

A Prospective Study of Caesarean Delivery Rates on the Basis of Robson's Criteria in a Tertiary Care Hospital

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Abstract: *Over the last five decades there has been an increase in caesarean delivery rates throughout the world going up to 50 to 60 % in many centers. Of the many proposed classification systems WHO and FIGO have identified Robson's Ten Group classification system (TGCS) to be the most appropriate classification system to be used globally for monitoring, comparing and understanding caesarean rates over time and between different institutions. The objectives of study were- To classify the caesarean section according to their causes To identify and audit the rising causes of caesarean in our scenario. To standardize the indications of caesarean delivery.*

Keywords: Caesarean delivery, Robson's criteria, prospective study, tertiary criteria hospital

1. Introduction

Over the last five decades, there has been an increase in the cesarian delivery rates throughout the world going upto 50-60 % in many centres. It is well known that an increase in cesarian deliveries does not necessarily improve maternal and neonatal outcome. However the number of maternal and neonatal complications has huge economic fallout. With the WHO focus on reducing cesarians, it has been recommended to classify all delivering women in a uniform, standard, reliable grouping system. Of the many proposed classification systems, WHO and FIGO have identified Robson's Ten Group Classification System (TGCS) to be the most appropriate classification system to be used globally for monitoring, comparing and understanding cesarian rates over time and between different institutions.

The objectives of study were:

- 1) To classify the cesarian section according to their causes
- 2) To identify and audit the rising causes of cesarian in our scenario
- 3) To standardize the indications of cesarian section

2. Materials and Methods

The present study was carried out retrospectively over a period of 16 months from November, 2018 to February, 2020 in the department of obstetrics and gynaecology, SKIMS Medical College Hospital, Bemina, Srinagar, Jammu and Kashmir, India. All data was retrieved and entered in a preformed structured performa.

Inclusion criteria

Patients delivered by cesarian section during the given period (Nov, 2018 to Feb, 2020) were recorded and classified according to Robson's 10 group classification system as given in table 1

The parameters considered were according to the classification system

- 1) Parity (with/without previous CS)
- 2) Gestational age (>37 / <36 weeks)
- 3) Fetal presentation (cephalic/breech/abnormal lie)
- 4) Number of fetuses (singleton/ multiple)
- 5) Onset of labour (spontaneous/ induced/ prelabour CS) (table 1)

Exclusion criteria

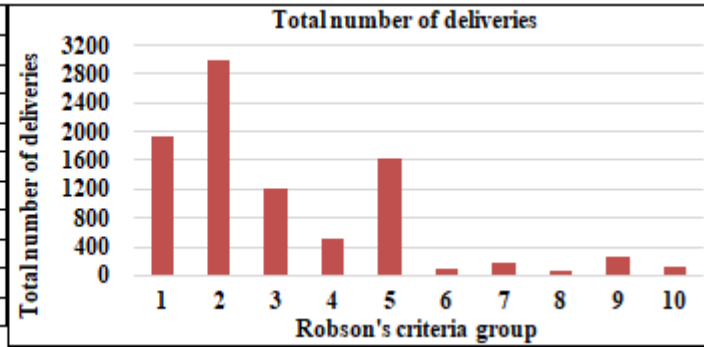
- 1) Term normal or instrumental vaginally delivered patients
- 2) Preterm normal or instrumental vaginally delivered patients

Data collected was analysed using simple statistical measures like percentage and proportion. Descriptive statistical analysis was done. The study was conducted after taking approval from institutional ethical committee.

