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A critical analysis of caesarean section rates in government hospital at Visakhapatnam according to WHO Robson's criteria

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Abstract
Since 1985, the international health care community has considered the ideal rate for caesarean sections to be between 10% and 15%. But in both developed and developing countries the c-section rates are steadily increasing since then. When medically justified, c-sections can effectively reduce maternal and perinatal mortality and morbidity. But no longer associated with reducing maternal or neonatal morbidity and mortality who undergo unnecessary c-section (2). Moreover, c-section are associated with significant short and long term morbidities which are procedure related.
WHO proposes Robson's criteria to analyze treads in c-section rates globally (1). This is an universal classification system bench is meant for audit propose. With this background we have analysed mode of deliveries in government hospital, in the city of Visakhapatnam during the period between Jan, 2015 to June, 2015.
The results were analyzed. The c-section rates were significantly higher. To conclude, when medically indicated c-section is beneficial to both mother and baby. Increase in primary c-section rates is becoming alarming. A thorough audit of c-section rates should be undertaken to cut down the incidence of unnecessary c-section rates (3).

Keywords: Caesarean section rates, Mortality, Morbidity, Robson's classification

Introduction

At the facility centres it is essential to audit and monitor the rates of c-section taking into account the specific characteristics of the population that they serve. Currently there is no such standard system to monitor the c-section rates applicable universally. WHO, in 2011, conducted a systematic review of systematic review of systems used to classify c-section and finally came out with inappropriate classification that will fulfill current international and local needs. This system is named as Robson classification. WHO recommends, this system to be used internationally, so that measures can be taken for proper auditing of c-section rates.
This system classify all women into one of the 10 categories that are mutually exclusive and was set totally comprehensive. (Table 1) The categories are based on five basic obstetric characteristics: (7).

Table 1

1	Parity	Nulliparous, multiparous with and without previous c-section
2	Onset of labour	Spontaneous, induced or prelabour c-section
3	Gestational age	Preterm or term
4	Fetal presentation	Cephalic, breech or transverse lie
5	Number of fetuses	Single or multiple

This classification is simple, robust, reproducible, clinically relevant and prospective-which means that every women admitted for delivery can be immediately classified into one of the 10 groups based on these few basic characteristics. This allows a comparison and analysis of c-section rates within and across these groups.
In 2014, WHO conducted a second systemic review of the experience of user of Robson's system, to assess the pros and cons of its adoption. The panel finally concluded that:

1. Regardless of their level of complexity, health care facilities should use this classification.
2. If users require they can further subdivide the 10 groups and analyse further variables.
3. The reports of analysis should be made publically available, whenever possible.

Table 2

No.	Groups
1	Nulliparous, single cephalic, >37 wks in spontaneous labor
2	Nulliparous, single cephalic, >37 wks, induced or CS before labor
3	Multiparous (excluding previous CS), single cephalic, >37 weeks in spontaneous labor
4	Multiparous (excluding previous CS), single cephalic, >37 weeks, induced or CS before labor
5	Previous CS, single cephalic, >37 weeks
6	All nulliparous breeches
7	All multiparous breeches (including previous CS)
8	All multiple pregnancies (including previous CS)
9	All abnormal lies (including previous CS)
10	All single cephalic, <36 wks (including previous CS)

Material and Method

This retrospective analysis of classification of CS was conducted for a period of 6mon from Jan, 2015-June, 2015 at KGH, a tertiary care hospital in Viskhapatnam, AP.

The total no. of women delivered for period of 6mon -2713, out of which CS deliveries were 1266.

Overall CS rate calculated in KGH for this specified period was 46.6 %. (5).

Table 3

No.	ROBSON'S GROUP	No. CS in each group	Contribution of each group to overall CS rate
1	Nulliparous,single cephalic ,>37wksin spontaneouslabour	320	25.2%
2	Nulliparous ,single cephalic ,>37wks induced or CS before labour	195	15.4%
3	Multiparous(excluding previous CS),single cephalic ,>37wks in spontaneouslabour	71	5.6%
4	Multiparous(excluding previous CS),single cephalic ,>37wks ,induced or CS before labour	41	3.2%
5	Previous CS ,single cephalic,>37wks	433	34.2%
6	All nulliparous breech	48	3.7%
7	All multiparous breech(including previous CS)	30	2.3%
8	All multiple pregnancies(including previous CS)	27	2.1%
9	All abnormallie(including previous CS)	26	2.05%
10	All single cephalic ,< 36wks (including previous CS)	75	5.9%

Table 4

Primary Section Rate	Secondary Section Rate
59.9%	40.1%

Discussion

The increase in CS rate is attributed largely to CS in group 5, followed by group 1, 2. We propose that future effort to reduce over all CS rate should be focused on: reduce primary CS rate in single cephalic, full term pregnancy which in turn will reduce number of pregnant women with previous CS. Increasing vaginal birth after CS.

