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Primary cesarean section: A prospective cross sectional study

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Abstract

Background: The indications of primary caesarean sections have been undergoing a gradual change over the last few decades.

Besides the obstetric causes, several other medical, social, ethical, economic and medicolegal factors play an important role in the rising trend of caesarean section.

This study was conducted how to safely reduce the rate of primary caesarean section in both primiparous and multiparous women by analysis of its indications and to improve maternal and perinatal outcome.

Objectives

1. To study the indications for the primary cesarean section in (Emergency & Elective/obstetrical and non-obstetrical indications) in both primiparous & multiparous women.
2. To study the maternal and fetal outcome after primary cesarean section.
3. To curtail primary caesarean section in future by proper analysis of its Indications by conducting LSCS audit.

Material and Methods: This prospective Cross sectional study was carried out in a tertiary care hospital, Chennai between March 1, 2018 to February 28, 2019. This study includes both nulliparous and multiparous women who are undergoing caesarean section for the first time.

Results: Total number of deliveries during one year period was 6718. Total no of caesarean sections during that period was 3229. Total number of primary caesarean sections was 1970. During my study period Caesarean section rate was 48.06%. Primary caesarean section rate was 36%. There was no maternal mortality in our study. Most common maternal morbidities are Paralytic ileus and puerperal fever seen in 18 cases each. 252 (42%) babies were admitted in NICU. Most common indications for NICU admissions were meconium aspiration syndrome and low birth weight. Perinatal mortality in the study was 7.9%. Perinatal mortality was high in patients with antepartum hemorrhage.

Conclusion: Incidence of primary lscs was 36% at the 1st phase of study. By conducting LSCS AUDIT, pitfalls were identified during the 2nd phase, pitfalls are overcome by various training programmes and strict induction protocols in 3rd phase, at the end of the study during 4th phase we reduced the primary LSCS rate to 22%. And LSCSAUDIT is now ongoing to maintain and further safe reduction of primary caesarean section.

Keywords: Cesarean section, multipara, primi

Introduction

Primary cesarean section is defined as the cesarean section done for the first time in a patient. Caesarean delivery is one of the most commonly performed surgical procedure. The most common indications for primary cesarean sections include dystocia, fetal jeopardy, abnormal fetal presentation^[1].

Primary caesarean section rate has increased up to 25.4%, highest national rate ever reported^[2]. The indications for performing caesarean section have changed a lot in recent years and keep changing for varying circumstances. Delivery by caesarean section is associated with increase in maternal mortality and morbidity. It has also been well documented that rise in caesarean section rates is not responsible for dramatic improvement in perinatal mortality. The present study focuses on the indications for caesarean section in multiparous (who delivered vaginally earlier) and primigravida. The caesarean section done in the second stage will also be included for their maternal and fetal outcome.

Aims and Objectives of the study

- To study the indications for the primary cesarean section in both primipara and multiparous women.

- To study the maternal and fetal outcome after primary cesarean section in primipara and multiparous women.
- To curtail primary cesarean section in future by proper analysis of its indications by conducting LSCS audit.

Materials and Methods

Source of data

Patients admitted in Government Kilpauk Medical College, Chennai, undergoing primary cesarean section, between March 2018 and February 2019.

Study design

A prospective cross sectional study

On a decided proforma the age, socio economic demographic data, booking status of the patient etc. will be noted. General, systemic & obstetric examination findings will be noted. All relevant investigations such as Hb, Blood Group and Rh type, VDRL, HIV, HBsAg, RBS will be done. Ultrasound, fetal Doppler study will do whenever required. Indication for cesarean section along with maternal and fetal outcome also will be noted. Maternal Complications like postpartum hemorrhage, anemia, preeclampsia, hydramnios, antepartum hemorrhage, intrauterine growth restriction, neonatal morbidity like

meconium aspiration syndrome, asphyxia etc. were noted.

Inclusion criteria

- Patients undergoing primary cesarean section.

Exclusion criteria

- Gestational age of less than 28 weeks
- Underwent cesarean section in previous pregnancy, previous uterine surgery or hysterotomy.

