



A STUDY ON MATERNAL MORBIDITY IN EMERGENCY CAESAREAN SECTION

Obstetrics & Gynaecology

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ABSTRACT

Background: Cesarean section is one of the most common live saving procedure to both mother and fetus. It is well known that caesarean section carries a much higher maternal mortality and morbidity as compared to a vaginal delivery.

Aims & Objective: The objective of the present study was to evaluate the various indications for caesarean section deliveries and to assess the maternal morbidity associated with caesarean deliveries.

Martial & Method: 2342 women who underwent Cesarean section were studied retrospectively at DHS associated GMC Shivpuri. Records were searched for patients age residence, Parity, antenatal care, booked or unbooked, previous obstetric history, indication of emergency cesarean section, associated medical illness and intra operative and post operative complications among study cohort . Data was analyzed using IBM SPSS ver. 20 software.

Result: The overall CS rate was 20.64%.. Out of 2342 cases, 726 (31%) cases were elective while 1616 (69.00%) cases were done in emergency. Among 1616 emergency cases, **maternal morbidity** was found in 333 (20.60%) cases.

Study shows most of the patients belong to the age group of 21-30 years (68.68%). Most of them were primigavidae (51.11%). Majority of the women are from rural areas (73.39%). (78.03%) were unbooked, (88.11%) were housewife, (65.59%) were referred cases, (69.00%) of the cases were done as emergency. Most of the caesarean were done in 95.97% spinal anesthesia. **The most common indication of C- section was previous C- section in our study.**

Anemia 48.82% was the most common associated medical risk factor followed by hypertensive disorders 4.66% .Complications were found in 20.60% of emergency C- section. **Hemorrhage 1.73% was the most common intra operative complications**, Followed by Anesthetic complication 0.43%., Bladder injury was found in 0.12% cases. Caesarean Hysterectomy was done in 0.06% cases. **Febrile Illness (3.77%) was the most common post operative complication** followed by wound infection (3.34%), post partum hemorrhage (2.23%), UTI (1.79%), Upper respiratory tract infection (1.30%), Wound gaping (1.05%), Spinal headache (1.05%) and others.

Conclusion: The risk of morbidity was high in women undergoing emergency C sections. Unnecessary C- section may complicate maternal and child health. Therefore, the decision to perform a C section must be chosen carefully.

KEYWORDS

C- Section, Intra & Post operative Complication, Febrile illness, Hemorrhage, wound infection.

INTRODUCTION: Cesarean delivery is a major obstetrical surgical procedure that aims to save the lives of mothers and fetuses^[1]. Over the last decades, , the incidence of cesarean delivers both primary and repeated has risen dramatically^[2].

The steadily increase in global rate of cesarean section has become one of the most debated topics in maternity cares as its prevalence has increased alarmingly in the last few years^[3]. The caesarean delivery rate reached an all time high 31.8% in 2007. In medical colleges and teaching hospitals in India the overall rates for cesarean deliveries in 24.4%.^[4]

Modern surgery has become convenient with the use of improved and expanded hospital services, better blood transfusion services, broad range of nobel antibiotics, advanced surgical and anesthetic skills and intensive care facilities. Even then cesarean section is also associated with significant risk of morbidity and mortality.

It is well documented that caesarean section carries a much higher maternal mortality and morbidity as compared to a vaginal delivery^[5]. It is known that unnecessary cesarean section do more harm than good. When everything is normal with the women, cesarean section has an eight fold higher mortality, eight to twelve times higher morbidity and a higher incidence of complications than vaginal delivery.^[6] Numerous studies have demonstrated that cesarean section poses a greater risk of maternal morbidity, mortality and high cost of health care compared with vaginal deliveries hence it is important to assess the morbidities associated with a cesarean delivery. Keeping in view the above background.

The objective of the present study was to evaluate the various indications for cesarean section deliveries and to assess the maternal morbidity associated with cesarean deliveries.

MATERIALS AND METHOD:

Data was obtained from operation theater record, labor and neonatal ward records and ultrasound record of the patients case notes. Partogram study was used to diagnose prolonged labor.

In cases of caesarean sections, their indications were recorded along

with other demographic profile like age and residence (urban/rural). parity, booked or not booked, referral status, Nature of surgery (emergency/ planned). Previous obstetrics history, and present obstetric parameters like antenatal care, gestational age, lie and presentation, number of fetuses, birth weight etc. were also studied.

The indication of C- section and complications during surgery and post operative period were also studied. All the data was analyzed using IBM SPSS ver. 20 software. Cross tabulation and frequency distribution was used to prepare table. Data is expressed as numbers and percentage.

