Scholars Journal of Applied Medical Sciences (SJAMS) **ISSN 2320-6691 (Online)**
Sch. J. App. Med. Sci., 2016; 4(6D):2163-2166 **ISSN 2347-954X (Print)**

(An International Publisher for Academic and Scientific Resources)
www.saspublishers.com DOI: 10.36347/sjams.2016.v04i06.060

Original Research Article

Determinates of Caesarean Section in Tertiary Care Hospital

Dr. Ranjana Atal[1],Dr. Samta Bali Rathore[2]
[1]Senior Resident, Mahatma Gandhi Medical College,Jaipur, Rajasthan, India
[2]Associate Professor, Mahatma Gandhi Medical College,Jaipur, Rajasthan, India

***Corresponding author**
Ranjana Atal
Email: dr.ranjanaatal06@gmail.com

Abstract: Caesarean Section is the second commonest surgery done in India after tubectomy and has great impact on maternal and neonatal health. Increasing Caesarean rates have raised the need to study its influencing factors. The objective is to analyse the different indications and frequency of caesarean sections in order to reduce such deliveries in a tertiary hospital.This retrospective study was conducted at the Department of Obstetrics and Gynaecology, Mahatma Gandhi Medical College,Jaipur, from October 1 to December 31, 2015. It comprised review of clinical records of all patients who underwent caesarean section during this period. This included booked, un-booked or referred cases and data regarding the indications, type of caesarean deliveries and demographic features.During the study period, there were 792 deliveries out of which 261 (32.95%) were caesarean. Emergency caesarean section was performed on 150(57.5 %%) and elective caesarean section was performed on 111(42.5%) patients. Overall, 122(46.6 %%) cases were booked and 139(53.3 %%) were un-booked or referred cases. Most of the caesarean sections were carried out due to previous caesarean sections 58(22.2%) followed by foetal distress 49(18.7%), non-progress of labour 32(12.2%), Pregnancy induced hypertension 17(6.51%), breech 15(5.75%), oligohydramnios 16(6.13%), intra uterine growth retardation 10(3.83%), placental abruption 4(1.53%) and placenta previa 5(1.91%). Audit and feedback is the best way to judge clinical practice and to reduce the frequency of caesarean section in any tertiary setup. Previous caesareans were the most common indication of repeat procedure in the study.
Keywords: Caesarean section, Audit, Indications.

INTRODUCTION

"Once a caesarean, always a caesarean" was the rule for classical caesarean section (CS) but nowadays CS is considered a safe mode of delivery associated with lessperinatal complications despite high health and financial cost. Caesarean delivery is defined as the birth of the fetusthrough incisions in the abdominal wall and the intactuterine wall. This definition does not include removal ofthe fetus from the abdominal cavity in case of abdominalpregnancy or in case of rupture uterus[1]. Caesarean Section is the second commonest surgery done on womenin India after tubectomy and has great impact onmaternal and neonatal health.

The WHO published guidelines regarding Caesarean Section rates in 1985 which was revised in 1994. The guidelines published in 1997 by UNICEF, WHO and UNFPA states that proportion of Caesarean births should range between 5 to 15%. The rate of Caesarean Sections below 5% seems to be associated with gaps in obstetric care leading to poor health outcomes for mothers and children, whereas rates over 15% don't seem to improve either maternal or infant health[2]. In US, rate was 22.7% in 1990 which increased to 27.5% in 2003 and it was 32.8% in 2010 which shows about one mother in three now gives birth by Caesarean Section[3]. These high levels are also reported in Latin America; it ranged from 16.8% to as high as 40% in the countries of this region [4]. The estimate for Caesarean Section rates in East Asia also shows that it is well above 15% [5].

