta is more common in patients with previous caesarean section. Placenta previa carries a relative risk of 100 for peripartum hysterectomy with patient having diagnosis of placenta accreta.

METHODS AND MATERIALS

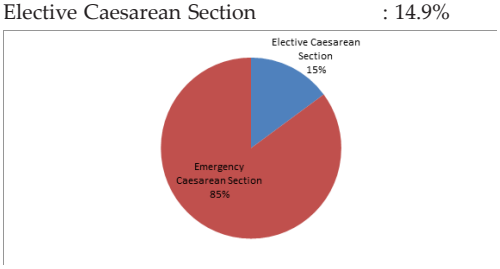
STUDY PERIOD :- January 2013- December 2013

STUDY DESIGN :- Retrospective analytical study

We conducted retrospective analysis of various indications of all caesarean section done from January 2013 to December 2013 in our hospital ISO/ GOVT kasturiba Gandhi hospital .Chennai. We took detailed history including age, parity, indication for caesarean section and complications. We also noted whether it was elective caesarean section or emergency caesarean section.All data were collected on structural data form and analysed for stastistics.

RESULTS AND ANALYSIS

Total Number of Deliveries	: 7810
Total Number of Caesarean Delivery	: 3814
Percentage of Caesarean Section	: 48.8 %
Emergency Caesarean Section	: 85.1%
Elective Caesarean Section	: 14.9%



Volume : 5 | Issue : 8 | August 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

MATERNAL CHARACTERISTICS

AGE : Majority were between 21-30 years (51.8 + 31.6) 83.4%. Below 20 years 2.5%, Above 30 years (12.0 + 1.8) 13.8%.

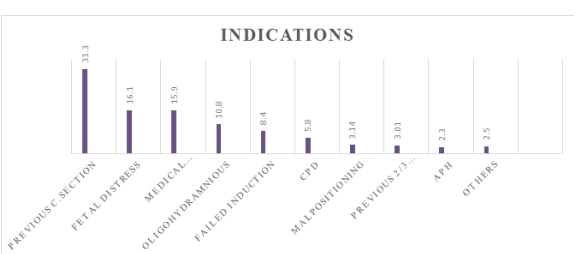
AGE	PERCENTAGE
≤ 20 years	2.5
21 – 25 years	51.8
26 – 30 years	31.6
31 – 35 years	12.0
> 35 years	1.8

PARITY: The rate of Caesarean Section was high among low parous women. 55.3 % were primi and 26.7% were G2 and G3-G5 were (15.4 + 2.5) 17.9%

PARITY	PERCENTAGE
Primi	55.3
G2	26.7
G3	15.4
G4& above	2.5

INDICATIONS (MAJOR): 5 common indications were previous Ceasarean Section 31.3%,fetal distress 16.1% , medical disorder complicating pregnancy 15.9%, Oligohydramnios 10.8% and Failed Induction 8.4%. Previous 2 or 3 LSCS accounts for 3.01% of caesarean section.

INDICATION	PERCENTAGE
Previous caesarean section	31.3
Fetal distress	16.1
Medical disorders complicating pregnancy	15.9
Oligohydramnios	10.8
Failed Induction	8.4
CPD	5.8
Malposition	3.14
Previous 2/3 LSCS	3.01
APH	2.30
Other indications	2.5



OTHER INDICATIONS: Obstructed Labour and Deep Transverse Arrest accounts for 0.39% and 0.36% respectively

INDICATION	PERCENTAGE
Obstructed labour	0.39
Deep transverse arrest	0.36
Long period of infertility	0.44
Bad obstetric history	0.52
Multiple pregnancy	0.55
HIV	0.2

COMPLICATIONS: Intra Operatively the adhesion was the commonest complication in Repeat Ceasarean Section accounts for 79% in our study. PPH accounts for 6% of cases.

Post Operatively common complications are fever(14.4%), Anemia (8.8%), Wound Infection and UTI accounts for 7.6% and 7.6% respectively. One patient had Cortical Venous Thrombosis on 7th day and recovered. Three patients went in for Obstetric Hysterectomy, two for placenta accreta and one for PPH.

COMPLICATION	PERCENTAGE
Fever	14.4
Anemia	8.8
Wound infection	7.6
UTI	7.6
Paralytic Ileus	2.8
Deep vein thrombosis	0.2
CVT	0.03
Obstetric hysterectomy	0.08
Uneventful	58.5

DISCUSSION

The caesarean section rate in our center was around 48.8% , whereas caesarean section rate in other studies are shown below

S.NO	STUDY	PERCENTAGE
1	Daniel et al (2010)[8]	40.8%
2	Tan JK et al (2015)[9]	33.1%
3	Singh Amit Kumari (2011)[10]	28.7%

This high rate of caesarean section is due to surrounding corporation hospitals which often undertake the normal deliveries and all high risk patients, difficult deliveries are referred here.

