Original Research Paper

ORTHOPAEDIC

ANALYSIS OF CAESAREAN DELIVERIES BASED ON THE TEN GROUP CLASSIFICATION SYSTEM IN A TERTIARY CARE HOSPITAL IN TAMILNADU

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ABSTRACT

Aim: To analyse the caesarean rates in a tertiary care hospital according to Robsons Ten group Classification System(TGCS)Method: Retrospective study Materials: The data collected from the recordsPlace of study: Govt.Mohan Kumaramangalam Medical College Hospital , Salem. Study period: Jan 2015 to Dec 2015.Results: Total deliveries were 6896. The caesarean delivery rate is 50%. Majority of the women belonged to group 1(28.9%) and 3(24.3%).Highest caesarean delivery rate(CDR) is in group 5 and is 98.1%. There is a very high CDR observed in group 1(30%) and 3(19.3%).Conclusion: The TGCS is useful to compare and analyse the caesarean deliveries within and between the health facilities as recommended by WHO. Reduction in caesarean rates decreases the morbidity in the mothers and ensures proper utilization of the resources.Improving the infrastructure and manpower will possibly bringdown the prevailing high caesarean rate in our hospital.

KEYWORDS : : caesarean delivery rate, TGCS, Robsons classification

INTRODUCTION

Caesarean section(CS) is the commonest major obstetric surgery done all over the world.Though CS is done in the interest of the mother or the baby,there has been a growing suspicion all over the world that unnecessary CS which can lead to increased maternal morbidity is on the rise . To support the suspicion there has been an increase in the CS rates in all parts of the world , observed over the past 20 years . Globally CDR range widely from as low as 5% to as high as 90% , differing from country to country , region to region and from one health care facility to other .

In 1985 WHO proposed that ideal CDR should be between 10% to 15%.Lower or higher rates have no improvement in PNMR or perinatal morbidity.On the other hand it increases maternal morbidity.Similarly lower rates indicates poor maternal health care.The CDR can vary between hospitals depending upon the no of high risk cases they manage and the available infrastructure and manpower . Fear of litigation definetly has a role in influencing the obstetrician for early decision for CS nowadays contributing to the rise in CS . Small percentage is contributed by the patients themselves who choose auspicious birthtime for their babies.Fear of labour pains,fear of pelvic organ prolapse , the belief that CS is safer for the baby are also factors influencing CDR. A small percentage of rise in CDR is due to the hospitals which aim for high income obtained from caesarean sections when compared to vaginal deliveries .

GROUP	DESCRIPTION
1	nulliparous women with single vertex pregnancy, at>/=37 wks GA in spontaneous labour
2	nulliparous women with single vertex pregnancy, at>/=37 wks GA ,who had labour induced or who had caesarean delivery before labour
3	Multiparous women ,without a uterine scar, with single vertex pregnancy, at>/=37 wks GA in spontaneous labour
4	Multiparous women ,without a uterine scar, with single vertex pregnancy, at>/=37 wks GA,who had labour induced or who had caesarean delivery before labour
5	Multiparous women ,with atleast one previous uterine scar, with single vertex pregnancy, at>/=37 wks GA in spontaneous labour
6	All nulliparous women with a single breech pregnancy
7	All multiparous women with a single breech pregnancy,including women with uterine scar
8	All women with multiple pregnancies including women with uterine scar
9	All women with single pregnancy with a transeverse or other abnormal presentation including women with uterine scar
10	All women with a single vertex pregnancy at<,/=36 wks GA ,including women with uterine scar
99	Women who cannot be placed into one of the above groups due to inadequate information

Considering the various factors affecting the rate of CS in a facility there has to be a reasonable method to compare the CDR between the healthcare centres . In 2011 Dr.Micheil Robson of Ireland , proposed the Ten group classification system(TGS) to meet the need .

In 2011 systematic review by Torloni & colleagues of the TGS concluded that this system is the most appropriate .Since 2011 WHO has recommended to use this system of classification in institution specific monitoring and auditing . This aids in standardised comparison between institutions it also helps in determining the cause of CS and to know the changing trends within and between the health care facilities all over the world .

AIM OF THE STUDY

To analyse the CS deliveries that occurred during the year 2015 in our institution based on the Robson's TGCS .

