Rate of Caesarean Section in Robson TGCS-1 Pregnant Women in Public Versus Private Hospital in Chattogram : A Comparative study

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Abstract

Background: Pregnancy and its outcome of childbirth is a completely physiological process that is normal labour , during this journey there might some complication in that case Lower Segment Caesarean Section (LSCS) is a major obstetrics operation for saving the life of the women and newborns from birth related complication. Now a days rising trends of caesareansection are a major public health concern of potential maternal and perinatal risk. According to Robson 10 group classification try to evaluate the reasons of rising rates. This evaluation system were adopted Robson classification as the official name 'Robson TGCS' which was approved by WHO in October 2014.

The Robson classification system classifies all women of deliveries into ten group based on a set of predefined obstetric parameters. In RTGCS 1-includes Nulliparous women with a single cephalic pregnancy ≥37 weeks gestation in spontaneous labour.[1] Among this group some of the patients developed some complication and need caesarean section .In our country once the patient had an caesarean section then her subsequent pregnancies will delivered by LSCS. So, this study was designed of Robson TGCS 1 patient, to see the clinical profile, indication of primary LSCS between public versus private hospital in this city .

Materials and methods: A prospective observational study was designed between Chittagong Medical College Hospital (CMCH) and Surgiscope Hospital Private Limited (SHL) 50 patients of RTGCS 1 from each of the hospital from May 2022-October 2022.

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Results: In CMCH – patients admitted into labour pain with complication 37(74%), but in SHL it is 7(14%). In CMCH 13(26%) admitted without complications whereas in SHL 34(86%).In CMCH - normal vaginal delivery + instrumental deliveries were 17(34%), and in SHL it is 36(72%). Rate of caesarean section in CMCH 33(66%) but SHL 14(28%). The most commonest indication of caesarean section due tofetal distress in CMCH 11((22%), in SHL 7(14%). In SHL there are 4(8%) were CDMR (Caesarean delivery for maternal request) but none of the patients with CDMR were in CMCH underwent caesarean section .

Conclusion: Our main objective is to reduce the rate of primary LSCS among RTGCS 1. Every intervention have some complication. so, we have to ensure appropriate care during antenatal care and intranatal monitoring thus can reduce the rate of primary caesarean section.

Key words: Pregnancy; Primary caesarean section; Robson TGCS.

Introduction

Pregnancy is essential for the propagation from generation to generation.[1] At the end of the pregnancy women's gives childbirth spontaneously which is a physiological process. Normal vaginal delivery is safe for the mother and baby. During the process of delivery there might be some complication that need delivery by caesarean section. Caesarean section is the major obstetric intervention for saving the life of women and their newborns from pregnancy and childbirth related complication.[2] In cases where spontaneous vaginal deliveries are not possible or contraindicated, avoiding caesarean section may endanger the life of the mother and fetus. However, it is also a reality that caesarean sections are also done on ill-defined indication or vague indication for prolonged labour, obstructedlabor, with intact membranes and labor dystocia. Caesarean sections are a lifesaving procedure, but these are not without risks attached in terms of present and future pregnancies. There are some common short and long-term complications associated caesarean section and increases chances of maternal   morbidity   and   mortality,

increases requirements of blood transfusion, prolonged hospital stay, postpartum infection, retainedplacenta, stillbirth and postpartum hemorrhage. This indicates if not chosen rightly, some women may have needless exposure to these complications while contrary to this, some women might not be getting caesarean section when they are in real need. caesarean section rates are comparatively higher among women's who are educated, belonging to the urban area or those who have rich socioeconomic status. In rural areas, unavailability of access to appropriate health care facilities, lack of health education and quality antenatal care,staff and equipment also have been found to be leading to increases maternal morbidity and mortality. Now a days rising trends of caesarean rates are a major public health concern causing worldwide debates because of potential fetal and maternal risk. In October 2014, WHO converted a panel of experts, this panel decided to adopt Robson classification as the official name of this classification 'Robson TGCS'.[3]

The Robson classification system classifies all deliveries into 10 mutually exclusive and totally inclusivegroups based on a set of predefined obstetrics parameters.[4] These includes parity, previous caesarean section,onset of labour , foetal presentation, number of foetuses and gestational age .According to the classification RTGCS -1 includes nulliparous women with a single cephalic pregnancy >37 weeks of gestation in spontaneous labour.[5] In our countryonce the patient had a caesarean section then her subsequent all pregnancies will be delivered by caesarean section due to lack of proper intranatal support. So it's the time to utmost trying to reduce the rate of primary caesarean section such as to reduce maternal morbidity and mortality by using TRGCS -which is the tool to enhance vaginal birth. So our study will design of Robson TGCS -1 patient to see the clinical profile, proper assessment, appropriate monitoring, follow labour ward protocol based intrapartum care thus ensuring vaginal deliveries and real indication of caesarean section between two different setting and compare of intrinsic factors of hospital factors and infrastructures (Public versus private hospital).