RESULTS:

This is retrospective study was done in DHS associated GMC Shivpuri, from 1st January 2018 to 31st March 2019. During this period 11349 deliveries were conducted out of which, 2342 LSCS were done. The overall CS rate was 20.64%. Out of 2342 cases, 726 (31%) cases were elective. while 1616(69 00%) cases were done in emergency. . Among 1616 emergency cases complications were found in 333 (20.60%) cases.

Table 1 shows most of the patients belong to the age group of 21-30 years (68.68%). Most of them were primigavidae (51.11%). Majority of the women are from rural areas (73.39%). (78.03%) were unbooked , (88.11%) were housewife, (65.59%) were referred cases. (69.00%) of the cases were done as emergency. Most of the caesarean were done in 95.97% spinal anesthesia.

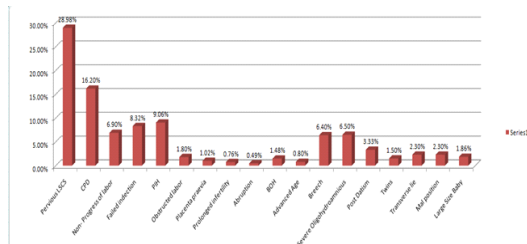
Table 1: Demographic Analysis of patients who underwent C-Section

Age Group	No. of Cases	Percentage
14-20 years	19	1.17
21-30 years	1110	68.68
31-40 years	437	27.04
41-50 years	50	3.09
Parity		
Primipara	826	51.11
Multipara (G2-G4)	769	47.58
Grand multipara (G5+)	21	1.29

Antenatal Status		
Booked	355	21.97
Unbooked	1261	78.03
Residence		
Urban	430	26.61
Rural	1186	73.39
Occupation		
Housewife	1424	88.11
Working Outside	192	11.88
Condition on admission		
Stable	1268	78.46
Unstable	348	21.54
Status		
Referred	1060	65.59
Self referred	556	34.40
Type of CS		
Emergency	1616	69.00
Elective	726	31.00
Type of Anesthesia		
Spinal	1551	95.97
General & other	65	4.02

Figure 1 shows that the most common indication of C- section was previous C- section (28.98%) in our study.

Figure 1: Showing Indication for C- Section in our study



Data is expressed as percentage. CPD (Cephalo pelvic disproportion), PIH (Pregnancy induced hypertension), BOH (Bad Obstetric History).

Table 2 shows Anemia 48.82% was the most common medical risk factor followed by hypertensive disorders 4.66%.

Table 2: Pre Operative Medical Risk Factor

Medical Risk factor	Numbers	Percentage
Anemia	789	48.82
Respiratory Infection	11	0.68
UTI	13	0.80
Hypertensive Disorder, PIH & Eclamsia	147	9.06
Heart Diseases	2	0.12
Diabetes	5	0.30
Jaundice	7	0.43
Hypothyroidism	28	1.73
Ascitics	1	0.06
Obesity	19	1.17
Others	7	0.443

Table 3 Shows complication (Maternal Morbidity) were found in 20.60% of emergency C- section.

Table 3: Maternal Complications associated with caesarean section

Complications	Number	(Percentage)
1. Nil Complication	1283	79.40
2. With complication	333	20.60
Total	1616	100

Table 4 shows In our study most common intra operative complications was Hemorrhage 1.73%, Followed by Anesthetic complication 0.43%, Bladder injury was found in 0.12% cases. Caesarean Hysterectomy was done in 0.06% cases.

Table 4: Intra operative Complications

	Number	Percentage
Hemorrhage	28	1.73
Uterine Atony	20	1.23

Extension of uterine incision and broad ligament hematoma	6	0.37
Adherent Placenta	2	0.12
Injury to Viscera		
Bladder	2	0.12
Ureter	0	0
Bowel	0	0
Anesthetic Complication	7	0.43
Spinal hypotension, aspiration, High spinal/ Total spinal, Reaction to anesthetic drugs.		
Caesarean Hysterectomy	1	0.06
Acute Myocardial infarction	0	0
Total	38	11.41

Table 5 shows that the most common complication In post operative period was Febrile Illness (3.77%), was the followed by wound infection (3.34%), post partum hemorrhage (2.23%), UTI (1.79%), Upper respiratory tract infection (1.30%), Wound gaping (1.05%), Spinal headache (1.05%) and others.

