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FETOMATERNAL OUTCOME IN CESAREAN SECTIONS DONE AT FULL DILATATION

Obstetrics & Gynaecology

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ABSTRACT

Background: In recent years, a decline in the rate of operative vaginal delivery and increase in stage second cesarean sections has been noted. In addition to being technically more challenging than cesarean sections done during first stage, maternal and fetal complications are greater as the head may be deeply impacted in the pelvis, liquor is less and lower uterine segment is thinner. A retrospective cross-sectional study was conducted by collecting data from birth registries and hospital records. **Materials and Methods:** A total of 58 cases of cesarean sections at full dilatation were performed during this period which was analyzed. Out of 58 patients, 44(75.9%) were primigravida and 14(24.1%) were multigravida. The mean age of study population was 28.33 ranging from 20 to 38 years. Majority of patients were in ≥25 and < 30 year age group. **Results:** Maternal complications in the form of intraoperative hemorrhagic urine was found in 8(13.8%), extension of uterine incision in 2(3.4%), postpartum hemorrhage in 8(13.8%), postoperative fever in 8(13.8%), distension in 12(20.7%), prolonged catheterization in 21(36.2%), prolonged hospitalization in 12(20.7%) Neonatal complications in the form of Meconium stained liquour was found in 13(22.4%) , APGAR score <5 in 3(5.2%), NICU admission in 5(8.6%) and fresh stillbirth in 1(1.7%).**Conclusion:** In this study, the most common intraoperative maternal complication noted was hemorrhagic urine (13.8%) and postpartum hemorrhage (13.8%). The most common neonatal complication was meconium stained liquor (22.4%).Various steps can be taken to decrease rate of second stage cesarean sections which include proper monitoring of labor by partograph, detection of malpositions early in labor, proper referral system in periphery, increasing accountability by regular audit of second stage caesarean sections and proper counseling of patient and attendants.

KEYWORDS

Meconium, fetal outcome, maternal outcome.

INTRODUCTION

Second stage of labor is defined as the period from full dilatation of cervix until delivery of fetus[1].The incidence of cesarean sections has increased over recent years. According to new research from the World Health Organization (WHO), incidence of cesarean section use continues to rise globally, now accounting for more than 1 in 5 (21%) of all childbirths. In India, the incidence of cesarean births increased from seventeen percent in 2015–2016 to twenty-two percent in 5 years preceding NFHS-5 (2019–2021)[2]. Cesarean sections can be performed before onset of labor, during first stage or second stage of labor. A decline in the rate of operative vaginal delivery and an increase in stage second cesarean sections have been noted in modern obstetrics. According to the Royal College of Obstetricians and Gynecologists', 35% of cesareans for singleton pregnancies are performed for failed progression of labor and among them one fourth occur at full cervical dilatation[3]. Many factors have been found to contribute to decline in the rate of operative vaginal delivery and a corresponding increase in stage second cesarean sections including lack of training of junior staff in conducting operative vaginal deliveries, lack of supervision of junior staff in stage second decision making , incorrect pelvic assessment and failure to detect mal positions during first stage of labor and fear of medico legal implications related to maternal and neonatal morbidity. Maternal and fetal complications are found to be greater when cesarean sections are performed during second stage of labor[4,5]. Second stage cesarean sections are technically more challenging than cesarean sections done during first stage as the head may be deeply impacted in the pelvis[6]. Other factors that make such cesareans more challenging are less liquor and thinned out lower uterine segment. Maternal complications associated with second stage cesarean sections include intra-operative complications like extension of uterine incision, tearing of lower uterine segment, bladder injury, hemorrhagic urine, post partum hemorrhage and postoperative complications like prolonged catheterization, postoperative fever and prolonged hospitalization[7-10]. Fetal complications include birth asphyxia, me-conium aspiration, NICU admission, trauma and neonatal death[11-12].