Table I Robson Ten Group Classification system[2]

Group 1	Nulliparous women with single cephalic pregnancy ≥37 weeks gestation in spontaneous labour
Group 2	Nulliparous women with single cephalic pregnancy ≥37 weeks gestation who either had labour induced or were delivered by caesareans section before labour
Group 3	Multiparous women without a previous uterine scar, with single cephalic pregnancy ≥ 37 weeks gestation in spontaneous labour
Group 4	Multiparous women without a previous uterine scar, with single cephalic pregnancy ≥ 37 weeks gestation who either had labour induced or were delivered by caesareans section before labour
Group 5	All Multiparous women with atleast one previous uterine scar, with single cephalic pregnancy ≥ 37 weeks gestation
Group 6	All mulliparous women with a single breech pregnancy
Group 7	All Multiparous women with a single breech pregnancy including women with previous uterine sears
Group 8	All women with multiple pregnancies including women with previous uterine scars
Group 9	All women with a single pregnancy with a transverse or oblique lies including women with previous uterine scars
Group 10	All Women with a single cephalic pregnancy < 37 weeks gestation including women with previous scars.

Materials and methods

This prospective observational study was conducted at the Department of Obstetrics and Gynecology in Chittagong Medical College Hospital (CMCH) and Surgiscope Hospital Private Limited (SHL) Chattogram during the period from May 2022 -October 2022. 50 pregnant women of RTGCS -1 from each of the hospital who underwent caesarean section during the specified study period. Informwritten consent was taken from all the study participants. For all women enrolled, maternal history, clinical examination, management outcome and maternal and fetal outcomes at discharge were recorded. All the study information was noted on a predesigned proforma.

Inclusion criteria
All women who underwent caesarean section with RTGCS,group 1.

Exclusion criteria
Women with RTGCS 2-10, of pregnant women.

After data collection- data was checked and verified. Then data was analyzed with the help of the scientific calculator and presented by chart, table and diagrams. All collected data were analysed using SPSS V.23. Before started the study, necessary permission was taken from the authorities.

Results

During this study Table II shows that the mean age of these two different hospitalsis almost equal, in CMCH age of the patients are 17-31 years average age is 21 and in SHL age is 22-35 years and average is 26 years. Table III shows that regarding their socioeconomic status 66% of patients were poor and 34 % of patients from lower middle-class family among the study population of CMCH and in SHL 56% patient from middle class and 42 % from affluent family. Some of the patients were afraid of their labour pain so caesarean section was done due their request, which is 29% in private hospital, none of the public hospital.

In CMCH -patient admitted into first stage of with complication 37(74%), but in SHL it is 7(14%). In CMCH 13(26%) admitted without complication whereas in SHL 34(86%). In CMCH Normal vaginal deliveries +Instrumental deliveries were 17(34%) and in SHL it is 36(72%). Rate of caesarean section in CMCH 33(66%) but in SHL it is 14(28%). The most commonestindication of caesarean section is foetal distress, in CMCH 11(22%), in SHL 7(14%). In SHL there are 4(8%) were CDMR (Caesarean delivery for maternal request) but none of the patients with CDMR were in CMCH underwent caesarean section .
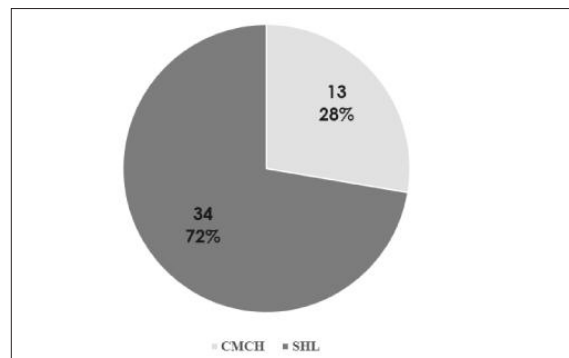
Table II Age of the patient

