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Original Research Article

Extraperitoneal versus transperitoneal cesarean section in surgical morbidity in a tertiary care centre

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ABSTRACT

Background: To test the advantages of extraperitoneal cesarean section over transperitoneal cesarean section.

Methods: It is a single blinded prospective study. Women who were planned for emergency LSCS in the department of OG, Kanyakumari Government Medical College, Asaripallam were randomly allocated into extraperitoneal cesarean section (ECS) (n=80) or transperitoneal cesarean section (TCS) (n=80) from November 2015 to January 2017 and evaluated.

Results: Even though the time taken to deliver the baby was more in ECS group (Average 4:57 minutes) than TCS group (Average 2:05 minutes, there is no change in Apgar score at 1 minute. The postoperative pain measured by VAS was lesser (4.28) in ECS than TCS (7.06). Bowel function returned early in ECS (8.687 hours) than in TCS (16.487 hours) group. None of the cases in ECS group had peroperative vomiting or post-operative wound infection.

Conclusions: So, we can conclude that ECS is a better method in experienced hands than the TCS in selected cases.

Keywords: Extraperitoneal cesarean section, Transperitoneal cesarean section

INTRODUCTION

Extraperitoneal cesarean section is a method of surgically delivering a baby through an incision in the lower uterine segment without entering the peritoneal cavity.

The uterus is approached through the paravesical space. This procedure is performed most often to prevent the spread of infection from the uterus into the peritoneal cavity.¹

It is an operation with reduced invasiveness.² This should not be used as a routine method. There was an enhanced postoperative recovery in all extraperitoneal cesarean cases compared with transperitoneal cesarean section.³ According to Dieckmann, the indications of ECS are

mainly those contraindications to TCS namely-labour over 24 hours, ruptured membranes over 24 hours, induction by bougie, six or more vaginal examinations, evidence of intrauterine infection.⁴

METHODS

160 patients were randomly allocated alternately into ECS group (n=80) and TCS group (n=80) equally between November 2015 and January 2017 at Kanyakumari Government Medical College Hospital, Asaripallam.

In ECS group primi-57, previous 1 LSCS - 20, previous 2 LSCS-3 and in TCS group primi-40, previous-1 LSCS-37, previous-2 LSCS-3.

Exclusion criteria

Patients with abnormal placetation, abruption, nonvertex presentation, multiple pregnancy, preterm, Eclampsia, patients who were given GA, cord prolapse, very acute cases, major abdominal surgery.

Inclusion criteria

Patients who were given spinal anaesthesia without the above mention conditions planned for LSCS were included in the study.

Patient is given SA. Continuous bladder drainage by foley catheter preoperatively. Injection Ampicillin 1 gm IV after test dose and injection gentamycin 80 mg IV given preoperatively as per hospital protocol. Transverse suprapubic incision made at suprapubic skin crease. Rectus sheath is incised transversely. In ECS, Pyramidalis insertion in the linea alba is detached. Recti are separated adequately. Transversalis fascia is pierced bluntly medial to the inferior epigastric vessels and fascia is stretched to widen the opening. This exposes the LUS with bladder. The lateral limit of bladder is demarcated by medial umbilical ligament. The pad of fat lateral to medial umbilical ligament is teased and bladder is pushed laterally and downwards. Then the incision is made in LUS and baby delivered. For all cases injection oxytocin 10 U IM was given after delivery of baby and 10 U of oxytocin added to IV fluid.

In TCS, uterus is not exteriorized after delivering the placenta. Uterus sutured with no. 1 chromic catgut in 2 layers in both groups. Uterovesical fold and parietal peritoneum are not sutured.

The skin incision to delivery time, Apgar score at 1 minute, any preoperative vomiting, duration of surgery, VAS at 6 hours after surgery, postoperative return of bowel function, postoperative wound infection was noted.

RESULTS

Table 1: LSCS of ECS and TCS group.

	ECS group n=80	TCS group n=80
Primay LSCS	57	40
Previous 1 LSCS	20	37
Previous 2 LSCS	3	3

Even in previous cesarean cases, extraperitoneal cesarean section was easy to perform. In 5 cases where there were dense adhesions between uterus and rectus muscles, adequate space could not be made out and hence they were converted to TCS. These cases were not included in the study. No cases of fetal distress occurred in both the groups. None of the patients in both the groups had PPH, major vessel, bladder or bowel injuries.

Table 2: Particulars of ECS and TCS group.

Particulars	ECS	TCS
Incision to delivery of baby (average)	4:57 minutes	2:05 minutes
Duration of Surgery (average)	29.48 minutes	26 minutes
Peroperative vomiting (%)	0%	30%
VAS (visual analogue score) at 6 hrs (average)	4.28	7.06
Return of bowel function (average)	4.687 hours	16.487 hours
Post-operative wound infection (%)	0%	7.5%
Apgar score at 1 minute(average)	7.9	8

DISCUSSION

All the cases were done as an emergency procedure. Very acute cases were excluded from the study. The duration of surgery is more in ECS group since the time taken from incision to delivery of baby is more in ECS group. In a study by Imig JR and Perkins RP there is no increase in delivery time or operation time.⁵ In a study by Carmen et al, operative time was significantly shorter with no difference in delivery time.⁶

However, in our study, the Apgar at 1 minute in ECS and TCS is same. Since we are not opening up the peritoneum there is no irritation of blood or amniotic fluid to the intestine and early return of bowel function occurs. Postoperative pain is measured by visual analogue scale 0-10.

In our study, the VAS for ECS is 4.28 compared to 7.06 for TCS at 6 hours after surgery. In a study by Carmen et al, the postoperative pain was 4 and 5 in ECS and TCS group respectively on day 1.⁶ The bowel function returned at an average of 8.68 hours in ECS compared to 16.48 hours in TCS. Since, the bowel function returned early, oral fluids were started early in ECS group. So, requirement of IV fluids is less in ECS group. ECS reduces usage of IV fluids, analgesics, without increase in surgical complications.⁶

So ECS is more economic compared to TCS. The postoperative wound infection rate is 3- 15% in a study by Tomislav et al.⁷ The post-operative wound infection in our study is 0% in ECS and 1.5% in TCS. The only requisite is that the surgeon should be familiar with the procedure. Also at any time where we face difficulty ECS can be converted to TCS by simply opening the peritoneum. ECS can eliminate the need for cesarean section combined with hysterectomies in infected cases.⁸

CONCLUSION

So, we can conclude that ECS is a better method than TCS in trained persons in selected cases.

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