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Research Article

Rising caesarean section rate: a matter of concern?

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ABSTRACT

Background: Caesarean section is the most commonly performed surgery in obstetrics. Newer indications have emerged over time for both maternal and foetal indications and this has resulted in a dramatic rise in caesarean section rate in the last several years.

Methods: A one year observational study was done in a large government hospital receiving a large number of patients from urban as well as rural areas and also referrals from the periphery. An attempt was made to find out the caesarean section rate and to evaluate the indications that lead to a rise in caesarean section rate.

Results: During the one year study period, there were total 14568 deliveries, out of which 5508 were caesarean sections giving a caesarean section rate of 37.8%. Repeat caesarean section after one prior caesarean delivery was the leading contributor of caesarean section rate and accounted for one in three caesarean sections carried out (32.80%). Other leading indications were foetal distress (9.36%), CPD (7.69%), PROM (7.31%), postdate pregnancy (6.62%), hypertensive disorders of pregnancy (6.0%).

Conclusions: Some of the measures that can reduce caesarean section rate can be 1) reduction in primary caesarean sections 2) giving the option of VBAC to women with one prior caesarean section 3) use of foetal heart tracings and scalp blood sampling for foetal monitoring 4) judicious use of oxytocin and plotting of the partogram for every labour.

Keywords: Caesareans section rate, Rising rate, Indications, Prior one caesarean

INTRODUCTION

Caesarean section is the most commonly performed surgery in obstetrics. The rising trend of caesarean section is emerging as a major cause of concern for the healthcare system all over the world and the trend is no longer confined to western industrialized countries. The WHO in 1985 gave as consensus recommendation of optimal caesarean section of 10-15%.¹ This is considered arbitrary by some² and some have suggested that lowering caesarean section rates too much can be dangerous.³ There is however no consensus regarding as to what the correct caesarean section rate should be and the measures to get there.^{4,5} A study conducted by ICMR - Indian Council of Medical Research in 33 tertiary care teaching units noted that the average caesarean section

rate increased from 21.8% in 1993-94 to 25.4% in 1998-99.⁶ The reasons for this dramatic rise in caesarean section rate are somewhat complex and newer indications have emerged over the years. The common indications for caesarean section are previous caesarean section, foetal distress, premature rupture of membranes, cephalopelvic disproportion, breech, twins etc. It is a well-known fact that caesarean section does not confer additional benefits in terms of foetal and maternal morbidity and mortality but in fact puts an economic burden on the health care systems. The purpose of this study was to find out the caesarean section rate in our hospital, to identify the reasons for the rise in caesarean section rate and to identify areas where by the caesarean section rate can be reduced.

METHODS

A one year observational study was done from 1st April 2012 till 31st March 2013. The study was conducted at Daga hospital Nagpur which is a large government maternity hospital that receives large number of patients from urban and rural areas. It is also a referral centre which receives referral from the periphery. All women admitted who were admitted for delivery during the study period were included. An attempt was made to find out the caesarean section rate and to evaluate the indications that lead to a rise in caesarean section rate.

The caesarean sections were done for obstetric reason solely and we could not entertain requests for caesarean on demand because of workload pressure. Also since the study was done in a government hospital, factors like cost to the patient, doctor incentives and the risk of malpractice litigation were not of much significance.

RESULTS

During the study period of one year there were total 14568 deliveries, out of which 5508 were caesarean sections giving a caesarean section rate of 37.8% (Table 1). The proportion of instrumental deliveries and assisted breech deliveries also decreased (Table 1).

Maternal age ranged from 18 to 40 years (Table 3) and 92.48% women were between the age of 20 to 30 years. Patients were mainly from lower socioeconomic strata and lower middle class. Primigravida accounted for nearly 48.71% and multigravida accounted for 50.78% of total admissions (Table 2).

Repeat caesarean after one prior caesarean section was the leading contributor of caesarean section rate and accounted for one in three caesarean sections carried out (32.80%). Other leading indicators were foetal distress (9.36%), CPD (7.69%), PROM (7.31%), post-dated pregnancy (6.62%), hypertensive disorders of pregnancy (6.0%) and breech (4.21%).

Table 1: Incidence.

Category	No.	Percentage
Total deliveries	14568	100
Vaginal (normal) deliveries	8864	60.84
Instrumental (vaginal) deliveries	82	0.56
Breech deliveries	114	0.78
Caesarean sections	5508	37.80

Table 2: Gravidity status.

