International Journal of Clinical Obstetrics and Gynaecology

Dr. Pooja Deodhar
Associate Professor (Obs -Gynaec Dept.) Amaltas Institute of Medical Sciences Dewas Indore, Madhya Pradesh, India

Study to analyze and classify caesarean section rate according to modified Robson's 10 group classification at tertiary care hospital

Dr. Pooja Deodhar

Abstract
Objective: Caesarean section has become the most commonly performed operation since last four decades. There is no justification for caesarean delivery rate higher than 10-15% according to WHO. In our study we took help of Modified Robson's criteria to analyze the indication of caesarean section rate of Amaltas Institute of Medical Sciences, Dewas.
Result: Of the 100 patient who underwent LSCS in 4 months study maximum number belonged to group 5 with 44 LSCS, 28 of group 5A and 16 of group 5C.The second major group was 2B with 16 patients. The third group consisted of 12 patients of group 1.There were equal number of patients in group 2A and 6C.
Conclusion: Modified Robson's classification is an easy measure to classify all caesarean section. The results are comparable due to standardization.
It helps in reassessing induction protocols, management to reduce LSCS, and bringing it down to global achievable rates.

Keywords: Modified Robson's criteria, LSCS, tertiary care medical college

Introduction

Caesarean section has become the most commonly performed operation since last four decades. WHO has recommended that there is no justification for caesarean section delivery rate higher than 10-15% [1]. The rising trend can be seen from the data that it was 5-15% from 1940's to 1980's but in the last two decades there has been 30% rise in caesarean section rate worldwide [2]. The rise in CS rate could be attributed to the fact that women having fewer children, increased maternal age, use of electronic fetal monitoring, breech being delivered by CS, decrease in VBAC, elective Caesarean deliveries and so on [3]. An analysis of the indications of CS would help in reduction in CS rates. In 2011, WHO recommended ROBSON classification as the most appropriate system to fulfill global & local needs?

In our study we took help of modified ROBSON's criteria to analyze the indications of CS rates at our tertiary care medical college & hospital. An increase in the use of Caesarean section particularly in the public sector & in low-resource settings not only affects health services by increased rates of maternal/neonatal complications but also in economic terms [4].

Material and Methods

This is a retrospective study where CS of 4 months were taken into study from obstetric unit of obs-gynae department of AIMS Dewas. The overall CS rates, relative size of each group and relative contribution of each group to overall CS rate were calculated. The study population included all alive births and attributes of at least 20 wks gestation at AIMS Dewas.

Results

Of the 100 patients who underwent LSCS in the four months study, maximum number belonged to group 5 with 44 LSCS, 28 belonging to group 5A i.e. previous caesarean section, singleton cephalic, $\geq$ 37 weeks with spontaneous labor and 16 belonging to 5C i.e. previous caesarean section, singleton cephalic $\geq$37 weeks with caesarean section before labor. The 2nd major group was formed by 2B i.e. multipara singleton cephalic > 37 weeks with caesarean section before labor number of patients being 16. 3rd consisted of 12 patients belonging to group 1 i.e. nullipara, singleton cephalic $\geq$ 37 weeks with spontaneous labor. THERE were equal no of patients in group 2A nullipara singleton cephalic, $\geq$37 weeks, induced labor & 6C- all multiparous breeches caesarean section before labor the number being 10 for each group.

Correspondence
Dr. Pooja Deodhar
Associate Professor (Obs -Gynaec Dept.) Amaltas Institute of Medical Sciences Dewas Indore, Madhya Pradesh, India

Minimum number of patients belonged to 10(C) i.e. all singleton cephalic ≤36 weeks (including previous caesarean section) with caesarean section before labour i.e 8