AIMS AND OJECTIVES

To study maternal outcome in stage second cesarean sections in terms of:

1) Intra-operative hemorrhagic urine
2) Extension of uterine incision
3) Post partum hemorrhage
4) Need for blood transfusion
5) Post-operative fever
6) Distension
7) Prolonged catheterization
8) Prolonged hospitalization

To study fetal outcome in terms of

1) Meconium stained liquour
2) NICU admission
3) APGAR score < 5
4) Fresh stillbirth

MATERIALS AND METHODS

It was retrospective cross-sectional study which was conducted in the Department of Obstetrics and Gynecology, Lala-ded Hospital, Srinagar from June 2022 to November 2022. Data was collected from birth register and hospital records. A total of 58 cases of cesarean sections at full dilatation were performed during this period which was analyzed for indications of cesarean sections, intra operative and postoperative maternal complications and fetal outcome.

Inclusion Criteria

1) Singleton pregnancies
2) Vertex presentation
3) Gestational age ≥ 37 weeks

Exclusion Criteria

1) Multi-fetal pregnancies
2) Preterm
3) Mal-presentations
4) Patients with co-morbidities like hypertension, diabetes
5) Patients with history of previous cesarean sections or hysterotomy.

RESULTS

Table 1: Gravidity Of Study Participants

Primigravida	44	75.8%
Multigravida	14	24.1%
Total	58	100%

Out of 58 patients, 44(75.9%) were primigravida and 14(24.1%) were multigravida.

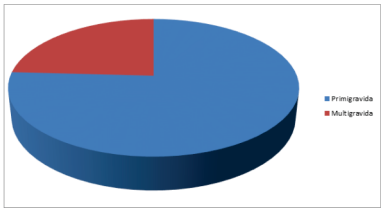

Figure 1: Represents Percentage Of Primigravida And Multigravida Patients.

Table 2: Age Distribution Of Study Participants

AGE in years	No of patients	percentage
≥20 and < 25	2	3.4%
≥25 and < 30	37	63.7%
≥30 and < 35	15	25.8%
≥35 and < 40	4	6.8%
Total	58	100%

The mean age of study population was 28.33 ranging from 20 to 38 years. Majority of patients were in ≥25 and < 30 year age group.

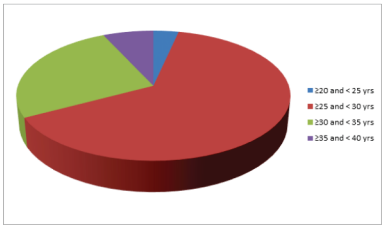

Figure 2: Represents Age Distribution Of Various Participants.

Table 3: Maternal Complications

Maternal complications	Frequency	percentage
Intra-operative hemorrhagic urine	8	13.8%
Extension of uterine incision	2	3.4%
Post partum hemorrhage	8	13.8%
Postoperative fever	8	13.8%
Distension	12	20.7%
Prolonged catheterization	21	36.2%
Prolonged hospitalization	12	20.7%

Maternal complications in the form of intra operative hemorrhagic urine was found in 8(13.8%), extension of uterine incision in 2(3.4%), post partum hemorrhage in 8(13.8%), postoperative fever in 8(13.8%), distension in 12(20.7%), prolonged catheterization in 21(36.2%), prolonged hospitalization in 12(20.7%)

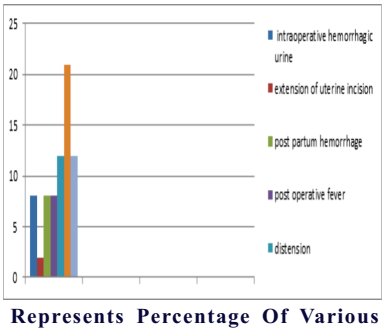

Figure 3: Represents Percentage Of Various Maternal Complications During And Post Second Stage Cesarean Sections.

Table 4: Neonatal Complications

Neonatal complications	Frequency	Percentage
Meconium stained liquour	13	22.4%
APGAR score < 5	3	5.2%
NICU admission	5	8.6%
Fresh stillbirth	1	1.7%

Neonatal complications in the form of Meconium stained liquour was found in 13(22.4%) , APGAR score < 5 in 3 (5.2%), NICU admission in 5(8.6%) and fresh stillbirth in 1(1.7%).

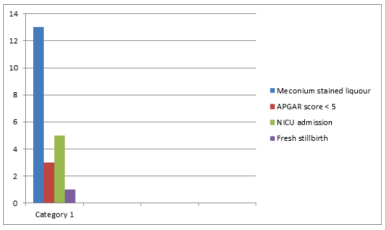

Figure 4: Represents Percentage Of Various Neonatal Complications During And Post Second Stage Cesarean Sections.