MATERIALS & METHOD

This is a retrospective study based on the information collected from the registers that are regularly maintained in the OG department of Govt.Mohan Kumaramangalam Medical College Hospital , Salem , Tamilnadu , India ,during the period between January2015 and December 2015. The results were compared with that of the experience of Dr.Robson who proposed The Ten Group Classification system.(Table1)

RESULTS
Table 2

Mode of delivery	2015
Vaginal delivery	3421
Caesarean delivery	3475
Total	6896

Table 3

TGCS group col 1	VD col 2	CS col 3	total col 4	size of the population (=col4/6 896) col 5	% of CS in each group(CDR) (=col 3/col 4) col 6	contribution of each gp to total CS(=col3/3 475) col 7
1	1396	602	1998	28.9%	30.1%	13%
2	329	652	981	14.2%	66.4%	18.7%
3	1351	325	1676	24.3%	19.3%	9.3%
4	155	164	319	4.6%	51.4%	5.0%
5	21	1110	1131	16.4%	98.1%	31.9%
6	31	112	143	2.0%	78.3%	3.2%
7	18	50	68	0.9%	73.5%	1.4%
8	32	53	85	1%	62.3%	1.5%
9	0	41	41	0.6%	100%	1.1%
10	310	144	454	6.5%	31.7%	4.1%
TOTAL	3421	3475	6896			

Total deliveries in 2015 are 6896.Caesarean delivery rate is 50% .(Table 2)Majority of the women who delivered belonged to group 1 and 3.Maximum caesarean delivery rate is in group 5 and is 98.1%,excluding gp 9 where it is 100% due to malpresentations other than breech.Major contribution to caesarean deliveries is by group 5,where it is 32% .(Table 3)

DISCUSSION

The expected rates in each of the groups is based on Dr.Robson's experience.

Group 9 should comprise 0.2 to 0.6% of women with a caesarean delivery rate of 100%. In our study it is similar : 0.6% with 100% caesarean rate.

Group 1&2 usually account for 35-40% of the population and group 1 should be more than2.In our study total population in group 1&2 is 43% and women who had spontaneous deliveries were more as expected. Caesarean delivery rate of <10% is desirable in group 1.But in our study it is 30.1%.This could be due the large no. of cases with risk factors which cause the increase in section rates.

Group 3&4 should comprise around 30-40%.In our study it is 29 % and is almost in accordance .Caesarean delivery rate in group 3 should be 2.5 -3%.In our study it is 19.3% which is significantly high .Group 4 should have a caesarean delivery rate below 20%.In our study it is almost double the expected rate that is 51.4%.

Group 5 should comprise not more than 10% of women.In our study it is 16 %.This is due to rising no. of primary caesarean deliveries in the general population.A cesarean rate of 50 – 60% is desirable in group 5.In our study it is 98.1%.

Group 6&7 should include 3-4% of women and group 6 usually is twice as many as group 7.In our study it is 2.9 .No. of women in group 6 and 7 correlate well with the expected ratio.

Group 8 should include 1.5%-2% of women in centers without IVF program.

In our study it is 1.2% as expected .The caesarean section rate is 62 .3% which is almost the same as expected :60%.

Group 10 should include 5% of women . A higher percentage may be seen in referral centers where there is high risk of preterm

deliveries.In our study it is 6.5%.caesarean delivery rate of >30 -40% reflects more women with previous caesarean delivery or high rate of preterm induction of labour.In our study it is 31.7% .

Groups 1,2&5 usually account for two thirds of all caesarean deliveries .Our study has similar contribution of 63.6%.

Our hospital is a tertiary care center which is the referral center for nearby 6 districts . The primary health centers in our district take care of the most of the uncomplicated deliveries among the primi and multigravidas. Only complicated antepartum and intrapartum cases are being referred from these centers.

More than 70% of the cases managed in our hospital are referred in cases .Almost 90% of the population catered here have associated high risk factors and belong to low socio economic status.Anemia is very common associated risk factor among the population.

In our study the increased caesarean delivery rates in groups 1 and 3 are probably due to more no. of cases being referred for fetal distress and CPD.Cases referred for post datism, hypertensive disorders and prelabour rupture of membranes are responsible for induction of labour in most of the cases.The increased caesarean rates in group 2 and 4 are probably due to the associated risk factors which necessitate emergency delivery due to fetal distress.It could also be due to the policy of early decision in induced cases because of insufficient manpower and patient monitoring facilities in our hospital.Vaginal birth after caesarean section is also very less because of the same reasons leading to high caesareans in group 5.External cephalic version in breech cases is not being practiced.Improving the infrastructure and manpower will possibly help in bringing down the prevailing high rate of caesarean deliveries in our hospital.

CONCLUSION

The TGCS as recommended by the WHO is useful in analyzing and auditing the caesarean section rates especially within the institutes which thereby help in identifying the avoidable factors which contribute to unnecessary caesarean sections.It should be made compulsory that caesarean audits are conducted regularly and the TGCS be used to analyse the data.The TGCS may be modified so that comparison within and between the health facilities is possible in depth.Reduction in caesarean rates reduces the morbidity in the mothers and also ensures proper utilization of the resources including reduced usage of antibiotics.

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