

Indications for Relaparotomy in Cesarean Section in a Tertiary Care Hospital of a Developing Country

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Abstract- Introduction: Caesarean section though a simple obstetric surgery is at times associated with complications. Complications if grave may demand relaparotomy in such patients.

Material and methods: A prospective descriptive study over a period of 3 years was done to find out the incidence, indications, complications and outcome of relaparotomies done in patients of caesarean section.

Results: the incidence of relaparotomies in caesarean sections in our setup was 0.16%, most were emergency sections(85.2%) and done on previous caesarean patients (30.88%). Hysterectomy was the commonest procedure done at relaparotomy (27.8%). Maternal mortality was high (11.76%).

Conclusion: Good surgical technique and perfect hemostasis with proper labor protocols can help reduce incidence of relaparotomies in all set ups.

Index Terms- cesarean section, relaparotomy, postpartum haemorrhage, fetal distress.

I. INTRODUCTION

Caesarean section is the most common operation carried out in daily obstetric practice. With the improvement of operative techniques, safe anesthesia, safe and multiple transfusion facilities the rate of caesarean sections has increased considerably. Increasing age at first pregnancy and maternal requests are other factors for expanding rate of caesarean sections³. The rate of caesarean section worldwide reported in recent literature is around 50 – 55%. Complication rates associated with caesarean section are several fold than that associated with a normal vaginal delivery. The low risk uncomplicated caesarean section has an eight fold higher mortality than vaginal delivery¹. Complications depend on indication of caesarean section, quality of surgery and institutional facilities available to deal with those complications. Relaparotomy in a caesarean section is in some cases considered as near miss maternal mortality. It is performed when the condition of the patient is too critical to withstand the risk of anesthesia and a repeat surgery. It requires good clinical judgment to take a decision for relaparotomy. On the other hand it may be the only resort to save the patient.

II. OBJECTIVE

Aim of our study was to find out the incidence, risk factors, indications, operative findings, maternal morbidity and mortality associated with relaparotomy and measures that should be taken to prevent it.

III. MATERIALS AND METHODS

This was a prospective descriptive study conducted in the Department of Obstetrics and Gynecology, Government Medical College, Srinagar from July 2012 to July 2015. Lalla Ded Hospital is the sole tertiary care hospital of the valley where majority of patients received belong to high risk category. As such caesarean section rate is very high in this institution. Relaparotomies were done by senior consultants. Data regarding age, parity, indication for primary caesarean section, indication for relaparotomy, interval between the two surgeries, blood transfusions received, ICU admission, total hospital stay and final maternal outcome was collected.

IV. RESULTS

A total of 68,194 deliveries were conducted during the period July 2012 to July 2015. Of these 41,112 cesarean sections were done with a rate of 60.28%. A total of 68 patients underwent relaparotomy of which 40 had caesarean section done in this hospital and 28 were referred from periphery. The incidence of relaparotomy following caesarean section was 0.16% in our study. If referred patients are excluded then the incidence of relaparotomy in our study is 0.09%. Age of patients ranged from 20 – 40 years, parity ranged from 1 to 5. Patients with previous 1 caesarean section were 13, previous 2 cesareans were 8. Depending upon nature of surgery 58 (85.2%) patients had undergone emergency caesarean section and 10 (14.7%) elective sections.

INDICATIONS OF RELAPAROTOMY

1	Parietal wall hematoma	18	26.47%
2	Atonic PPH	12	17.64%
3	Broad ligament hematoma	8	11.76%
4	Uterine scar bleeding	2	2.94%

5	Intramyometrial hematoma	1	1.47%
6	Secondary PPH	6	8.82%
7	Burst abdomen	8	11.76%
8	Peritonitis	2	2.94%
9	Retained succenturiate lobe	1	1.47%
10	Cervical tear	1	1.47%
11	Adhesions causing bowel obstruction	2	2.94
12	Hemoperitoneum	7	10.29%

V. DISCUSSION

In the current study the incidence of relaparotomy after caesarean section was 0.16%. The majority of previous studies reported a rate of relaparotomy of 0.2 – 0.7%^{3,5,6,7}. The lower incidence in our setup is probably due to majority of caesarean sections being less complicated and technically simple. There is a rising trend of cesarean section (60.28%) in our hospital as it is a referral hospital and majority of patients admitted are high risk patients usually requiring caesarean sections.