Gravidity	No.	Percentage
Primi	2683	48.71
Multi	2797	50.78
Grand multi	28	0.50

Table 3: Age table.

Age	No.	Percentage
<20 years	167	3.03
20-30 years	5094	92.48
>30 years	247	4.48

Table 4: Indications for caesarean section.

Indication for caesarean	No.	Percentage
Previous one caesarean	1807	32.80
Previous two caesarean	192	3.48
Foetal distress / meconium stained liquor	516	9.36
Cephalo-pelvic disproportion	424	7.69
Prom	403	7.31
Postdated pregnancy	365	6.62
Hypertensive disorders of pregnancy	331	6.00
Breech	232	4.21
Failed induction	151	2.74
Floating foetal head	101	2.19
IUGR	112	2.03
Oligohydramnios	92	1.67
Inadequate pelvis	106	1.92
Precious pregnancy	101	1.83
Twin pregnancy	54	0.98
Non progress of labour	116	2.10
Prolonged labour	86	1.56
Obstructed labour	92	1.67
Ante-partum haemorrhage	53	0.96
Bad obstetric history	46	0.83
Elderly primi	18	0.32
Transverse lie	32	0.58
Deflexed head	38	0.68
Previous hysterotomy	8	0.14
Face presentation	8	0.14
Hand prolapse	11	0.19
Cord prolapse/ presentation	13	0.23

DISCUSSION

Worldwide the rates of caesarean section have increased considerably over the last few decades from <7% in 1970 to >25% in 2003.⁷ The caesarean section rate in our study was 37.8%. The reason for this high rate was probably because ours is a referral centre which receives complicated pregnancies from the periphery. The most common indication for caesarean section in our study was repeat caesarean in women with one prior caesarean section. Here the decision for primary caesarean section is important and every effort for vaginal delivery should be made in primigravida by a carefully supervised trial of labour.

The reasons for caesarean section in women with one prior caesarean section were 1) short inter-pregnancy interval of 6 to 18 months. 2) It was noted that women

with prior scar are more likely to go past their EDD than women with no scar. 3) Trial of labour was given only to women who came in active phase of labour with a cervical dilatation of >3 cm. There was reluctance for induction of labour in women with prior scar which was mainly because of inability to monitor labour properly due to shortage of skilled hands. All these factors lead to a rise in repeat sections.

The subject of delivery of a woman with prior one scar remains controversial.⁸

Many studies have recommended that the option of VBAC should be given to women with prior one scar.⁹

Another study done by McMahan et al, have reported that higher rates of maternal and foetal morbidity exist after VBAC as compared to repeat caesarean section.¹⁰

The second leading cause of caesarean section in our study was foetal distress (9.36%). Foetal monitoring was done with help of stethoscope and foetal Doppler and by noting presence of meconium stained liquor. CTG and foetal scalp blood sampling were not available. In a study done by Anderson et al previous one caesarean, foetal distress and dystocia accounted for most of the cases of caesarean section.¹¹

This was also evident from our study also wherein CPD accounted for (7.69%) of caesarean cases. Other important indications for caesarean section in our study were PROM (7.31%), post-dated pregnancy (6.62%), PIH (6.0%) and breech (4.21%). Shamshad in 2008 reported rates for repeat caesarean of (20.25%), foetal distress (14.4%), hypertensive disorders of pregnancy (10.20%) and post-dated pregnancy (3.5%).¹²

There are various studies that have shown that rising caesarean section rates does not indicate better healthcare either to the mother or her new-born.

Hence every obstetrician should provide competent, skilled and evidence based services to women, giving them the opportunity of a vaginal delivery as far as is safely possible.

CONCLUSION

We must strive to practice good obstetrics based on individual patient parameters and the quality of the local health care facilities. Each institute with high caesarean section rates should critically analyse the reasons for high rates.

Measures that can reduce caesarean section rate can be -

1) There is a need to curtail the rate of primary caesarean sections. A comprehensive assessment of the woman and establishing a definite obstetric indication for caesarean section will be helpful.

- 2) More and more number of women with prior one scar should be given the option of VBAC after careful assessment.
- 3) Precise interpretation of foetal heart rate tracings and foetal scalp PH might help in reducing caesarean section rates.
- 4) Judicious use of oxytocin and plotting of the partogram for every labour will help reduce caesarean section rates.
- 5) Also let us ask ourselves - do we need to relearn the art of instrumental vaginal deliveries and ECV or external cephalic version as a step towards reducing caesarean section rates?

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