In India we have variable Caesarean rate ranging from 5% to nearly 40% dependingon various factors. China has the highest C-sections in the world, accounting for 46 percent. Caesarean section is themost common operation in the US, where 30 percent ofall babies are born by this method[6]. Increasing Caesarean rates have raised the need to studyits influencing factors. One hand there is tendency tolibaralise the indication for caesarean section as per thedemand by

the clients on the other hand there is concernabout the rising caesarean rate. Over the years, othertechnical advances were made as caesarean deliverybecame a safer and more frequently performed surgicalprocedure[7]. Birth by caesarean sections has started toincrease globally. While nearly one in every two births in China is delivered by C-section, the rate is around two in five in Thailand and Vietnam and nearly one in five in India[8].

AIMS AND OBJECTIVES

The current study was planned to analyse the different indications of primary or repeat CS, so as to reduce the CS rate by adopting multifaceted strategies after critically evaluating individual cases.

MATERIAL AND METHOD

This retrospective study was conducted at the Department of Obstetrics and Gynaecology, Mahatma Gandhi Medical College, Jaipur from 1st October 2015 to 31st December 2015. Booked, un-booked or referred cases that underwent CS as an elective procedure or those who had it in emergency situations during the study period were included. Indication, type of CS (primary or repeat), demographic features of patients and outcomes were recorded on a designated proforma.

Technically, booked mothers were defined as those who had at least three antenatal visits at our center while unbooked mothers included those who had no or less than three prenatal care visits during their whole pregnancy at our center and those who were referred in emergencies from other medical centers and hospitals. Demographic variables included age, socioeconomic status and booking status. Obstetric history included parity status, maternal health before & during pregnancy, significant clinical events in previous pregnancy were recorded. Investigations were also done in all the study subjects that included complete blood count, urinalysis, random blood sugar, blood grouping, HIV, Hepatitis C and Hepatitis B antigens, bleeding & clotting time and baseline ultrasonography.

RESULT

Overall there were 792 deliveries during the study period, out of which 261(32.5%) were CS. Of the CS cases, 122(46.6 %%) were booked, and 139(53.3%) were either unbooked or referred cases (table-3). Emergency CS was performed on 150(57.5%) and elective CS on 111(42.5%) patients (table-4). The mean age of the patient was 26 years, mostly patients belonged to the 21-30 years age Group 206(78.9%) shown in table-1 and mostly patients belongs to middle class status 161(61.6%) table- 2.

Table 1: Age-wise distribution

Age	No. of subjects	Percentage(%)of CS
<20	30	11.5%
21-30	206	78.9%
>30	25	09.5%
Total	261	100%

Table 2 Socio economic status

Status	No. of subjects	Percentage(%) of CS
Low	48	18.4%
Middle	161	61.6%
High	52	19.9%
Total	261	100%

Table 3: Booking of cases

Booking	No. of subjects	Percentage(%) of CS
Booked	122	46.6%
Unbooked	139	53.3%
Total	261	100%

Table 4: Type of caesarean section

Category	No. of subjects	Percentage (%)
Elective	111	42.5%
Emergency	150	57.5%
Total	261	100%

Most of the CS procedures were carried out due to previous caesareans accounting for 58(22.2%) cases. These were followed by foetal distress 49(18.7%), non-progress of labour 32(12.2%), Pregnancy induced hypertension 17(6.51%), breech 15(5.75%), oligohydramnios 16(6.13%), intra uterine growth retardation 10(3.83%), placental abruption 4(1.53%) and placenta previa 5(1.91%). The complete indication is shown in Table-5.

Table 5 Indication of caesarean section

INDICATIONS	No. of subjects	Percentage (%)
Fetal Distress	49	18.7%
Not willing for VBAC	58	22.2%
Prev 2 lacs	8	3.06%
Oligohydramnios	16	6.13%
Intrauterine Growth Retardation	10	3.83%%
Primi breech	15	5.75%
Pregnancy Induced Hypertension	17	6.52%
Placenta Previa	5	1.91%
Abruotio placenta	4	1.53%
Preterm Premature Rupture of Membrane	8	3.06%
Non progress of Labour	32	12.2%
Threatened scar rupture	8	3.06%
Bad obstetrics history	1	0.38%
CPD	13	4.98%
Twin with 1st breech	5	1.91%
Cord Prolapse	1	0.38%
Transverse	1	0.38%
Triplets	2	0.76%
Elderly primi withIVF pregnancies	3	1.11%
Miscellaneous	5	1.91%
Total	261	100%