Emergency caesarean section accounts for 85.1 % of total deliveries .this is comparable to the study from Nigeria 93.7 %[11] , whereas in study by Pandya J M[12] et al showed 57.2 % of emergency caesarean section and 42.8 % of elective caesarean section . In study from U.S.A, Elective Caesarean Section rate was 8 % .[13]

Caesarean Section common among age group of 21-30 years (51.8+31.6) 83.4% whereas in study by Pandya JM et al [12] 78% of patients were in the age group of 21-30 years.

Caesarean Section was common among primi than multi. Primi accounts for 55.3% of Ceasarean Section in our study

The previous caesarean section was the most common indication of around 31.3% whereas in study by Tan JK et al[9] 25.9% of cases were previous caesarean section . This can be reduced by routine practice of conducting trail of labour in all indicated cases of previous LSCS. In U.K , the rate VBAC is around 33 %.[14]

In our study fetal distress accounts for 16.1% of cases whereas in study by Unnikrishnan B et al[15] in mangalore reported 19.6% of fetal distress. We diagnose fetal distress only by auscultation and CTG monitoring .we do not have FBS PH estimation to diagnose fetal distress which is the gold standard. The CTG monitoring is known to overestimate the fetal distress[16].

Medical disorders complicating pregnancy like pre-eclampsia, eclampsia and Gestational diabetes, overt diabetes accounts for 15.9% of cases. Pre-eclampsia and eclampsia accounts for 9.2% of caesarean Section similar to study from

U.S.A[13] which showed 10 % of caesarean section for pre-eclampsia. Overt Diabetes, GDM account for 6.7 % of caesarean section whereas in study by R G Moses et al[17] showed 19.8 % of caesarean section for gestational diabetes

Oligohydramnios was the indication for caesarean section in 10.8% of cases whereas Casey B et al[18] showed 32 % of caesarean section for oligohydramnios , 44 % of caesarean section for oligohydramnios by Vidyadhar B et al[19].

Failure of induction was 8.4% of caesarean section which is similar to study by Unnikrishnan B et al[15] who showed 9.6 % .

The obstructed labour and deep transverse arrest were 0.39% and 0.36% respectively . RCOG reports that approximately 6 % of caesarean section occur at full dilatation[20]. Caesarean section during second stage has many implications for maternal and neonatal morbidity as well as subsequent pregnancy outcome[21].

Intra operatively adhesion was the commonest complication in about 89% of cases in our study, whereas in study by Fkharrunisa Waheed et al[22] adhesion was 97.5%.

Obstetric Hysterectomy was happened in 0.08% of cases . Stanco et al[23] stated that previous caesarean section increase the risk of Obstetric Hysterectomy by 15-20 times.

Anemia accounted for 8 % of cases in our study whereas anemia was the commonest post operative complication in study from Nigeria by EOV ugwe et al[11] and okezie AO et al[24]

UTI was the complication in 7.6 % of cases and wound infection was the complication in 7.6% of cases whereas in study from Thaiwan[25] showed 0.79% of UTI and 4.07% of wound infection

DVT was seen in 0.2 % of cases. The incidence of DVT was appeared fourfold higher after Caesarean Section than after vaginal delivery[26]

CONCLUSION

The increase may be related to difference in clinical decision making or maternal requests. More encouragement of vaginal delivery after one previous LSCS, so as to reduce the prevalence of two previous LSCS. Use of forceps and training of junior obstetrician in operative obstetrics has to be focused more.2/3 of caesarean section is due to primary caesarean Section. Caesarean Section has major implications on maternal health such as placenta previa and placenta accreta endangering the mothers health in next pregnancy. Future efforts to reduce overall caesarean section rate should be focused on reducing the primary caesarean section rate.

References:

1. American college of Obstetricians and Gynaecologists practice bulletin, Operative Vaginal Delivery .Washington DC : ACOG;2000
2. 2 The Over Roofing Rates of Caesarean Section. C N Purandare J Obstet Gynecol India 2011oct; 61(5):501 -502
3. World Health Organisation. Appropriate technology for birth. Lancet 1985 2 (8542):436-437.(Pub Med).
4. Robson MS. Classification of CaesareanSection . Fetal Matern Med Rev.2001;12:23- 39.
5. Ali M, Ahmad M, Hafeez R. Maternal and Fetal Outcome; Comparison between Emergency Caesarean Section versus Elective Caesarean Section. Prof Med J 2005 ; 12:32-9 .
6. Clark E A, Silver R M .Long term Maternal Morbidity Associated with Repeated Caesarean Delivery. Am J Obstet Gynaecol 2011:205 (6 Suppl): S2-10 (Pub Med)
7. Turkey Demographic and Health Survey 2008. Hacettepe . Institute of population studies Ministry of Health 2008.
8. Daniel AdebodeAdekanle, Adewale Samson Adeyemi, Adeniyi Olanipekun. Caesarean Section at a tertiary institution in south western Nigeria – A 6 year audit. .Open Journal of Obstetics and Gynaecology 2013,3,357-361.
9. Tan JK,TanEL,kanagalingan D, Tan LK. Rational dissection of high institutional Ceasarean Section rate : An analysis using Robson ten group classification system J Obstet Gynaecol Res.2015 April ; 41(4):534 – 9. DOI : 10.1111/jog.12608.
10. Singh Amit Kumari, Goswami Dhivya, Dixit Ruchita R, Bhatt Naveen. Study of frequency and indications of Ceasarean Sections in tertiary care hospital of Garhwal-Uttarakhand,India. Journal of Research in Medical Education and Ethics 2011, vol : 1, issue 22 (pages 122-124).
11. EOV Ugwu, KCE Obioha,OAOkezie and AO Ugwu. A five year survey of caesarean delivery at a Nigerian Tertiary HospitaL Ann Med Health Sci Res . 2011 Jan - June; 1(1):77-83. PMCID: PMC 35070
12. Pandya JM et al. Analytical study of indications of caesarean section . International Journal of Reproduction, Contraception, Obstetrics and Gynaecology 2015 oct ;4(5): 1460-1463.2. Clin exp Obstet Gynaecol 2007 ; 34:146 – 8
13. Barber EL, Lundsberg LS ,BelangerK,Pettker CM, Funai EF, Illuzzi JL. . Indications contributing to the increasing caesarean delivery rate. J Obstet and Gynaecol 2011 July; 118(1): 29 – 38
14. Guise JM, Hashima J , Osterwell P. Evidence Based Vaginal Birth After caesarean section. Best pract Res Clin Obstet Gynacol 2005; 19(1):117 -130.
15. Unnikrishnan B, Rakshith P Aishwariya A , Nithin K , Rekha T, Prasanna P, Ankita A, Rajesh K, JuhiC,Nitish G, Sneha P, SitiHawa. Trends and indications for caesarean section in tertiary care obstetric hospital in coastal south India. Australian Medical Journal A M J 2010 3, 12, 821 – 825.
16. Dabbas M, Al-Sumadi A. Caesarean Section Rate: much room for reduction. Clin Exp Obstet Gynaecol 2007;34:146-8.
17. R G Moses, S J Knights, E M Lucas, M Moses, k G Russell, K J Coleman and W S Davis. Gestational diabetes: Is a higher caesarean section rate Inevitable? Diabetes Care 2000 Jan;23(1):15-17
18. Casey Brain M, Donald D, Mclntire; Pregnancy outcomes after antepartum diagnosis of oligohydramnios at or beyond of 34 weeks. Am J Obstet and Gynaecol, April 2000; 182(4):909-912
19. Vidhyadhar B .Bangal, Purushottam A. Giri, Bhushan M. Sali. Incidence of oligohyrdramnios during pregnancy and its effects on maternal and perinatal outcome. Journal of Pharmaceutical and Biomedical Sciences 2011,12(05).ISSN NO -2230-7885 CODEN JPBSCT
20. Thomas J, Paranjothy S. Royal College of Obstetricians and Gynaecologists. Clinical Effectiveness Support Unit. London : The national sentinel Caesarean Section audit. RCOG press 2001.
21. Georgina Davis Spare ,Tina Fleming, Keryn Ford, Marie rose Mouawad, Joanne Ludlow. Caesarean Section at full dilatation. Australian and Newzeland Journal of Obstetrics and Gynaecology. Vol. 55, issue 6December 2015, pages 565-571
22. Fkharunissa Waheed ,Qamarunissa Muhabat, Raheela Baloch, Waqarunissa Ahmed. Maternal complications in Repeated Caesarean Section. Innovative Journal of Medical and Health Science 6:2 March-April (2016) 46-52.
23. Stanco LM, Schrimmer DB, Paul RH , Mishell DR Jr. Emergency Peripartum Hysterectomy and associated risk factors .Am J ObstetGynaecol1993;168:879-83
24. Okezie AO,Oyefarar B, Chigbu CO. A 4- Year Analysis of caesarean delivery in Nigerian teaching hospital : one –quarter of babies born surgically. J Obstet Gynaecol .2007; 27(5):470-474 (Pub Med).
25. Hsin-Wen Hung, Pei-Yin Yang, Yuan-Hong Yan,Hei-Jen Jou, Mei-chin Lu and Shiao-chi Wu. Increased postpartum complications after Caesarean Section compared with vaginal delivery in 225304 Taiwanese women. The Journal of maternal – fetal and neonatal medicine vol 29, issue 10,2016 pages 1665-1672.
26. Simpson, EL .Lawrenson , RA. Nightingale , AL. Farmer , RD. Venous Thromboembolism in pregnancy and puerperium and additional risk factors from a London perinatal database. BJOG,2001; 108(1:56).