

INDICATIONS OF CAESAREAN ACCORDING TO ROBSON'S CRITERIA

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Abstract

Introduction: There has been an increase in rate of caesarean section over past five decades. This is matter of public health concern as it increases the caesarean section related maternal morbidity and mortality. As advised by WHO guidelines and US health initiative C-section rate should not beyond 15%. According to NHFS-4 C-section rate in India 17.2%. The aim of present study aimed to assess the rate of CS and perform an analysis based on Robson classification system.

Methods: In present study all the cases delivered by caesarean section during period of six months were recorded. Data were collected from medical records of women who delivered from October to March 2021. They were classified according to Robson's 10 group classification system. This was an attempt to see which relevant group contributed most to the c-section rates. **Results:** There was a trend of increased percentage of caesarean section in group 5 patients in present study. Poor tolerance to pain and increased rate of previous c-section contributes to this.

Conclusion: We should make use of vaginal delivery after caesarean section but not at the cost of maternal and fetal health. These target groups require more in depth analysis to identify modifiable risk factors and apply specific intervention to reduce cs rates.

Keywords: Indications, Caesarean, Robson's criteria.

Introduction:

There has been an increase in rate of caesarean section over past five decades. The World Health Organization advises that caesarean section rate should not be more than 15% (2). According to NHFS-4 C-section rate in India is 17.2% and according to reports in the literature, the global prevalence rate of c-section is around 15%. The increasing rate of c-section is a matter of international public health concern as it increases c-section related maternal morbidity and mortality. Hence, standardization of c-section indications using Robson criteria will aid in optimization of c-section use, assessment of strategies aimed to decrease in c-section rate and thus improve clinical practices and quality of care within health care facilities. (10)

Table 1: Classification of Caesarean Section According To Robson's Criteria

Groups	Robson's ten group classification
1	Nulliparous, single cephalic >37 weeks in spontaneous labour
2	Nulliparous, single cephalic >37 weeks induced or CS before labour
3	Multiparous (excluding previous CS), single cephalic, >37 weeks in spontaneous labour
4	Multiparous (excluding previous CS), single cephalic, >37 weeks, induced or CS before labour
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 weeks (including previous CS)

Aim and Objective

To classify caesarean section according to their causes

To identify rising cause of caesarean in our study

Material and Methods

A retrospective review of hospital records of women delivered by CS over a 6 month period (October 2020 to March 2021) was performed. The Robson ten group classification system was used to categorize women according to table no.1. The parameters considered according to criteria are as below:

Parity (with/without previous cs)

Gestational age (<36 or >36 weeks)

Fetal presentations (cephalic/breech/abnormal lie)

Number of fetuses (single/twins)

Onset of labour (spontaneous/induced)

Exclusion Criteria

Any vaginal delivery (term normal vaginal delivery/assisted breech/instrumental/VBAC)

Cases of hysterectomies and ruptured uterus

Results

Data collected was analysed using simple statistical methods like percentage and proportion. The total number of deliveries were 2824 during this study period in this institute including 894 Caesarean sections. So, caesarean

rate in present study is 31.65%. Out of 894 patients who have CS 44.96% were nulliparous and the rest were multiparous. The 894 patients who underwent CS, 92.5% were term and 7.04% were preterm. In this study 1.3% of patients had multiple pregnancies and the rest had singleton pregnancies. The 894 patients who underwent CS were classified into RTGCS, 293 patients fell into group 5 which contributed to 32.7% of total caesarean sections. The second highest contributor group 2 (nulliparous women, more than 37 weeks, induced labour) contributed 21.7% of overall caesarean sections (8).

Other groups who underwent CS were in ascending order: group 1 (13.1%), group 3 (9.84%), group 10 (7.04%), group 6 (5.92%), group 4 (5.2%), group 7 (2.6%), group 8 (1.39%), group 9 (0.2%). In this study the commonest indication for C-section is previous LSCS in labour (32.7%), followed by fetal distress (18.4%), and meconium-stained liquor (13.4%). Out of 894 patients who underwent LSCS, 78 were elective caesarean sections (8.7%) and the rest were emergency C-sections. As we observed in this study, the rate of caesarean section in our hospital is 31.65%, which is quite higher than that considered by WHO (15%). The caesarean rate was 16.4%

in 2013-2014 in India. This is a rise to 17% in the present study, confirmed by NHFS-4. Kant *et al.* (2018) study, out of 531 deliveries, 286 were C-sections and 245 were vaginal deliveries while the rate of C-section was 53.86%. Shankar P *et al.* (2019) study showed that C-section rate was 36.75%. It has also been observed from other studies conducted by Ray *et al.*, Yadav *et al.*, Prabhavathi *et al.* and Arpita Y Reddy that previous LSCS is the most common indication for caesarean section (6,7,8). Vogel *et al.* analyzed the contributions of specific groups through Robson's 10 group classification system in 2 WHO multi-country surveys and concluded that the proportion of women with previous caesarean section has increased along with the caesarean section rate in these women as we see in the present study. (4) In the present study, group 2 is the second major contributor for CS rate (21.7%). The commonest indication in this group was fetal distress and meconium-stained liquor. Similarly, the use of induction and caesarean section after induction in multiparous women has also increased according to them. In the present study, also group 5 and 2 had an increased caesarean section rate when compared with 1 and 3 respectively.