Maximum patients in our study were operated as emergency caesarean section (85.2%). Around 58.82% patients were done in our hospital and 41.17% patients were referred from periphery.

The commonest indications of primary caesarean section in our study was previous caesarean (30.88%) and fetal distress (17.64%), contrary to other studies where the commonest indication was prolonged and obstructed labor^{2,6}. Relaparotomy was most frequently done in previous caesarean pregnancy, fetal distress, placenta previa, placental abruption, obstructed labor and cases of cephalic pelvic disproportion which is consistent with findings of other studies^{2,3,9,10}

Commonest finding on relaparotomy in caesarean section was parietal wall hematoma (26.47%) followed by atonic PPH (17.64%). Bleeding secondary to uterine atony is preventable by adopting active management of third stage by oxytocin infusion or rectal misoprostol⁸. Securing bleeding points on undersurface of rectus sheath and rectus muscle before closing rectus sheath must be taught to trainees to reduce the number of cases of relaparotomy after caesarean section. Another important indication of relaparotomy in our study was sepsis. common risk factors for sepsis were obesity and ruptured membranes. Experience of primary surgeon was a big risk factor¹¹ in our study as seen in other studies as well.

Incidence of cesarean hysterectomy was high in our study (27.94%). Reports from different studies indicate an incidence of 10.61%⁶ to 38.18%². Instead of hysterectomy selective angiographic embolisation may have a role in these cases¹⁸. However this facility was not available in our set up. Number of blood products received was an average of 4. Length of hospital stay was 10 days. There were 8 maternal deaths in our study. Unfortunately maternal mortality was high in our study (11.7%). Reports from different studies mention maternal mortality ranging from 2.85%¹¹ - 12.73%² which is comparable with other studies.

VI. CONCLUSION

Centers carrying out caesarean sections in peripheral hospitals should have blood transfusion facilities and experienced staff. Use of partograms to prevent prolonged and obstructed labors should be mandatory. Careful and aseptic surgical technique, meticulous hemostasis especially on the undersurface of rectus muscle and the placental bed and prophylactic balloon catheters are important steps to reduce the incidence of relaparotomy. Examination of vagina in patients of obstructed labor especially with impacted head should be made a routine. Although caesarean section is a life saving and most common obstetric operation, relaparotomy after caesarean is considered to be near miss fatality having high mortality.

INDICATIONS OF PRIMARY CAESAREAN SECTION

Fetal distress	12	17.64%
Post LSCS	21	30.88%
Prolonged labour	5	7.35%
Malpresentation	3	4.41%
Placenta previa	3	4.41%
Obstructed labour	6	8.82%
Severe PIH	11	16.17%
Placental abruption	4	5.88%

PROCEDURES PERFORMED DURING RELAPAROTOMY

Hysterectomy	19	27.94%
Exploration of sub-rectal hematoma and ligation of vessels	18	26.47%
Uterine brace sutures	1	1.47%
Bilateral four vessel ligation	2	2.94%
Bilateral internal iliac ligation	4	5.88%
Debridement and repair of anterior abdominal wall	8	11.76%
Peritoneal toileting	3	4.41%
Adhesiolysis	1	1.47%
Gut resection	1	1.47%

INTERVAL FROM LSCS TO RELAPAROTOMY

Within 24 hrs	40	58.82%
24hrs to 7 days	17	25%
7 – 15 days	4	5.88%
16 – 45 days	1	1.47%

Maternal mortality n = 8 (11.76%)

Cause of death	
DIC	2
Irreversible shock	1
Renal failure	1
Sepsis	2
Intestinal obstruction	1
Pulmonary embolism	1

ICU admission

33 (48.52%)

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