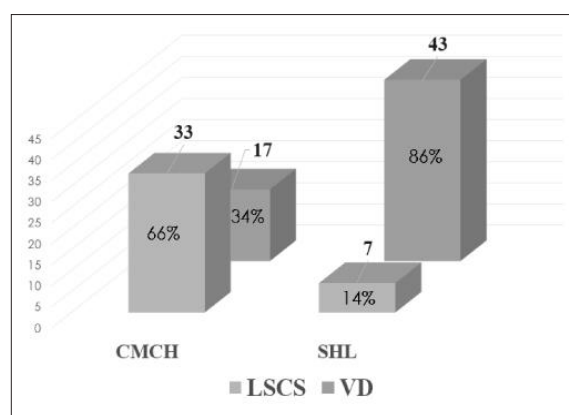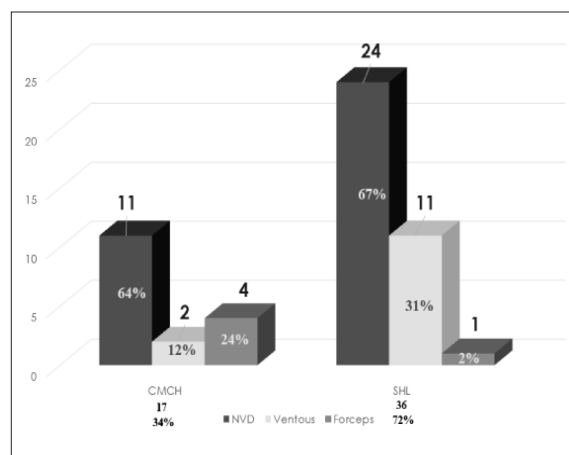| Age (Years)	CMCH	SHL
Mean	21	26
Range	17-31	22-35
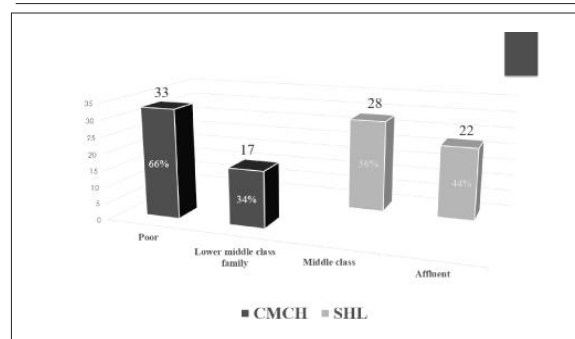
Figure 1 Socioeconomic status
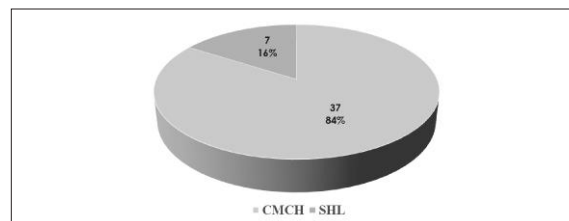
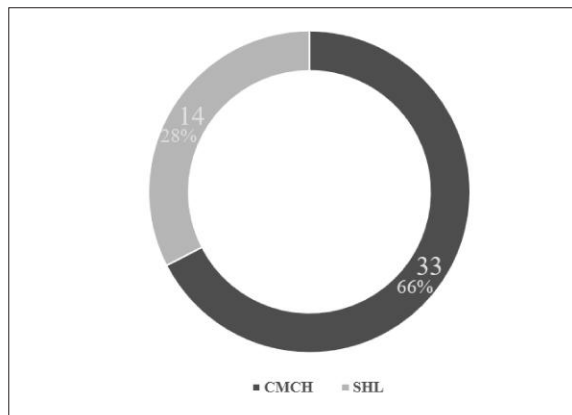**Figure 2** Patient admitted with complication

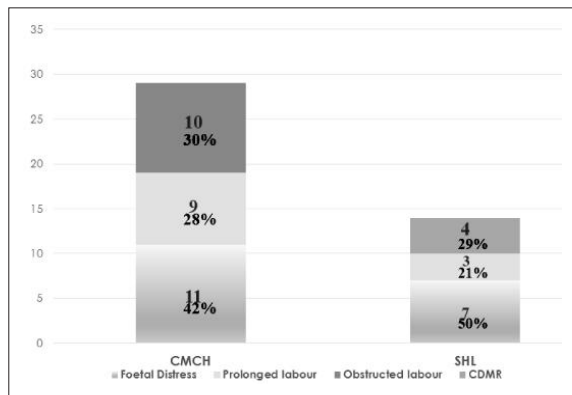**Figure 3** Patient admitted without complication

Figure 4 Mode Delivery

Figure 5 Mode of Vaginal Delivery

Figure 6 Rate of caesarean section

Figure 7 Indication of casarean section

Discussion

Another reason there is a big gap between the correlation of antenatal care and intranatal care, not such strong records those who are admitted into CMCH.