Table5: Post operative Complications

Complication	Number	Percentage
1. Febrile Illness	61	3.77
2. Wound infection	54	3.34
3. Post partum hemorrhage	36	2.23
4. UTI	29	1.79
5. Upper respiratory tract infection Basal atelectasis: minor lung collapse, cough, Pulmonary Edema	21	1.30
6. Wound gaping	17	1.05
7. Spinal Headache	17	1.05
8. Reaction to medication	7	0.43
9. Low urine output: Inadequate fluid replacement intra operatively and post operatively	7	0.43
10. Paralytic Ilius	5	0.31
11. Wound hematoma	5	0.31
12. Blood transfusion reaction	5	0.31
13. Pressure Sore	5	0.31
14. Eclampsia	4	0.25
15. Breast abscess due to difficulty in breast feeding due to post operative pain	4	0.25
16. Recrudescence of malaria and pulmonary tuberculosis	4	0.25
17. Puerperal sepsis	4	0.25
18. Secondary Hemorrhage	4	0.25
19. Post partum blues & psychosis	2	0.12
20. Acute Renal failure	1	0.06
21. Meningitis	1	0.06
22. DVT	1	0.06
23. Pulmonary embolism	1	0.06
24. Burst abdomen	0	0.00
25. DIC	0	0.00
26. Acute myocardial infarction	0	0.00
27. Amniotic fluid embolism	0	0.00

Table 6 shows delayed post operative stay was found in 7.79% cases because of post operative morbidity in emergency C- section.

Table 6: total Duration of stay

Duration of Stay	Percentage
≤5 Days	3.09
6-8 Days	89.10
9-18 Days	7.79

DISCUSSION:

Our study shows most of the patients belong to the age group of 21-30 years (68.68%). Most of them were primigavidae (51.11%). Majority of the women are from (73.39%) rural areas. (78.03%) were unbooked. It is comparable with one another study in which majority of 61.6% cases belong to 21-30 years, 46.93% were primigavidae . 77.55% were rural, 89.79% were unbooked. ^[7]

In our study 69.00% cases were emergency while 31.0% cases were

done in elective. Postoperative complications were found in 333 (20.60%) cases. The most common indication for cesarean section 29.2% was previous C-section. This is probably because our hospital is a referral hospital and most cases were unbooked. The study finding is in comparison to a study by Mc Carthy et al^[8] at al which showed an incidence of 64.14% emergency and 35.8% elective sections, and their most common indication was also previous cesarean section. Onankpa et al study reported cesarean section rates of 8.4%, of these 80.6% were emergency and 19.4% were elective.^[9]

The overall maternal morbidity rate in emergency C- section was (20.60%) in our study which is comparable to a study conducted by jain et al the maternal morbidity was seen in 18.5% of cases which was lower than the present study.^[10]

Anemia 48.82% was the most common medical risk factor followed by hypertensive disorders 4.66% . Other studies also shows anemia is the most common associated medical risk factor.

In our study among intra operative complications Hemorrhage 1.73% was the most common complication, followed by Anesthetic complication 0.43%, Bladder injury was found in 0.12% cases, caesarean Hysterectomy was done in 0.06% cases. It comparable with one another study in which hemorrhage was 1.6% the most common complication, Anesthetic complication 0.1%, bladder injury 0.1%^[11]. In the study conducted by Ghazil et al also reported the same, that intra operative complication were associated more with emergency caesarean section and the Excessive hemorrhage was the most common complication in their study.^[12]

In our study Febrile Illness (3.77%) was the most common post operative complication followed by wound infection (3.34%), post partum hemorrhage (2.23%), UTI (1.79%), Upper respiratory tract infection (1.30%), Wound gaping (1.05%), Spinal headache (1.05%) and others. In one another study of Febrile illnesses (4.50%) was the most common post operative complication followed by wound infection 3.65%, PH(3.0%), Cesarean Hysterectomy(0.16%), Transfusion reactions(0.50%), uterine rupture (0.08%), Thrombo-embolism (0.24%), Acute Kidney Disease (AKD) (0.16%), APH with DIC (0.16%) Eclampsia (0.08%)^[13].

Our study was not comparable with one other study, in which Anemia (10.7%) was the most common post-operative complications followed by post partum hemorrhage (5.3%), UTI (4%), Upper respiratory tract infection (1.3%), wound infection (2.7%),post operative fever(2%) and prolonged hospital stay (3.3%).^[14]

In our study delayed post operative stay was found in 7.7% cases because of morbidity and in other study also found that postoperative hospital stay was significantly prolonged in Cesarean patients due to morbidity.^[15]

CONCLUSION:

There is need of health education, regular antenatal care, screening of high risk pregnancy, improvement in quality of emergency obstetric care, family planning education, up gradation of health centers, good blood banking and transfusion services, preoperative evaluation, intensive care unit for critically ill patients, proper antibiotic prophylaxis, early ambulation of patients to prevent thrombo embolism, use of partograms to prevent prolonged and obstructed labor, training of health staff in life saving skills and strengthening of referral system that patient can be indentified timely and referral early to higher centers.

So incorporation of obstetric drill in the medical curriculum, a check on the cesarean delivery, following standardized guidelines practice of surgical complications can help us to decrease the morbidity in cesarean section.

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