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A COMPARATIVE STUDY OF MERITS AND DEMERITS OF EXTERIORIZATION OF UTERUS DURING CESAREAN DELIVER

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ABSTRACT

Introduction - Caesarean section is the most common intraperitoneal surgical procedure in obstetrics. Temporary removal of the uterus from the abdominal cavity (exteriorization) has been postulated as a valuable technique for repair of the uterine incision. Therefore this study was done to compare the effects of uterine exteriorization and in situ repair on caesarean section morbidity.

Methodology - 200 pregnant women with a caesarean delivery indication were randomly assigned as 100 patients each to the exteriorization group and the in-situ group in this prospective, randomized, comparative study. For statistical analysis, information on post-operative morbidities, intra-operative blood loss, and mean time taken for uterine incision closure was gathered and compared between the two groups.

Results - Exteriorization of uterus at caesarean section has the advantage of less operating time, less intraoperative blood loss and therefore less perioperative haemoglobin fall, good exposure, good access to incision angles, specially when the angles are extended in case of difficult extraction. There is easy identification of uterine anomaly, adnexal mass if present, easy exposure of the posterior aspect of uterus especially of the lower segment in case of obstructed labour.

Conclusion – we concluded that exteriorization of uterus at caesarean section can be a valid option as it has many advantages over in situ repair with no harmful effects.

Keywords- exteriorization, in situ repair, uterus.

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INTRODUCTION

Caesarean section is the most common intraperitoneal surgical procedure in obstetrics. Though over the years there is a wider recognition of the desire to reduce caesarean section rate, there has being little debate on the operating technique[1]. Various studies on the technique of performing caesarean section have focused on reducing the operating time, blood loss, wound infection and cost with improved anaesthesia, availability of effective antibacterial agents, blood transfusion facilities and improved surgical techniques have made caesarean section safer than before[2]. The amount of blood loss is influenced by a number of factors including the uterine size, presence of leiomyomata uteri, obesity, location of the uterine incision, the time of repair, the location of the placenta, presence of infection, intra-operative complications and the efficiency of the medical provider[3].

Many variations in surgical techniques for caesarean delivery have been proposed, aimed at reducing surgical time, making the surgery easier and more efficient, lowering costs, decreasing the risk of adverse effects and postoperative morbidity, as well as length of hospital stay[4-8]. The details of the surgical technique and its variation are important and were evaluated in randomized controlled trials. Temporary removal of the uterus from the abdominal cavity (exteriorization) has been postulated as a valuable technique for repair of the uterine incision after the delivery of the newborn and placental removal, either spontaneous or manual[9-10].

In this context, we performed the current study with the aim of comparing the differences between these two surgical techniques regarding the rate of nausea, vomiting and intraoperative bloss loss, duration of surgery, pain assessment using the visual analog scale (VAS), number of daily doses of analgesics required in post operative period, rate of nausea and vomiting in post operative period, length of hospital stay, rate of surgical site infection and endometritis.

OBJECTIVE- To study merits and demerits of exteriorization of uterus during cesarean delivery

METHODOLOGY

Study setting- The study was conducted in the Department of Obstetrics and Gynaecology, Sri Adichunchanagiri Institute of Medical Sciences and Research Centre, B.G.Nagara, Mandya District

Study design: Prospective randomised comparative study
Study period: jan 2021 to dec 2021

Study population: 200 patients who underwent caesarean section either emergency or elective after full filling inclusion and exclusion criteria with wirtten informed consent.

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Procedure:

200 patients who underwent caesarean section in Sri Adichunchanagiri Institute of Medical Sciences and Research Centre, B.G.Nagara, Mandya District, using transverse (pfannensteil incision) were taken into the study. Cases were randomly allocated into two groups one where the uterus was exteriorized and the other were the uterus was stitched intraperitoneally. Pfannensteil incision was used for all the cases. Placenta was either removed by controlled traction after spontaneous separation or manually, in the exteriorizaton group uterus was exteriorised after delivery of placenta. Uterus was closed either in single or double layer approximately by vicryl or catgut. Skin was approximated with subcuticular closure or mattress suture. Tubal ligation done by Pomeroy's/Modified Pomeroy's technique.