There are lots of discrepancies between the patients' profile and cost also. In comparison with CMCH in the SHL-where patients from higher socioeconomic status with quality antenatal care and they can manage properly during intranatal monitoring like trial of labour with appropriate judgement and clinical monitoring that's why rate of primary caesarean section in nulliparous patient is lower than the CMCH.

The Robson ten group classification system (RTGCS) categorizes the women into 10 mutually exclusives group, considering the following criteria: obstetrics history (Parity and previous caesarean section), onset of labour (Spontaneous, induced or caesarean section before the onset of labour) foetal presentation, lie (Cephalic, breech, transverse) number of foetuses and gestational age (Preterm, term).[6]

TGCS is universally accepted, and the results are internationally comparable. The TGCS uses the entire relevant patient characteristics to classify the patients into ten mutually exclusive and inclusive groups i.e. Every pregnant patient will be classified into one and only one group.[7]

In study by Dhodapkar SB et al 8367 (32.6%) women delivered by caesarean section among group 6 and 7 patient.[8] All patients with breech presentation and abnormal lie delivered by caesarean section was the highest contributor to all caesarean deliveries. But in our study it is a comparative study where we want to show how many womens of group 1 population had underwent caesarean section, which is the major contribution of primary caesarean section specially in tertiary care hospital as well as private hospital, According to the literature review most of the study among 10 group where they find out the highest rate of caesarean section in which group of RTGCS, but our study is a comparative study but none of the study were comparative.[9] In our study 66% of patients were delivered by caesarean section in CMCH and 14% were in SHL. Dogra K et al. noted that out of total 1302 women delivered, 395 underwent caesarean section (30.3%).[10] The major contribution to overall caesarean section rate is 33.4% by group 5 followed by 16.1% by group 1, 12.4% by group 3 here some similarities with our study. In study by Hiralal Konar et al. caesarean rate was 43.13% (735 out of 1704 deliveries).[11] Not only the largest group of relative size 649 (38.08%), but the Robson group 1 also had CS rate of 41.75% (271/649), as well as the largest absolute number of caesarean deliveries.[12,13] Group1 made the largest contribution (271) to the overall CS rate (15.9%) recognization of its advantages and simplicity, WHO and the International Federation of Gynecology and Obstetrics (FIGO) recommended the Robson classification system as the global standard for assessing, monitoring and comparing CS rates among nations and within institution over time, and between institution regardless of their level of complexity. Regarding group 1 and 2 obstetric units should critically address certain issues such as induction of labour, failure to progress and fetal heart rate concern which are very much related to rising CS rate in

unscarred pregnancies. Evidence based recommendation is needed regarding the same. A better effort in reducing relatively preventable primary caesarean section need enforcement which includes preventing failed induction by a better induction protocol, allowing vaginal birth by primary caesarean section, wait for spontaneous onset of labour for up to 41 weeks and the induction and practicing external cephalic version for breech presentation and transverse lie, use of low forceps or ventose for second-stage delay, allow the second stage 3 hours in nulliparous before staying arrest in the second stage. Respectmaternity care and proper counselling of the patient and encourage them for vaginal deliveries.

Increasing CS rate among women with breech presentation is a common phenomenon particularly since the publication of the term breech trail. Groups 6 and 7 consist of women with breech presentation and showed high CS rate.[14,15] Despite the criticisms of the term breech trail, many hospitals have been reluctant to offer vaginal breech birth. Evaluation of existing management protocols and further studies into indications of caesarean section and outcomes are needed to design tailored strategies and improve outcomes. The Robson 10 group classification is a widely accepted, risk-based, ten-group classification system developed specifically to assess caesarean section rates.[16,17] Quality antenatal counselling have an impact on labor process and possible intrapartum birth experiences that prevent unnecessary caesarean section.

Limitation

● Conducted in a tertiary level hospital which is the largest catchment population and a private hospital where some rich educated populations. Socioeconomic status is different.

● Single hospital (with large burden of referral cases) doesn't appropriately compare with a single private hospital. It needs 3-4 private hospital statistics.

● 50 patients can be easily taken from CMCH but it is difficult to collect it from single private hospital with this study period.

● Most of the women were reffered cases with underlying complication and may not be generalized to general population.

Conclusion

In this small group study, we try to analysis the actual indication of caesarean section between two different health centre, public versus private medical centre. In private hospital caesarean section rate is almost half of the public hospital there are lot of discrepancy of patient'sprofile, antenatal and intranatal care and cost also. Our main objectives to reduce the rate of caesarean section and RTCGS 1 is our most contributory factors for the primary caesarean section. Awarness with appropriate care thus can reduce the rate of primary caesarean section and ensure healthy mother, healthy baby and healthy universe.

Recommendation

Large sample size study to be performed to find the actual scenario of the country.

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