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MATERNAL OUTCOME OF PREGNANT WOMEN WITH ROBSON CLASS 2 LSCS

Obstetrics & Gynaecology

Dr. Falguni Patel Associate Professor, Obstetrics And Gynaecology Department, Government Medical College, Majura Gate Surat

Dr. Urvi patel 3rd Year Resident, Obstetrics And Gynaecology Department, Government Medical College, Majura Gate Surat

Dr. Nilam Prajapati Associate Professor, Obstetrics And Gynaecology Department, Government Medical College Surat

ABSTRACT

Introduction: Caesarean section continues to rise globally and accounting more than 21 % of all childbirths as per WHO data. We did this study to analyses indications of Robson class 2 LSCS and observe maternal outcome of these subjects .so we can standardize our protocols to decrease primary Caesarean rate at our institute. **Aims And Objectives:** To analyze the maternal outcome in patients with Robson class 2 Caesarean section. **Materials and Methods:** An observational prospective study was conducted collecting data of 400 consecutive consenting subjects admitted in tertiary health care center New civil Hospital, Surat, South Gujrat over period of FEBRUARY 2024 to MARCH 2025. The total of 400 patients with ROBSON CLASS 2 LSCS were included in the study after applying inclusion and exclusion criteria. **Results:** Majority of patients belonged to age group of 18-25 years (62.40%). Majority of the patients were from normal BMI (72%), secondary education (72 %). Majority of our subjects belongs to 39-40 week (40 %) . Majority of our subjects had mild anemia 78% . Majority of our subjects had normal AFI 59.8%. and 160 subjects had oligohydramnios. In our study induction of labour require 56%. Majority of our subjects induction was done with mechanical + Dinoprostone gel 78%. Most common indication of LSCS after induction of labour were fetal distress 35%. Most common indication of LSCS before onset of labour were CPD 45%. 44 % subjects LSCS done before onset of labour. In our study subjects 27 had past history of conceived by ovulation induction method, 24 subjects had past history of PCV transfusion, 13 subjects had history of fever. 85 % subjects had induction to baby delivery interval 12- 24 hours. Most common caesarean section complication postpartum hemorrhage. **Conclusion:** In our study we find that among total number of deliveries 14.12% accounting for Robson class 2 LSCS. To decrease primary Caesarean section rate, we need to standardize our protocol for induction of labour, we need to strengthen our antenatal counselling and prepare mother for natural birthing, relieve their anxiety about normal delivery and explain about caesarean section long term and short-term complication

KEYWORDS

INTRODUCTION

Caesarean section (CS) continues to rise globally and accounting more than 21 % of all childbirths as per World Health Organization (WHO) data. Caesarean section can be essential lifesaving surgery it can put women and babies' unnecessary risk of short term and long-term health problems. WHO consider ideal Caesarean section rate between 10-15%.

Current Caesarean Section Data Worldwide.

[1]Total 154 countries with CS rate in 2010 or later. we observed that global CS rate was 21.1% (2018 data)with averages of 8.2%, 24.2% and 27.2 % respectively.

Current Caesarean Section Data In India [1]

In India, Caesarean delivery rate is 21.5%. According to National Family Health Survey (NFHS), Caesarean delivery rates have increased, 8.5% in 2005-2006, 17.2 % in 2015-2016 and 21.5 % in 2019-2021. High Caesarean delivery rates in private hospital contributes to rising rates of Caesarean delivery in India.