DISCUSSION

Out of 58 patients, 44(75.9%) were primigravida and 14(24.1%) were multigravida. Majority of patients were primigravida which is similar to the study in which 81% of patients were primigravida[13]. In the study conducted around 76% patients were primigravida[14]. The rate of second stage caesarean sections may be higher in primigravidas due to rigid perineum and cephalo pelvic disproportion. It may also be attributed to the lack of experience of previous labor in primigravidas. In this study, majority of patients (63.7%) were in ≥25 and < 30 year age group.

The most common indication of second stage caesarean section in the present study was non descent of head in 46(79.3%) patients followed by non descent of head with acute fetal distress in 10(17.2%) and obstructed labor in 2(3.4%) patients which is similar to the study in which the most common indication was non descent of head[15].

It has been found that second stage caesarean section are technically difficult and are associated with a higher rate of maternal and fetal complications[3,4]. In the present study while analysing maternal complications, intra-operative hemorrhagic urine was found in 8(13.8%) patients, extension of uterine incision in 2(3.4%) and lower uterine segment tear in 3(5.1%) patients. In stage second caesarean sections, lower uterine segment is thinned out and edematous which may result in extension of uterine incision and lower segment tears during delivery of fetal head. Uterine incision extension was found in 16% patients and hematuria was found in 7.5% patients[16]. Hematuria was found in 14(38.88%) patients and uterine incision extension was found in 13.88% patients which is higher compared to our study. The difference may be attributed to the fact that the head was delivered by assistant pushing from below[15] while in the present study baby was delivered by path-wardan technique, vertex or breech which might have resulted in lower incidence of uterine incision extension and lower uterine segment tears. In this study, atonic PPH was found in 8 (13.7%) patients which was controlled by uterotonics and bilateral uterine artery ligation. These results are comparable to that found in the study, who reported atonic PPH in 11.5% patients and the other study that found atonic PPH in 13.88% patients[15,16] . Atonic pph in these cases may be due to prolonged labor resulting in uterine inertia. Blood transfusion was required by 4 (6.8%%) patients which is lower compared to the study in which blood transfusion was needed by 10.4% patients[16]. Bladder and bowel injury was not reported in any patient. Post operative complications in the form of fever, distension, prolonged catheterization and prolonged hospital stay was found in 8(13.7%), 12(20.6%), 21(36.2%) and 12(20.6%) patients respectively. One of the study reported fever in 27.7%, catheter in 38.8% and prolonged hospital stay in 13.88% patients[15]. Febrile illness in 12% patients which is similar to that found in the present study[13]. Febrile illness was found in 14.1%, prolonged catheterization in 5.3% and distension in 3.4%[16].

Second stage cesarean sections have been associated with a high rate of neonatal complications and NICU admission. This may be attributed to prolonged duration of second stage of labor in these patients and not due to the cesarean itself[15]. Apgar score less than 5 in 6.6%, meconium aspiration in 27.7% and NICU admission in 5.4%.In the present study, meconium stained liquor was found in 13(22.4%), apgar score less than 5 in 3(5.2%) and NICU admission in 5(8.6%) .Fress still birth was reported in 1 patient which is similar to that reported[13,15]

CONCLUSION

There is an increasing trend towards rise in stage second cesarean sections with its increased rates of maternal and neonatal morbidity. Our aim should be to bring down the rate of such caesareans. Although our hospital is a tertiary care centre, we attend low risk patients that can be easily dealt at primary and secondary health care levels resulting in

huge rush of patients in labor room and making continuous electronic fetal monitoring difficult in our setting. During second stage of labor there is tremendous pressure on the obstetrician on part of attendants. The patient and attendants do not give consent for operative vaginal delivery which makes the obstetrician to opt for caesarean delivery in such cases. Also there is fear of medico-legal implications regarding maternal and neonatal morbidities. However, various steps can be taken to decrease rate of second stage caesarean sections which include proper monitoring of labor by partograph so that arrest or non progression of labor is detected early and appropriate steps taken on time, proper referral system in periphery so that only patients that need tertiary level of care are referred to our hospital, increasing accountability by regular audit of second stage cesarean sections and proper counseling of patient and attendants at the beginning of labor regarding the possibility of need for operative vaginal delivery during second stage of labor.

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