Observation and Results

Table 1: Indications of primary cesarean section

Indications	Frequency	Percent
Fetal distress	196	32.7
CPD	134	22.3
Failed induction	93	15.5
APH	92	15.3
Oligohydramnios	21	3.5
Malpresentation	48	8
Obstructed labour	11	1.8
Deep transverse arrest	5	0.8
Total	600	100

Table 2: Fetal distress and neonatal outcome

Fetal distress	Total no. of patients	Apgar <7 at 5 min	No. of NICU admissions	Neonatal mortality	
				Stillbirth HS	Neonatal deaths
Abnormal CTG	80	32	41	4	2
Thin meconium stained liquor	55	9	15	1	0
Thick meconium stained liquor	25	18	25	3	2
Variations in hand held doppler	36	15	15	0	2
Total	196	74	96	8	6

Apgar score vs fetal distress $p=0.00003041$ significant

We found a statistical significance between fetal distress and low apgar score of the newborn with a p value= 0.00003041 . Majority of low APGAR babies in abnormal CTG group and THICK Meconium stained liquor group.

Nicu admissions vs fetal distress $P<0.0000001$ significant

We found a statistical significance between fetal distress and NICU admissions of the newborn with a p value of <0.0000001 . Majority of NICU admission babies are in the abnormal CTG group and THICK Meconium stained liquor group.

Neonatal mortality vs fetal distress $P=0.08013$ not significant

We found no statistical significance between fetal distress and neonatal mortality.

In our study, we concluded that abnormal CTG patients and thick Meconium stained liquor patients could have been given more attention and careful intrapartum FHR monitoring and early pickup of fetal distress and early decision making will improve neonatal outcome and prevent stillbirths and neonatal deaths

In the Thin Meconium stained liquor group, there is a significantly lower number of NICU admissions and low APGAR babies compared to Thick Meconium stained liquor and Abnormal CTG cases. So Thin Meconium stained liquor cases could have been given more time with proper FH monitoring before decision making will reduce the rate of primary caesarean section.

CTG was associated with higher rates of CS without proven benefits of perinatal outcome whereas intermittent auscultation with Doppler was associated with lower rates of cesarean section with comparable perinatal outcome.

Table 3: Indications of LSCS in maternal morbidity

Indications	Maternal morbidity		
	Paralytic ileus	Puerperal fever	Surgical site infections
Fetal distress	2	2	5
CPD	4	3	6
Failed induction	2	6	1
APH	1	1	3
Oligohydramnios	1	0	1
Malpresentation	2	2	1
Obstructed labour	4	2	5
Deep transverse arrest	2	2	3
Total	18	18	25

Paralytic ileus vs indications of cs $P<0.0000001$ significant

We found statistical significance between paralytic ileus and indications Majority of paralytic ileus cases due to CPD and obstructed labour

Puerperal fever vs indications of cs $p=0.00000817$ significant

We found statistical significance between puerperal fever and indications Majority of puerperal fever cases due to failed induction.

Surgical site infections vs indications of cs $p<0.0000001$ significant

We found statistical significance between surgical site infections and indications. Majority of Surgical Site Infections cases due to CPD and obstructed labour.

Table 4: Neonatal outcome

Neonatal outcome	Number
Live births	570
Term	426
Preterm	144
<34 weeks	66
>34weeks	78
Stillbirths	30

Table 5: Neonatal morbidity

Neonatal morbidity	Frequency	Percent
Pre term care	85	14.2
MAS	94	15.7
Birth asphyxia	45	7.5
IUGR	13	2.2
Sepsis	15	2.5
Total	252	42

Out of 570 live births 252 (42%) babies admitted in NICU and majority of them were for low birth weight and meconium aspiration syndrome.

Table 6: Perinatal mortality

Perinatal mortality	Frequency	Percent
Still Birth	31	5.2
Neonatal Death	16	2.7
Total	47	7.9

There were 31 (5.2%) stillbirths and 16 (2.7%) neonatal deaths.

Table 10: Perinatal mortality

Author	Percentage
Jacob <i>et al.</i> [5]	25.0%
Klein <i>et al.</i> [3]	11.6%
Kasturilal [7]	19.6%
Praag <i>et al.</i> [6]	7.1%
Sikdhar <i>et al.</i> [8]	13.5%
Our study	7.9%

Conclusion

This study was conducted under four phases with a duration of 3 months each.