3. Results

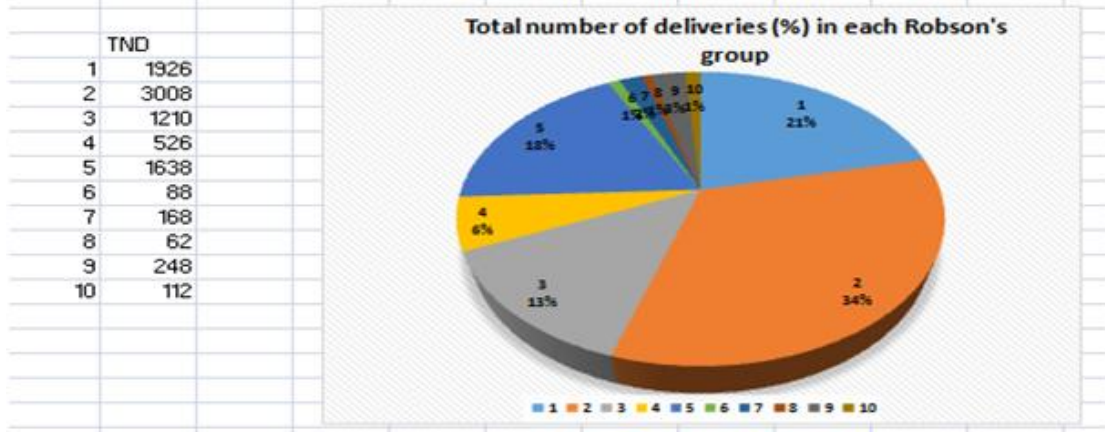
From November, 2018 to February, 2020 there were a total of 8986 deliveries, of which 3576 had cesarians accounting for an overall cesarian delivery rate of 39.80%.

RC	TND	TNCS	RS	CSR	CM
1	1926	504	21.43	26.17	14.09
2	3008	752	33.47	25	21.03
3	1210	24	13.47	1.99	0.67
4	526	40	5.85	7.6	1.19
5	1638	1624	18.23	99.14	45.41
6	88	88	0.98	100	2.46
7	168	144	1.87	85.71	4.03
8	62	56	0.67	90.32	1.57
9	248	248	2.76	100	6.93
10	112	96	1.25	85.71	2.68



When the data was analysed as shown in table;

RC	TND	TNCS	RS	CSR	CM
1	1926	504	21.43	26.17	14.09
2	3008	752	33.47	25	21.03
3	1210	24	13.47	1.99	0.67
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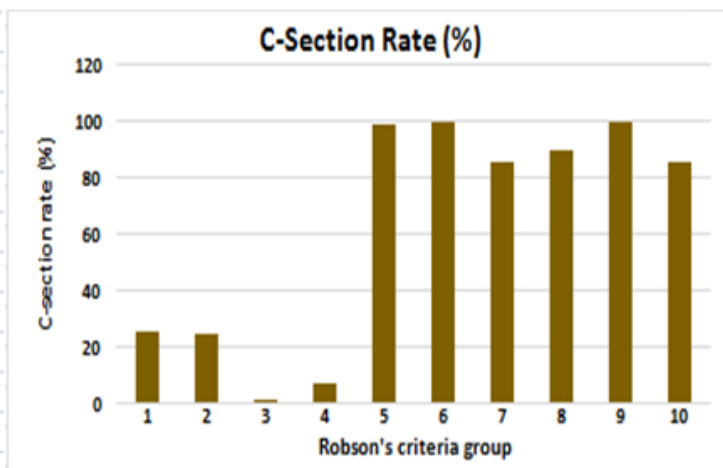