Table 2: showing distribution of caesarean section indications and its percentage

Indication	No. of mothers	Percentage
Previous cs	293	32.7%
Fetal distress	165	18.4%
MSL	120	13.4%
Breech	77	8.6%
CPD	65	7.2%
Failed induction	87	9.7%
NPOL	73	8.16%
Obstructed labour	13	1.45%
Abruptio placenta	16	1.78%
Placenta previa	24	2.68%
Cord prolapse	02	0.2%
Transverse lie	1	0.14%
Multiple pregnancy	12	1.34%
Total	894	100

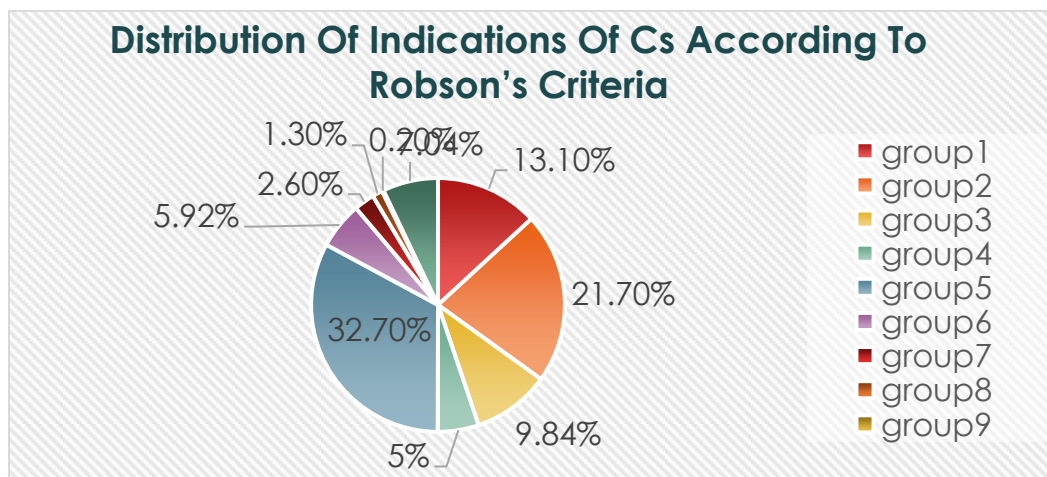


Figure 1: chart showing indication of caesarean section according to Robson criteria

Discussion

Over the years there is steady increase in trends of surgical delivery in India as well as across the globe. As per latest data (national family health survey 2015-2016 (NHFS-4)), the caesarean rate of population in India is 17.2%. Surgical delivery being associated with increased morbidity and mortality of mother and baby. However earlier no standard classification system was available to identify the characteristics of women like to undergo surgical delivery and thereby prevent it. Robson 10 group classification system for classifying the women undergoing CS is well accepted internationally and is used for comparison purpose.

The high cesarean section rate in the institution is attributed by the women with previous cesarean section, single, cephalic, >37 weeks i.e., group 5 with 32.7% and nulliparous, single, cephalic, >37 weeks in spontaneous labour i.e., group 1 with 13.1% and nulliparous single, cephalic >37 weeks, induced or cesarean section before labour i.e., group 2 with 21.7%. Group 10 is (single, cephalic, including previous CS with gestational age <36 weeks) also responsible for a significant amount cesarean sections performed in this population (7.4%). Being the tertiary care center the hospital receives more of referrals which explains the high cesarean section rate. WHO proposes that at a population level cesarean section rates higher than 10% are not associated with reductions in maternal and new-born mortality rates

The limitations of this study, as such are the limitations of Robson's ten group classification system. It does not classify caesarean sections done for specific conditions like major degree placenta previa and those done for maternal request. It also does not classify caesarean sections done for medical, other obstetric complication in the mother and those CS done for fetal indications e.g. Anhydramnios. As the present study has audited only indications for CS, it was unable to analyze the total number women in that group and the overall percentage of women in that group requiring CS versus those who had vaginal delivery which would have added more meaning to study.

Conclusion

The Robson 10-group classification system is easy to use and helps us to identify the target groups responsible for the rising trend of caesarean section. This helps us to reanalyse our protocols and to plan new strategies to reduce the caesarean rate. The major contributing groups for CS were Group 5 (previous LSCS) and Group 2 (nulliparous, >37 weeks, single, cephalic, induced or CS before labour). The commonest indication for primary caesarean section was fetal distress and meconium stained liquor. After analysis of CS rates in the study hospital, authors

recommend trial of labour after caesarean section (TOLAC) for women to avoid unnecessary C-section. with previous LSCS, who consent for vaginal delivery providing close maternal and fetal monitoring. As fetal distress is one among the common indication for primary caesarean section and electronic fetal monitoring is the norm, it is important that all obstetricians in the institute are well trained in interpreting of cardiotocography (CTG). Further, the art of assisted vaginal breech delivery and external cephalic version is lost and should be revived with regular skill workshop.

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