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Original Research Article

Changing trends of indication of caesarean section

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ABSTRACT

Background: Percentage of previous C-section undergoing repeat section is close to 90%-92%, morbidity associated with repeat surgery is bringing an altogether new set of challenges for the upcoming future obstetricians. Object of this study is to highlight high incidence of repeat section required and also growing new indications of C-section due to advanced availability of investigative tools.
Methods: Retrospective study of 500 patients who underwent C-section and their indications from April 2019 to July 2019 in Govt Doon Medical college, Dehra Dun.
Results: Out of total 500 C-sections carried from April 2019 to July 2019, patients with previous section were found to undergo a repeat C-section in 95% of the cases. Another common indication being oligohydramnios followed by cephalopelvic disproportion and failed induction.
Conclusions: After assessing the results it is hereby concluded that the commonest indication of C-section in present time is having a previous C-section, which alarms us to take careful judicious decision in performing primi C-sections in order to prevent patients into entering a vicious cycle of repeat surgeries.

Keywords: Indications for C-section, Previous C-section, Rising C-section rates

INTRODUCTION

FIGO world congress in October 2018 was an eye opener revealing doubling of C-section rates from year 2000.[1] It was also observed that no concomitant decrease in maternal/Neo natal morbidity and mortality. C-section with absolute indications are off course unavoidable but patients with relative indications should be judiciously selected and preventing them from surgery. Primary C-section indications have to be assessed very carefully and if possible, avoided so as to decrease probable C-Section in next pregnancy.[2]

This awareness amongst health care professionals needs a massive drive and movement to achieve motivated obstetricians who understand its implications.

Presenting data of changing trends of indication of C-section will definitely impact us for an inner introspection. Relative indications like fetal macrosomia (suspected), mild to moderate CPD, failed induction are few indications needing judicious decision and revision. Maximum monitoring and avoiding first C-section if possible, should be the policy to avoid getting caught in the vicious circle of repeat surgery often done prophylactically to avoid complications. Previous C-section is fast becoming the top most indication of caesarean.[3]

METHODS

This was a retrospective study of 500 C-section patient in GDMC, Dehradun from April 2019 to July 2019. The overall C-section rates at the centre being about 25%-30% as it is a referral centre. The distribution of patients has been according to age, parity, H/o previous surgery and according to indication for C-section.

This study was conducted over a period of four months from April 2019 to July 2019 in Government Doon

Medical College, women hospital on 500 pregnant women requiring caesarean section. It is a protocol of department of obstetrics and gynecology that all pregnant women who are taken up for caesarean section are documented well in data registers in detail regarding their diagnosis, patient details, indication for caesarean section along with high risk factors and parity. A total of 500 caesarean section were conducted in this time period of study. This is as per records maintained in department of obstetrics and gynecology, this hospital being a tertiary centre had done proper documentation of data with the help of residents. Relevant collected was classified according to age, gravida, previous C-section and also according to Robsons Criteria for caesarean section separately.

RESULTS

Patients have been tabulated as following according to age, parity, prior C-section and indication for C-section.

Table 1: Distribution of patients according to age.

Age	April	May	June	July
Less than 20 years	5	2	3	1
20-29 years	116	127	134	35
30-40 years	15	26	30	6

As authors see that maximum number of patients fall in the age group of 20-29 years in this institution.

Table 2: Distribution of patients according to gravida.

Gravida	April	May	June	July
Primi	40	45	43	10
G2	54	69	76	21
G3	30	36	33	9
G4	7	4	11	2
G5	3	1	2	0
G6	1	0	2	0
G7	1	0	0	0

It's observed from this table that maximum number of patients are either primi or second gravida.

Table 3: Distribution according to previous C-section.

Surgery	April	May	June	July
Prev. 1 C-section	43	56	78	15
Prev. 2 C-section	11	14	19	5

In this table patients with previous surgery have been segregated into women having one previous surgery and women with previous two caesareans. From this Table 4 it is observed that maximum number of caesareans have been done for previous C-section patients, almost 95% and rest 5% patient present in advance labor who ended in VBAC with no complications. Next leading indication is oligohydramnios followed by mal presentations and fetal distress/failed induction.

Table 4: Distribution according to indication of cesarean.

Indication	April	May	June	July
CPD	22	9	9	4
Malpresentation (includes breech)	12	18	16	4
Fetal distress	12	29	15	5
Previous C-section	53	70	100	18
Non progress labor	7	4	3	1
Oligohydramnios	17	14	10	4
Failed induction	3	3	4	0
Sev. PIH	3	4	3	1
Multiple pregnancy	3	1	-	-
Contracted pelvis	2	1	4	2
BOH	2	-	-	-
APH	-	2	3	3

Table 5: Classification of cesarean according to modified Robson's classification (total no. of C-section = 500).