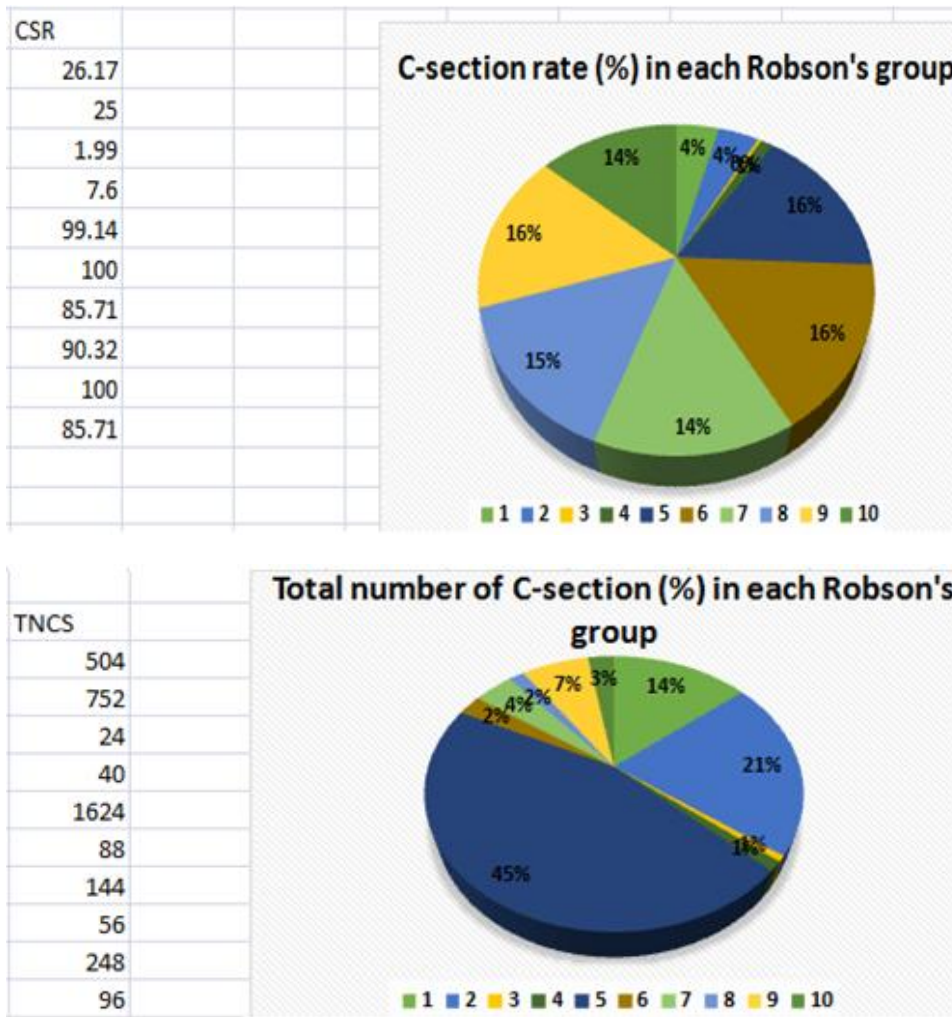
the maximum contribution of cesarian was through robson's group 2 that is nulliparous, singleton, cephalic, >/37 weeks, induced labour or cesarian section before labour

singleton, cephalic, >/37 weeks) and 2 (nulliparous, singleton, cephalic, >/37 weeks, induced labour or cesarian section before labour) which was 45.41% and 21.03% respectively. induction of labour increased the chances of cesarian section.

There was a trend of increased percentage of cesarian section in group 5 (multiparous with priop cesarian section,

RC	CSR
1	26.17
2	25
3	1.99
4	7.6
5	99.14
6	100
7	85.71
8	90.32
9	100
10	85.71

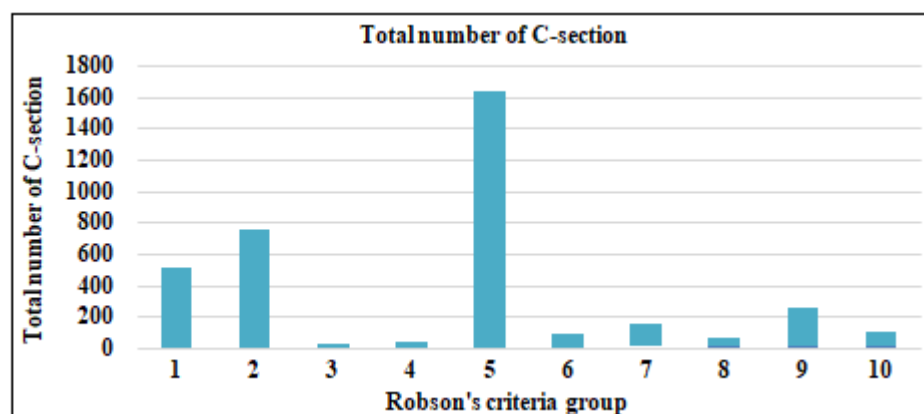




The cesarian delivery rate in group 2 is high, suggesting a slightly high pre- labour cesarian delivery rate. The group 4 cesarian delivery rate is pretty standard, reflecting a more balanced ratio between the induction of labour and pre-labour cesarian delivery rates. There was an increased contribution of cesarian section by group 5, which shows

that rate of cesarian section increases in patients with previous cesarian section. Although these patients were offered trial of labour, yet the rate of refusal by these patients for trial of labour was high.