NFHS data in 2019-2021 showed 21.4 % of all institutional deliveries and 47.5 % of Caesarean delivery are performed in private hospital. Highest Caesarean delivery rates were in southern state of Telangana (60.7 %), Tamil Nadu (44.9%) and Andhra Pradesh (42.4%), whereas lowest Caesarean delivery rates in Nagaland (5.2%) , Meghalaya (8.2%), Bihar (9.7%). In Gujarat Caesarean delivery rate was 2.7% in 1992-1993 which increased to 18.4% in 2015-2016 [2]

WHO made classification system to monitor and compare Caesarean section rates across hospitals, countries, and continents, to help and understand where it necessary to reduce caesarean section rate. This classification should help to understand which group of women undergo CS and give reason for rising trends. It should be applicable internationally, reliable and verifiable, clinically relevant, consistent and also helpful for implementing strategies, targeting high risk groups and then possibly reduce or increase CS rates in order to improvement maternal and fetal wellbeing. Robson classification is a tool focusing on parity, gestational age and previous CS, onset of labour. This classification form 10 groups, which is mutually exclusive and totally inclusive. Robsons classification were aid to optimization of CS rate, assessment of strategies aimed to decrease CS rate and improve the clinical practices and quality of care in various health care facilities .

Increase in Caesarean section rates present an issue of concern across many countries. Considering risk with Caesarean section, it is essential to obtain detailed information on medically approved indication that led to Caesarean delivery rather than vaginal delivery. CS also has short term and long-term complication like any other surgeries, that may present immediately or later after current Caesarean delivery like organ injuries, nerve and vessel injuries, hemorrhage and blood transfusion, postoperative fever and infection, prolonged hospital stays and readmission . So, prevention of unnecessary CS can protect mother from adverse effects and complication of unnecessary surgical procedures.

Robson Class 2 : Nulliparous women with single cephalic pregnancy, > 37 weeks gestation who underwent LSCS after labour induction or before labour, in which class 2a- LSCS after labour induction, class 2b – LSCS before onset of labour.

We did this study to analyze indications of Robson class 2 LSCS and observe maternal outcome of these subjects so that we can standardize our protocols to decrease primary Caesarean rate at our institute.

MATERIALS AND METHODOLOGY

Study Setting: Department of Obstetrics and Gynecology, GMCS, GUJARAT

Duration Of Study: February 2024 to March 2025

1. Inclusion Criteria :

- Patients ≥18 years of age
- All the women with Robson class 2 LSCS.
- Patients willing to give written informed consent for the study

2. Exclusion Criteria

- All the patients with Robson class other than class 2LSCS
- Non consenting women .

3. Measuring Tools: Age, parity, socioeconomic status, education,

antenatal check- ups, latency period, past history, risk factors.

4. Outcome Variables
- Period of gestation
- Caesarean section
- Maternal complications
- PPH , wound sepsis, bladder and bowel injury , extension of uterine incision, hematoma

5. Brief Methodology :
All women with Robson class 2 caesarean section in tertiary health care center of South Gujarat were enrolled in this study . All mothers and babies were followed till discharged from hospital .

All data related to maternal and fetal outcome were collected from case records of mother in structured proforma .

This data was analyzed by appropriate statical test .

6. Ehical Aprroval :
Ethical approval was granted by Human Resource Research Committee, confidentiality was maintained.

RESULTS:
The maternal and fetal outcome of Robson class 2 LSCS was analyzed in relation to age, parity, socioeconomic status, antenatal care, gestational age, parity, past obstetric history, associated risk factors, OBICU admission and Caesarean section complication. Table 1 shows various demographic variables and its relation in patients with Robson class 2 LSCS .

Majority of the patients with Robson class 2 LSCS were in the age group 18-25 years (62.40%). Majority number of cases were from urban area (68%), all number of cases were seen in primigravida. Maximum number of cases (84%) occurred in 39 to 40+6 weeks Majority of our subjects had normal AFI 59.8%. and 160 subjects had oligohydramnios. Majority of our subject's induction of labour require 56%.Majority of our subjects induction done with mechanical + Dinoprostone gel 78%.38% subjects LSCS done after first induction while 46% subjects LSCS done after 2nd induction and 16% subjects LSCS done after 3rd induction.

Most common indication of LSCS after induction of labour were fetal distress 35%. Most common indication of LSCS before onset of labour were CPD 45%.44 % subjects LSCS done before onset of labour. Majority of our subjects 27 had past history of conceived by ovulation induction method, 24 subjects had past history of blood transfusion., 13 subjects had history of fever.85 % subjects had induction to baby delivery interval 12- 24 hours.