Groups	Number (%)
Nullipara, spont. labour, ceph, singleton preg >37 weeks	52 (10.4%)
Nullipara, singleton preg >37 weeks, ceph	48 (9.6%)
*Induced	28
*C-Section before labour	20
Multiparous, single, cephalic, >37 weeks, spont. Labour (excluding previous CS)	50 (10%)
Multiparous, single, cephalic, >37 weeks, (excluding previous CS)	50 (10%)
*Induced	20
*C-Section before labour	30
Previous C-section, singleton, cephalic, >37 weeks	241 (48.2%)
*Spontaneous	39
*Induced	10
*C-Section before labour	192
All nullipara breeches	20 (4%)
All multipara breeches	26 (5.2%)
All multiple pregnancies	4 (0.8%)
All abnormal lies excluding breech	4 (0.8%)
All single cephalic <36 weeks (including previous CS)	5 (1%)

DISCUSSION

The above results reveal the rising trend of repeat C-section because of previous caesarean. India along with South Asia has shown rise in C-section rates from 7%-18% in overall deliveries. America and Europe have

shown 24%-44% rates regarding C-section. Lowest increasing rates are seen in sub Saharan Africa which is 3%-4% in past 10 years.[3] Indian trend of C-section rates are about 24% in primi and 15% in multipara. The govt sector has shown about 12% -18% while private sector has shown 35%-40% rates.[4]

Previous C-section is fast becoming the most common indication for caesarean. In US C-section rates rose from 20%-32% from 1996 to 2015. The rate was same for many years before 1996 due to more practice of VBAC and primi C-section being the major contributor in number of caesareans.[5]

A study in Gujarat published in 2017 comparing rates in tribal and non-tribal population with equal exposure to maternity facilities concluded that later community shows more rates of C-section. There was 60% difference in C-section rates between them and previous caesarean section contributed 96% of it.[6]

In 2014, American college of obstetrics and gynecology and society for maternal fetal medicine jointly published document revising definition of clinical latent and active phase.[7] Failed induction and arrest of labor needs concrete and not vague definition. Cervical dilatation of 6 cms was observed to be demarcating point of active labor in a study of 60,000 labors. Criteria set for defining first stage arrest was 6 cms dilatation, ruptured membranes, 4 or more hours of adequate contraction with no cervical dilatation. Failed induction is 24 hours of oxytocin with ruptured membranes (artificial) if fail.[7,8]

A distinctive finding is that women having previous C-section are increasingly important determinant of overall C-section rates, in developing countries. This has been associated with increase in maternal mortality and morbidity. Anesthesia risk in a laboring woman deserves attention. PPH, Urological complications, infections and pulmonary embolism are major immediate complications.

Complications like hemorrhage, uterine rupture, shock, cardiac arrest, thromboembolism, infections, hematoma were increased three-fold in caesarean deliveries as compared with vaginal. Serious consequences in future pregnancies also show increased incidence of placenta previa, accreta, rupture of uterus and hysterectomy occasionally. Although initial caesarean has been seen with increase in morbidity and mortality but repeat C-section has still higher risk. Fetal complications are prematurity which sometimes iatrogenic, respiratory distress is and cross infections in hospital are common.

Recommendation to reduce primary C-section[9]

- Mid wife led care helps women to allay their fear of labor pains. This issue was observed by Ingela Wiklund from Karolinska institute Stockholm, Sweden
- Prevention of 1st caesarean to reduce overall caesarean rate
- Relative indications which are modifiable have to be closely scrutinized like CPD, failed induction, mal presentations and arrest of labor
- Patience is necessary to allow normal labor on part of obstetrician and patient herself
- Second opinion for decision of C-section in primi is always desirable.

WHO recommendation to minimize avoidable C-section

- Alteration in reimbursement model for doctor and hospitals which favor vaginal delivery
- Use of clinical guidelines
- Audit of C-section
- Equal amount to be paid for C-section and vaginal delivery in cash incentive schemes like Janani Suraksha Yojana in India
- Second opinion for indication of caesarean section.
- Advocacy on collaborative midwifery - obstetrician model.

FIGO recommendations[10]

- Publishing annual C-section rates by hospitals
- Recommendation of equal fees for C-section and vaginal delivery
- Hospital should follow uniform classification for C-section (Robson/WHO classification).

In the present study, authors observed that maximum number of patients fell in the reproductive age group of 20-29 years (Table 1), and were mainly primi and second gravida (Table 2).

The patients having previous C-section formed considerable large group (Table 3). It is observed that when caesarean sections were distributed according to indications only, previous C-section was again the main contributor (Table 4).

In 2001, Robson's criteria was introduced, which is a well-designed classification system (10 group classification).[11] This helps to ascertain which group is contributing maximum to indications of caesarean section. In this study, the finding that group 5 is contributing maximally to indications of C-section (Table 5). Once a caesarean, almost always a caesarean holds true in our study. McCarthy FP et al, also found in their study of 5833 women in Australia and found that women group 5 were single greatest contributor to both elective and total C-section rate.[12]

Similar trend was also reported by Tapia 5. et al, in Peru where the caesarean section rate was 27% and yearly increase in overall C- section rate from 2000-2010 from 23.5% to 30%.[13] The contribution was mainly from multiparas with scarred uterus.

CONCLUSION

On the basis of this study it can be concluded that repeat C-section is becoming the top most indication for caesarean, which could be due to apprehension on part of obstetrician and patient to avoid possible complications during vaginal deliveries. The risk-taking capacity for VBAC in such patients goes down even more if inadequate monitoring equipment or availability of health care professional. Another factor is the non-acceptance of any complication in VBAC by the patient and attendants. Rise in placenta acreta and percreta is also being documented in various studies in previous C-section cases with anterior placenta. Not many patients can afford MRI investigation in developing world which further causes apprehension to obstetricians dealing with such cases.

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