As compared to the global accepted rate for LSCS as 10-15%, there is an increased rate.

When the rate of primary c-section are higher there is a rise in repeat section also.

- The rise of obstetrics ultrasound, antenatal-intrapartum CTG, doppler flow studies of the fetal physiology, more cases of doubtful fetal asphyxia are being picked up, prompting the obstetrician to bend towards c-section.
- Medicolegal litigation and fear of law suits in the event of any perinatal deaths or morbidity is forcing many obstetricians to opt for c-section as a defensive medical pratice.

- With the results of 'Term breech trail', it has now become a universal rule to perform c-section for breech presentation. (10)
- Cases with co-morbid medical conditions like preeclampsia, gestational diabetics, IUGR are rising which require c-section for preventing perinatal mortality and morbidity. (11)
- Failure on the part of obstetrician to wait for sufficiant length of time after inducing labour.
- Antenatal women and their families themselves opting for c-section as a part of auspicious time of baby birth in preference to vaginal birth.
- Urban women not willing to undergo the trauma of labour pains, prefering to have an elective section by their choice even if obstetrician is willing to perform vaginal delivery.

Recommendations for Safe Prevention of Primary C-Section. (9)

In First Stage of Labour

Prolonged latent phase (eg, greater than 20 hours in nulliparous women and greater than 14 hours in multiparous women) should not be an indication for cesarean delivery. Slow but progressive labor in the first stage of labor should not be an indication for cesarean delivery.

Cervical dilation of 6 cm should be considered the threshold for the active phase of most women in labor. Thus, before 6 cm of dilation is achieved, standards of active phase progress should not be applied.

Cesarean delivery for active phase arrest in the first stage of labor should be reserved for women at or beyond 6 cm of dilation with ruptured membranes who fail to progress despite 4 hours of adequate uterine activity, or at least 6 hours of oxytocin administration with inadequate uterine activity and no cervical change.

Second stage of labour

A specific absolute maximum length of time spent in the second stage of labor beyond which all women should undergo operative delivery has not been identified.

Before diagnosing arrest of labor in the second stage, if the maternal and fetal conditions permit, allow for the following:

At least 2 hours of pushing in multiparous women. At least 3 hours of pushing in nulliparous women.

Longer durations may be appropriate on an individualized basis (eg, with the use of epidural analgesia or with fetal malposition) as long as progress is being documented.

Operative vaginal delivery in the second stage of labor should be considered a safe, acceptable alternative to cesarean delivery. Training in, and ongoing maintenance of, practical skills related to operative vaginal delivery should be encouraged (4), (12).

Induction of Labour

Cervical ripening methods should be used when labor is induced in women with an unfavorable cervix.

Before 41 0/7 weeks of gestation, induction of labor generally should be performed based on maternal and fetal medical indications. Inductions at 41 0/7 weeks of gestation and beyond should be performed to reduce the risk of cesarean delivery and the risk of perinatal morbidity and mortality.

If the maternal and fetal status allow, cesarean deliveries for failed induction of labor in the latent phase can be avoided.

Twin Gestation

Perinatal outcomes for twin gestations in which the first twin is in cephalic presentation are not improved by cesarean delivery.

Conclusion

Every effort should be made to provide c-section to women in need. When c-section are effective in saving maternal and infant lives, in indicated cases, they may have a short term and long term morbidities when done indiscriminatedly.

WHO proposes the Robson's classification as a global standard for assessing, monitoring and comparing c-section rates within healthcare facilities overtime and between facilities in near future. WHO expects that this classification will help healthcare facilities to:

- Optimize the use of CS by identifying, analysing & focusing interventions on specific groups of particular relevance for each healthcare facility.
- Assess the effectiveness of strategies or interventions targeted at optimizing use of CS.
- Assess the quality of care, clinical management practices & outcome by group (6).

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