

Exteriorization of uterus versus intrabdominal uterine closure at Caesarean delivery

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ABSTRACT

Aims: To assess the intraoperative and post-operative complications of exteriorization repair with intrabdominal repair of uterus during caesarean delivery.

Method: This was a prospective comparative study of 150 caesarean deliveries. Randomization of the cases was irrespective of age, parity, indication and elective or emergency and was performed by two surgeons. Total of 150 cases were considered in the study and 75 cases performed by each surgeon were selected. One surgeon performed the surgery as intrabdominal repair while the other exteriorized the uterus for closure. Descriptive parameter and t-test were used. .

Results: Intraoperative complications like intraoperative nausea, vomiting, pain were more commonly associated in cases in which uterus was exteriorized. In regards to severity of blood loss in either group there was no significant difference in either group (1.28 ± 1.00 , 1.23 ± 0.98). The study revealed no significant difference in febrile morbidity and wound infections in either group.

Conclusions: There is no significant difference in the post-operative morbidity between the two groups but intraoperative peritoneal stretching pain was more when uterus was exteriorized.

Keywords: caesarean delivery, exteriorization, intrabdominal repair, uterine closure

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INTRODUCTION

Caesarean delivery is one of the commonly performed obstetric procedure.¹ The ideal rate of caesarean delivery according to WHO based report is 10-15 %.² Despite this fact there has been a global concern of rising rate of caesarean delivery. The trend of caesarean section in Nepal is also increasing.^{3,4} It is always a matter of concern as how could such common procedure be made more simple, easy and any morbidities along with this procedure be minimized. The complications and morbidity depends on facility level, expertise and indications.⁵

Various surgical techniques have been devised and suggested in regards to minimizing morbidity and post-operative complications. One of such issue is whether the uterine closure is done in-situ or with exteriorization of uterus. It is greatly determined by the skills of obstetricians. There is a controversy as to which type of uterine repair is better.

The aim of the study was to assess the intraoperative and post-operative complications of exteriorization repair with intrabdominal repair of uterus during caesarean delivery.

METHODS

This was a prospective comparative study of 150 caesarean deliveries at Rapti Academy of Health Sciences (RAHS), Dang from March to June 2020 during COVID-19 pandemic. Cases were selected randomly irrespective of age, parity, indication and elective or emergency; and were performed by two surgeons. Total of 150 cases were considered in the study and 75 cases performed by each surgeon. One surgeon performed the surgery as intrabdominal repair while the other exteriorized the uterus for closure.

All the surgeries were performed under spinal anesthesia. Every case had intraoperative prophylactic

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antibiotic (Ceftriaxone 1gm). The age, parity, indications, preoperative hemoglobin, post-operative hemoglobin, blood loss, post-operative complications (like abdominal distension, wound infections, fever) were the study variables. Uterine adhesion restricting exteriorization was excluded from the study. All the data were entered primarily in Microsoft Excel and

then t-test was used.

RESULTS

The demographic profile and clinical parameters like age, parity, indications, type of deliveries and change in hemoglobin level were comparable in the two groups ($p>0.05$).

Table-1: Obstetric characteristics and hemoglobin level with cesarean delivery

Parameters		In-situ repair (n=75)	Exteriorization (n=75)
Age		24.69±5.18	24.16±4.83
Gravidity	Primigravida	32	28
	Multigravida	43	47
Indications	Cephalopelvic disproportion	28	34
	Malpresentation	11	8
	Fetal Distress	16	15
	Previous CS	11	12
	Others	9	6
Types	Elective	28	30
	Emergency	47	45
Hemoglobin (gm/dl)	Preoperative	11.16±1.27	11.19±1.09
	Post-operative	9.88±1.34	9.96±1.39
	Drop	1.28±1.00	1.23±0.98

Need of blood was determined by pre-operative hemoglobin status and obstetrics indication i.e. cases like abruption placenta, twin pregnancy. One case of previous Caesarean delivery in labor of intrabdominal group had bladder injury, for which repair was done and had uneventful recovery. Intraoperative nausea, vomiting and pain were slightly more in exteriorization group but these variables were not controlled for confounders ($p>0.05$). Besides blood transfusion which is not related with type of repair, few side effects like fever and abdominal distension were slightly more in exteriorization group. Because of small sample size it was not tested for significance. [Table-2]

Table -2: Post-operative morbidities in either group

Parameters	In situ repair	Exteriorization
Blood transfusion	7	4
Fever	2	4
Abdominal distention	1	2
Wound infection	0	1

Intraoperative complications like intraoperative nausea, vomiting, pain was more commonly associated in cases in which uterus was exteriorized as depicted by Shuja A et al ⁶ and Siddiqui M⁷. Unlike study by Jacobs-Jokhan D et al ⁸ febrile morbidity which was more associated with in situ repair, in this study post operatively fever was more in exteriorized group. Similar to findings by Chauhan S et al ⁹ and Kahayat E et al ¹⁰ in the present study the intraoperative complications and post-operative pain was more associated in exteriorized group.

In regards to severity of blood loss in either group there was no significant difference in either group (1.28±1.00, 1.23±0.98) which is reflected from the severity of drop in hemoglobin. In contrast, Zaphiratos V et al ¹¹ in their study reported that exteriorization may be associated with a smaller decrease in hemoglobin and less estimated blood loss. Similar to the findings of Chaughn et al⁹ and Lakshmi P et al ⁵ the present study reveals no significant difference of fall of hemoglobin in either group. Likewise, the severity of wound infection is not significant in either group of patients. Meta-analysis by Bolla D et al ¹² shows

DISCUSSION

no significant difference in outcome leaving the uterus intra-abdominally or exteriorization for uterine incision repair (except for the shorter operating time and less nausea).

There is no significant difference in per-operative and post-operative morbidity between in-situ uterine closure and exteriorization of uterus during cesarean section. This study is limited by sample size and information records.

CONCLUSIONS

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