Table 1: Demographic Characteristic

Demographic Characteristics	Number	Percentage
Age (years)		
18-25	248	62.40
26-30	132	32.48
>30	20	4.86
Area wise distribution		
Urban	272	68.0
Rural	128	32.0
Gestational age (weeks)		
37 to 38+6	80	20
39 to 40+6	160	40
41 to 41+6	140	35
42 beyond	20	5
Significant Past History		
PCV transfusion	24	6
Conceived by ovulation induction method	27	6.7
Fever	13	3.2
Classification of Robson class 2 LSCS		
LSCS after induced labour	223	56
LSCS before onset of labour	177	44
Method of induction		
Mechanical + dinoprostone gel	173	78
Dinoprostone gel	50	22
Misoprostol	0	0
Induction to delivery interval		
1-12 hrs	11	5
12-24 hrs	190	85
>24 hrs	22	10
Number of inductions		
One time	86	38
Two times	102	46
Three times	35	16
Maternal complications and interventions		
PPH	23	
Wound sepsis	4	
Uterine incision extension	4	
Bladder injury	1	
Broad ligament hematoma	3	
Blood transfusion	25	
Maternal hospital stay		
1-3 days	24	6
4-7 days	362	90
>8 days	14	4
Anemia		
Mild (HB-10-10.9 gm %)	256	78.50
Moderate (HB-7-9.9 gm %)	139	20.25
Severe (HB-<7 gm%)	5	1.25
Distribution according to amniotic fluid index		
1 to 2 cm	35	8.8
2 to 4 cm	125	31.3
5-15 cm	240	59.8

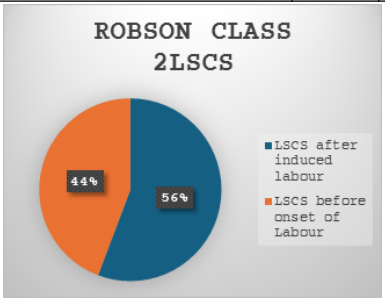

Figure:1 Two types of robson class 2 lscs

Majority of our subjects had LSCS after induced labour 56 %. And 44 % subjects had LSCS before onset of labour.

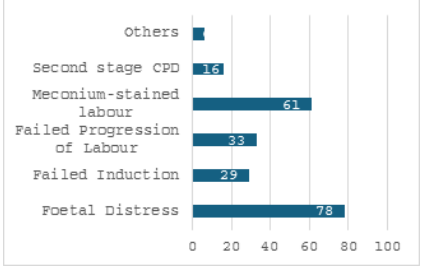

Figure :2 (a) Indication of LSCS after induction of labour

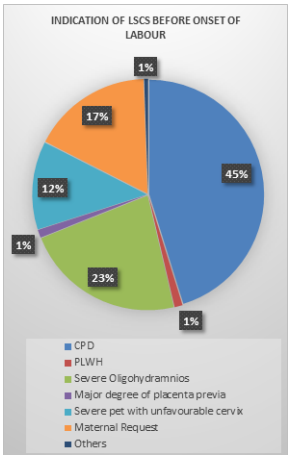

Figure 2 (b): Indciation lscs before onset of labour

Table 3: Association Between Two Types Of Robson Class 2 Lscs And Maternal Morbidity

ROBSON GROUP	MATERNAL MORBIDITY	Percentage
Class 2 A Induced labour	22	5.5
Class 2 B LSCS before onset of labour	13	3.2

According to TABLE 3 class 2 A induced labour associated with increase in maternal morbidity.