RC	TNCS
1	504
2	752
3	24
4	40
5	1624
6	88
7	144
8	56
9	248
10	96



4. Discussion

Standardization and classification of cesarian deliveries was done for the first time in our department according to Robson's criteria. This was an attempt to see which clinically relevant groups contributed most to the cesarian deliveries. As we observed in present study, the rate of

cesarian section in our hospital (39.80%) is quite higher than what has been considered by WHO the cesarian section rate depicted in year 2013-14 in India was 16.4%. this rose to 18% in 2015-16 when a health survey was conducted by national family health survey. The average cesarian rate in asian countries (27.3%) was much lower when compared with USA (31.1%)

Voget et al analysed the contributions of specific groups through Robson's 10 group classification system in 2 WHO multi- country surveys and concluded the proportion of women with previous cesarian section has increased along with the cesarian section rate in these women as we see in present study. Similarly, the use of induction and pre-labour cesarian section and cesarian section after induction in multiparous has also increased according to them.

Hence, the need of the hour is to firstly limit induction of labour. It should be strictly evidence based. Secondly, we should critically evaluate on daily basis the indication of primary cesarian section.this will not only decrease the cesarian section in nulliparous but will also eventually decrease cesarian section in multiparous with previous cesarian section. The hospital where this study was conducted was a tertiary care centre where there is a large number of referred high risk cases. There is an increase in trend of cesarian section on maternal request.

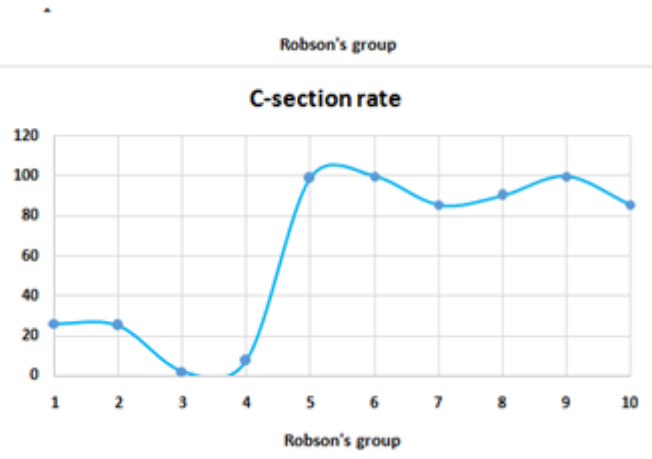
Also, we need to reduce the number of cesarian deliveries in primiparas and make judicial use of vaginal birth after

cesarian sections but not at the cost of health of mother and baby.

ACOG recently recommended clinical guidelines to restrict the number of cesarian deliveries which are non-medically indicated and induction of labour before 39 weeks of gestation. Efforts to reduce such births should include awareness to public, reducing unindicated induction before 39 weeks certain changes and standardization in the departmental policies. Increasingly sedentary lifestyle and poor tolerance to pain are adding to CSMR ratio.

Authors should judiciously make use of vaginal birth after cesarian deliveries but not at the cost of maternal or fetal health. Standadrization of indication of cesarian deliveries, regular audits and definite protocols in hospital will aid in curbing the cesarian section rate in hospital. This will definitely aid in decreased maternal morbidity associated with cesarian delivery rates, reduce the hospital stay and in turn improve the economy. At the same time, one should make every effort to provide the cesarian delivery to the woman in clinically indicated need rather than to achieve a specific rate.

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2	25
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5	99.14
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7	85.71
8	90.32
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10	85.71



HL	Total number of deliveries	Total number of L-section
1	1926	504
2	3008	752
3	1210	24
4	526	40
5	1638	1624
6	88	88
7	168	144
8	62	56
9	248	248
10	112	96