The outcome measures noted were:

- Operating time, need for emergency blood-need for controlling PPH.
- Postoperative pain i.e., number of analgesic doses given in the first and second postoperative day along with pain score as charted by VAS.
- Intraoperative problem with anaesthesia with continuous monitoring by pulse oximetry.
- Preoperative and 48 hours postoperative haemoglobin estimated.
- Postoperative decreases in hemoglobin was calculated.
- Febrile morbidity.
- Endomyometritis, cystits
- Wound infection and period of hospitalization
- Return of bowel function
- Neonatal outcome
- Suture removal
- Postnatal checkup at the end of 4 weeks

STATISTICAL ANALYSIS

Data were recorded in the excel sheet and descriptive analysis was performed and results were expressed in number and percentages. Comparison of two groups was done by Z-test and student's't' test for continuous data and chi-square test for categorical data.

RESULTS-

Two hundred patients who were recommended for cesarean delivery were included in the study. The two groups' baseline clinical information, including age, parity, length of pregnancy, and indications for cesarean delivery, and their demographic profiles, were similar.(table 1)

Table 1- demographic and baseline characteristics of patients

Parameters	**Group 1 (n=100) (extra abdominal repair)**	**Group 2 (n=100) (in situ repair)**	**P value**
Age	25.32±3.91	26.48±3.72	0.058
Parity			
Primigravida	55	58	0.669

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Multigravida	45	42	
Indications for LSCS			0.181
CPD (cephalopelvic disproportion)	13	17	
Failed induction	23	25	
Fetal distress	35	31	
Prev LSCS	17	23	
Malpresention	5	2	
Others (twins)	1	0	

The exteriorization group took an average of 13.20 minutes and the in-situ group took an average of 15.40 minutes to close their uterine incisions. There was a significant difference between the perioperative haemoglobin levels. It was less in the group where uterus was stitched in situ in comparison to the group where uterus was exteriorised (P value <0.001, significant) (table 2). The decrease in haemoglobin level was 0.6gm/dl in the exteriorized group and 1.2 gm/dl in insitu group. There was no statistically significant difference in the post operative pain, febrile morbidity, wound infection, period of hospitalisation, endomyometritis and cystitis. (table 2)

Table 2- postoperative variables

Variables	**Group 1 (n=100) (extra abdominal repair)**	**Group 2 (n=100) (in situ repair)**	**P value**
Drop in Hb level	0.6 gm/dl	1.2mg/dl	0.001
Additional postoperative analgesia	12	5	0.763
Wound infection and other infections	5	2	0.554
Febrile morbidity	7	3	0.876

SUMMARY

Exteriorization of uterus often has more advantages. The operating time and blood loss was less in the exteriorized group. The incision and bleeding points are visualized more easily and repaired quickly, especially if there have been extensions laterally and the relaxed atonic uterus can be recognized quickly and massage applied. If B lynch sutures have to be applied, it can be put quickly without wasting time at that crucial moment. Adnexal exposure is superior and thus tubal ligation is easier. There is no clinically significant differences between the uterine exteriorization and in situ repair with regard to oxygen saturation and the incidence of vomiting and return of bowel function. There was no statistically significant difference in the post operative pain, febrile morbidity, wound infection, period of hospitalisation, endomyometritis and cystitis.

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During the study, we found that the other advantage of exteriorization of uterus is that the anatomical defect of the uterus, if present can be well made out which could be missed during in situ repair.

There was a significant difference between the perioperative haemoglobin levels. It was less in the group where uterus was stitched in situ in comparison to the group where uterus was exteriorised (P value <0.001, significant). The decrease in haemoglobin level was 0.6gm/dl in the exteriorized group and 1.2 gm/dl in insitu group.

CONCLUSION-

Exteriorization of uterus at caesarean section has the advantage of less operating time, less intraoperative blood loss and therefore less perioperative haemoglobin fall, good exposure, good access to incision angles, specially when the angles are extended in case of difficult extraction. There is easy identification of uterine anomaly, adnexal mass if present, easy exposure of the posterior aspect of uterus especially of the lower segment in case of obstructed labour.

Thus, exteriorization of uterus at caesarean section ia a valid option.

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