DISCUSSION :

This study is an observational study conducted among 400 patients with ROBSON class 2 LSCS admitted to Department of Obstetrics and Gynaecology, NCHS. Most of the subjects (62.40%) belonged to age group of 18-25 years. Most of our subjects are coming from urban area 68 %.Most of our subjects are secondary educated 72.0% . Most of our subjects are belongs to normal BMI 72% . Overweight and obese population had increase risk of caesarean section and higher risk for caesarean section complication like wound infection , longer duration of stay, endometritis and DVT. (zaheera Sadiya)[7] All of subjects were primigravida. Majority of our subjects belongs to (39-40 week) 40 %. Majority of our subjects had mild anemia 78%. Majority of our subjects had normal AFI 59.8%. and 160 subjects had oligohydramnios. Majority of our subject's induction of labour require 56%. Majority of our subjects induction done with mechanical + Dinoprostone gel 78%. 38% subjects LSCS done after first induction while 46% subjects LSCS done after 2 Nd induction and 16% subjects LSCS done after 3 rd. induction. Duration of induction and dose of dinoprostone gel association with increase incidence of LSCS (Patidar bl et al)[3]

Most common indication of LSCS after induction of labour were foetal distress 35% , failed induction of labour 13%, failed progression of labour 15%, compative to (Patidar bl et al study)[3] fetal distress 33% , failed induction of labour 12%, failed progression of labour 45%. Most common indication of LSCS before onset of labour were cpd 45% in our study. comparative to Singh et al study 29% were cpd. IN our institute patient was given option for vaginal delivery trial for severe oligohydramnios but subject choose to caesarean section to avoid risk of meconium stained labour that higher with trial of labour .commonest reason for maternal request indication before labour were fear of labour pain and precious ivf pregnancy , avoid pelvic trauma and cord of loop around neck . In our study 44 % subjects LSCS done before onset of labour. Majority of our subjects 27 had past history of conceived by ovulation induction method, 24 subjects had past history of pcv transfusion., 13 subjects had history of fever. 7 % subject conceive by infertility treatment the probable change in this trend due to ovulation induction with great expenditure in time ,energy, and money that all stressful factor and advanced maternal age lead to more chances of elective caesarean section in primiparous women .(maria dagla et al)[6] 85 % subjects had induction to baby delivery interval 12-24 hours. Comparative to Patidar bl et al study were 26 % had 1-12 hours and 73% had 12-24 hours duration of induction. Majority of our subjects had 90 % had 4-7 days hospital stays, 6% of our subjects had 1-3 days hospital stays and 4% had >8-day hospital stays. In our study 56 % had LSCS after induced labour and 44 % had LSCS before onset of labour. Most common indication of obicu admission of our 14 subjects were severe pet and antepartum eclampsia, 7 subjects admitted for sickle cell disease, 5 subjects admitted for ventilatory support, 2 subjects admitted for antepartum hemorrhage. most common LSCS complication are atonic uterus 19 subjects. 4 subjects had wound sepsis and 1 subject had bladder bowel injury. Total 26 subjects had intrapartum complication and 9 subjects had postpartum complication. 30 subjects need blood transfusion in our study. Comparative to (Pallavi et al)8 study 46 subjects had PPH and 10 subjects had uterine artery ligation and 47 subjects had blood transfusion required and 34 subjects had wound sepsis and 57 subjects had uterine incision extention. according to comparative study women undergoing second stage of labour have increased fetal and maternal morbidity and require special care. hence appropriate selection of mode of birth should be decided carefully and judiciously to decrease maternal morbidity (Pallavi et al)

CONCLUSION

In our study we find that among total number of deliveries, 14.12% account for Robson class 2 LSCS. To decrease primary Caesarean section rate, we need to standardize our protocol for induction of labour, conduct periodic training of resident doctors in labour monitoring and interpretation of CTG in active phase of labour. We also need to strengthen our antenatal counselling and prepare mothers for natural birthing, give support to relieve their fear and anxiety about normal delivery and explain them about long term and short-term complications of primary Caesarean section. We shall give trial of labour in suspected case of CPD in primigravida. Anaemia and PPH were most common maternal morbidity in our study, so we also need to strengthen our treatment protocol for anaemia and postpartum hemorrhage**.**

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