DISCUSSION

Despite guidelines issued by various obstetrical and gynaecological bodies to promote trial of labor for various conditions, the caesarean delivery rate has gone up steadily from 4.5% in 1965 to 17.9% in 1981, 23.5% in 1993 [9]. In our study nearly 53.3% of the subjects were unbooked which include the referred cases also. Caesarean section rates are high and this inexorably rising rates of Caesarean Sections have potential to divert human and financial resources from others, arguably higher priority interventions [10]. It also raises the possibility of negative impact on maternal and neonatal health [11] which has received support from a number of studies [12- 14]. On the other hand, it has been argued that decreasing Caesarean Section rates would have a detrimental effect on mother and infants health [15]. The present study has reported that majority of mothers having Caesarean Sections fall in 21- 30 yrs of age group (78.9%) and found it supported by other researchers [16].

During the study period, 792 patients were delivered, out of which 261 underwent CS giving a rate of 32.95% that is comparable with some earlier studies[17]. Primary CS was a major contributor to this rate andthe commonest indications were foetal distress 18.7% and non-progress of labour 12.2%. In majority of patients with presumed foetal distress babies delivered with good Apgar score but with meconium stained liquor. Understanding of cardiotocograph findings is subjective and one of the factors involved in unnecessary CS performed for foetal distress in this tertiary setup. Involving consultant obstetrician in the decision making for emergency CS and practising foetal cord blood sampling to detect true foetal acidosis are the means by which we can reduce the CS rate.

Percentage of CS performed for non-progress of labour (NPOL) is similar to the findings (12%) of a study[18] but much less than that of another [19]. The best way to monitor the progress of labour is 4-hour action-line partogram. Those patients undergoing CS for NPOL, partogram was not adequately maintained, inductions before expected date of delivery and failure to judge cephalopelvic disproportion.

Caesareans for breech presentation accounted for 5.7% and were the commonest indication for primary elective CS. Patients who came in labour were also not given the option of vaginal delivery and were operated upon in emergency. Offering External cephalic version (ECV) to patients with breech presentation at 37 weeks of gestation who fulfill the criteria to deliver vaginally is another way to decrease the CS performed for malpresentation[20]. Therefore, it is important to take correct decision about the mode of delivery of the first labour as it will determine the future mode of delivery. Previous scars were the main indications in our study for repeat CS, especially the previous CS. Reluctance to give trial of vaginal delivery after one CS may be due to the fear of litigation related to uterine rupture and associated risk to the mother and the foetus.

Farah Karim *et al.*;[21] conducted a study regarding Trends and Determinants of Caesarean Section showed that 53.34% of the patients undergoing caesarean section were unbooked and referred. So most of our subjects belonged to rural area where the

awareness and importance of booking and the facilities available is less among the general population. Unbooked and referral to higher centers, when there is obstetrical complication pose its inherent potential complication which adversely affect the foetal and maternal outcomes. This would draw the attention of the care providers to make it possible to stretch out the medical services to this sector of the community.

The reason was patients' desire to avoid painful vaginal childbirth and to maintain the vaginal tone of the teenager which is more beneficial to the sexual partner rather than the women herself. The global rise in CS rate reflects changing trends of delivery. Women belonging to high socioeconomic status prefer CS delivery as an elective procedure. Delivery in a small setup, lack of skilled health professionals, abandoning of instrumental delivery and fear of litigation are the complex reasons of keeping CS rate high.

CONCLUSION

Audit and feedback is the best way to judge clinical practice and to reduce the frequency of caesarean section in any tertiary setup.To improve the quality of care audit is an essential component of any management system. Adoption of different strategies and changing clinical practice for delivery of breech presentation and detection of true foetal distress and labour dystocia and unbiased implementation of such protocols are some of the ways to reduce the CS rate in any tertiary setup.