Incidence of primary lscs was 36% at the 1st phase of study. By conducting LSCSAUDIT, pitfalls were identified during the 2nd phase, pitfalls are overcome by various training programmes and strict induction protocols in 3rd phase, at the end of the study during 4th phase we reduced the primary LSCS rate to 22%. And LSCSAUDIT is now ongoing to maintain and further safe reduction of primary cesarean section.

Indications

Most common indications are fetal distress (32.7%), CPD (22.3%), Failed induction (15.5%).

Maternal outcome

No maternal mortality in our study.

We found statistical significance between LSCS indications and maternal morbidity.

Most common maternal morbidities are paralytic ileus, puerperal fever and surgical site infections. Mainly maternal morbidities were due to second stage caesarean sections (Obstructed labour, deep transverse arrest) some of them are referral cases.

Early referral from Peripheral hospitals and use of real time partograph will help in early decision making for caesarean

Table 7: Causes for neonatal deaths

Cause	Number
Prematurity	09
Birth asphyxia	04
Meconium aspiration syndrome	03

Discussion

Primary caesarean section rate is one of the main indicators of quality of care in maternity hospitals. Lower rates reflect more appropriate clinical practice. The aim of this study is safe reduction of primary cesarean section rate by detailed analysis of its indications.

Cesarean section is not the panacea for all obstetric problems but it is an excellent solution when applied judiciously.

Table 8: Maternal morbidity and mortality

Author	Maternal mortality (%)
Klein <i>et al.</i> [3]	0.5
Sen [4]	2.12
Jacob <i>et al.</i> [5]	6
Our study	Nil

Table 9: Post-operative maternal morbidity

Author	Percentage
Jacob <i>et al.</i> [5]	18.6
Praag <i>et al.</i> [6]	10.4
Sen [4]	20.2
Our study	10.2

section and thereby helping in reducing the maternal morbidities.

Neonatal outcome

Perinatal mortality in our study was 7.9%.

This can be prevented by careful intrapartum monitoring, proper use of partograph, early pickup of fetal heart rate abnormalities and early decision making in high risk cases will improve the neonatal outcome in future.

Key factors to reduce primary cesarean section rate

1. Health education to antenatal mothers during her antenatal checkups like pre-pregnancy counseling, proper intake of nutritious food, Regular antenatal checkups, Antenatal classes like yoga, counseling regarding labour and breastfeeding will help them to progress for normal delivery.
2. By conducting LSCS AUDIT in our hospital we identify some pitfalls which can safely reduce the cesarean section rate without compromising maternal and fetal outcome.
3. Periodic academic update and training on the various pitfalls identified in the LSCS AUDIT will help in sustaining the reduction of cesarean section achieved.
4. Careful intrapartum monitoring with usage of continuous electronic fetal monitoring in high risk pregnancies will help in improving maternal and neonatal outcomes.

References

1. Cunningham F, Kenneth J, Steven L, John C, Larry C, Katherine D, editors. Cesarean delivery and peripartum hysterectomy. In: Williams Obstetrics, 25th edn. McGraw hill medical publishers 2018, P567-603.
2. Oumachigui Asha. Rising rates of caesarean section: the way ahead. Indian J Med Res 2006;56(4):298-300.
3. Klein D, Rymonds R, Gabaeff L. Primary cesarean section in multipara. Am J Obstet and Gynecol 1963;87:242-52.
4. Samir Prasad Sen. Primary cesarean section in multipara. J Obstet Gynecol India 1967;17:523-29.
5. Sarah I, Jacob, Hitesh. Primary cesarean section in multiparous women. J Obstet Gynecol India 1972;22:642-50.
6. Praagh V, Tovell M, Herald M, Ian G. Primary cesarean section in the multipara. Obstet Gyneacol 1968;32:813-17.
7. Kasturi Lal. Primary caesarean section in grand multipara. J Obstet Gynecol India 1972;22:651-54.
8. Sikdar K, Modak G. A clinical study of grand multiparas. J Obstet Gynecol India 1980;30:603-08.