Table 1: Numbers of patients

Group	No. of CS
1) Nullipara, singleton cephalic,>37 weeks, spontaneous labour	12
2) Nullipara, singleton cephalic,>37 weeks	26
A) Induced	
B) C.S before labour	
3) Multipara, singleton cephalic,>37 weeks, spontaneous labour	
4) Multipara, singleton cephalic,>37 weeks	
A) Induced	
B) C.S before labour	
5) Previous C.S, singleton cephalic,>37 wks	
A) Spontaneous labour	44
B) Induced labour	
c) C.S before labour	
6) All nulliparous breeches(including previous C.S)	
A) Spontaneous labour	10
B) Induced labour	
C) C.S before labour	
7) All multiparous breeches(including previous C.S)	
A) Spontaneous labour	
B) Induced labour	
C) C.S before labour	
8) All multiple pregnancies(including previous caesarean section)	
A) Spontaneous labour	
B) Induced labour	
C) C.S before labour	
9) All abnormal lies(including previous Caeserean section but excluding breech)	
A) Spontaneous labour	
B) Induced labour	
C) Caeserean section before labour	
10) All singleton cephalic,<36wks(including previous Caesarean section)	
A) Spontaneous labour	8
B)Induced labour	
C) Caesarean section before labour	
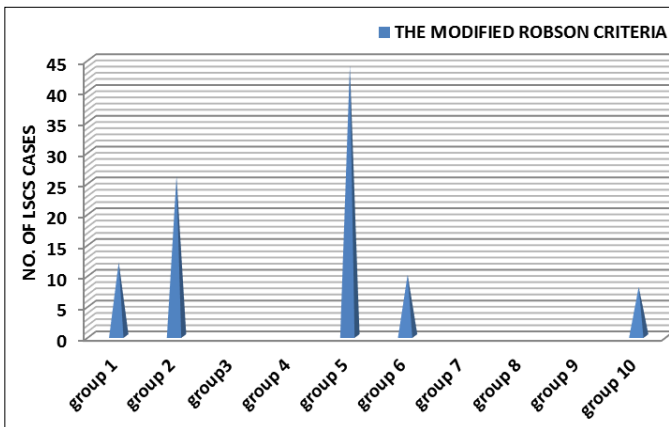
Graph 1: Showing indication of LSCS according to Modified Robson's criteria.

Discussion
With the help of modified ROBSON's classification, we can identify the main contributing group, thus formulizing the plan of management to reduce the caesarean rate.

In our study, maximum number of cases fell in previous CS group, ie 28 having spontaneous labour pains and 16 having caesarean section before labour. Hence measures to reduce primary caesarean section by reassessing the cases would reduce the number of repeat caesarean section. This is similar to other studies such as by Ray et al [5]. Similar findings were noted by Kazmi et al, Litorp et al and Tanaka et al.

The 2nd major group in our study was group 2B with 16 cases. Probable reason being that this is a tertiary centre with high risk cases being referred in large numbers. Cases such as pre-eclampsia/ eclampsia, diabetes mellitus, following infertility treatment like IVF pregnancies increase the number of cases in this group.

The third group is formed by group 1. This also suggests that in tertiary care hospital it is quite difficult to reduce the rate of caesarean section in this group as the majority of such cases are high risk being referred from periphery [9].

Next in our study, equal number of cases were shared by 2A & 6C. In this group we can reduce the number of caesarean section by carefully selecting patients for induction of labour. Study by Aan M et al [10] revealed induced primigravidas as the major contributor of primary section. Reassessing the labour induction protocols might further help in reducing the number of primary LSCS.

Breech also contributes significantly to the number of primary caesarean section. Sneha et al [9] suggests promotion of ECV for breech and twin vaginal deliveries.

Conclusion
Modified ROBSON's classification is a very easy measure to classify all caesarean sections. Last data can be compiled into small groups for easier study for any institution. The results are also comparable due to standardization. Classification and indications allows evaluation and comparison of the contributors to the caesarean section rate and their impact. It helps us in reassessing the induction protocols management of labour to reduce the number of LSCS and bringing down the number to global achievable rates.

References
1. Appropriate technology for birth Lancet. 1985; 2(8452):436-437.
2. National institute of health state of the science conference statement. Caesarean delivery on maternal request. Obstet gynaecol. 2006; 107(6):1386-1397.
3. William's textbook of obstetrics.
4. Grytten J, Monkerud L, Hagen TP, Sorensen R, Eskild A et al. The Impact of hospital revenueon the increase in caesarean sections in Norway. A panel data analysis of hospitals 1976-2005.BMC Health serv res. 2011; 11:267
5. Ray A,Jose S Analysis of caesarean section.
6. Kazmi T, Saiseema SV, khan S. analysis of caesarean section rate according to Robson's 10 group classification, oman med j. 2012; 27(5):415-7.
7. Litorp H, Kidanto HL, Nystrom L, Darj E, Essen B. Increasing caesarean section rates among low risk groups ;a panel study classifying deliveries according to Robson at a university hospital in Tanzania. Bio med centre pregnancy childbirth. 2013; 13:107.
8. Tanaka K, Mahomed K. The ten group robson classification; a single centre approach identifying strategies to optimize caesarean section rates. Obstet Gynecol int, 2017, 5648938.
9. Davey MA, king J. caesarean section following induction of

labor in uncomplicated first births a population based cross sectional analysis of 42950 births. Bio med central pregnancy childbirth. 2016; 16:92.

10. Dhodapkar SB, Bhairavi S, Daniel M, Chauhan NS, Chauhan RC. Analysis of caesarean sections according to Robson's ten group classification system at a tertiary care teaching hospital in south India. Int J Reprod contracept obstet gynecol. 2015; 4(3):745-9.