REFERENCES

1. F. Gary Cunningham, Normal F. Gant, Kenneth J. Leveno *et al.;* "Caesarean delivery and postpartum hysterectomy". Chapter -23, Textbook of Williams obstetrics, 21st Edn, Newyork; McGraw Hill, 2001;538- 559pp
2. UNICEF, WHO, UNFPA, New York: United Nations Children's Fund, 1997; 1.
3. Hamilton BE, Hoyert DL, Martin JA, Strobino DM, Guyer B; Annual summary of vital statistics: 2010–2011. Pediatrics. 2013:peds-2012.
4. Belizan J, Althabe F, Barros F, Alexander S; Rates and implications of caesarean sections in Latin America: ecological studyCommentary: all women should have a choiceCommentary: increase in caesarean sections may reflect medical control not women's choiceCommentary:"health has become secondary to a sexually attractive body. British Medical Journal, 1999; 319:1397.
5. Stanton CK, Holtz SA; Levels and trends in cesarean birth in the developing world. Studies in family planning. 2006;37(1):41-8.
6. Betran A.P, Torloni M.R, Zhang J.J, Gülmezoglu A.M; WHO statement on caesarean section rates:a commentary, BJOG 2015.
7. Cesarean Section –A Brief History - U.S. National Library of Medicine www. nlm.nih.gov/exhibition/cesarean
8. Barber E.L, Lundsberg L, Belanger K, Pettker C.M, Funai E.F, Illuzzi J.L; Indications Contributing to the Increasing Caesarean Delivery Rate; American College of Obstetricians and Gynaecologists. Obstet Gynecol 2011; 118(1):29-37.
9. Ranjit Akolekar, Suchitra Pandit, Sanjay B.Rao; 'Indications for Cesarean Delivery'. Chapter-5, in textbook of The Cesarean Birth. A FOGSI publication. Mumbai; The National Book Depot 53-55.
10. Wagner M; Fish can't see water: the need to humanize birth. International Journal of Gynecology & Obstetrics, 2001; 75: S25-S37.
11. Wagner M; Choosing caesarean section. The Lancet, 2000; 356(9242): 1677-1680.
12. Thomas J, Paranjothy S; National sentinel caesarean section audit report. Royal College of Obstetricians and Gynaecologists Clinical Effectiveness Support Unit. London: RCOG Press. 2001;200(1):43.
13. Villar J, Valladares E, Wojdyla D, Zavaleta N, Carroli G, Velazco A *et al.;*Caesarean delivery rates and pregnancy outcomes: the 2005 WHO global survey on maternal and perinatal health in Latin America. The Lancet 2006; 367(9525):1819-1829.
14. Hall MH, Bewley S, Maternal mortality and delivery, The Lancet, 1999; 354:776.
15. Sachs BP, Kobelin C, Castro MA, Frigoletto F; The risks of lowering the cesarean-delivery rate. N Engl J Med. 1999;340(1):54-7.
16. Sinha AK. Medical education in India: present status and future perspective. Journal of the Indian Medical Association. 1992 Aug;90(8):199-202.
17. Naidoo N, Moodley J; Rising rates of Caesarean sections: an audit of Caesarean sections in a specialist private practice. SA FAM Pract 2009; 51: 254-8.
18. Shamshad; Factors leading to increased caesarean section rate. Gomal J Med Sci 2008; 6: 1-5.
19. Nizam K, Haider G, Memon N, Haider A; A caesarean section rates much room for reduction. Rawal Med J 2010; 35: 19-22.
20. Royal College of Obstetricians and Gynaecologists. Birth after previous caesarean section. Green top guidelines no.45. London (UK) RCOG Press. 2007.
21. Karim F; Trends and Determinants of Caesarean Section; Journal of Surgery Pakistan (International) 2011; 16(1).