

SINGLE LAYER CLOSURE OF UTERINE INCISION IN CAESAREAN SECTION

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SUMMARY

The study includes 69 caesarean operations where uterine incision was closed in single continuous layer using No. 1 Chromic catgut and leaving the uterovesical fold of peritoneum unsutured.

Comparison is done with well matched 109 cases. Single layer closure is found to be safe, less time consuming and cost effective method giving better post-operative recovery.

INTRODUCTION

Caesarean operation mainly evolved to save a maternal life during difficult childbirth is now becoming the procedure of choice in high risk situations. Today it is a common obstetric procedure. With better understanding of anatomy and physiology of the pregnant woman the standard technique of lower segment caesarean operation is modified from time to time.

This study is aimed to analyse the

operative and post operative parameters in LSCS where uterus is sutured in single layer.

MATERIAL AND METHOD

Our study includes 69 patients who underwent LSCS at Smriti Nursing Home Saharanpur from 1st Jan. 96 to Sept 10th 96. The study group was compared with well matched 109 patients who underwent LSCS by standard Technique opening the abdomen by transverse muscle retracting incision done at the same place from Jan 1st to Dec. 31st, 1995.

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Accepted for Publication on Nov. 96*

In all the patients in study and control groups abdomen was opened by transverse muscle retracting suprapubic incision. Recti were vertically split by manual manipulation and later retracted laterally. A transverse incision was made in parietal peritoneum. Uterovesical fold of peritoneum was then recognised, incised transversely and bladder pushed down. A small transverse incision was given in lower uterine segment which was then adequately widened manually.

After delivering the baby and placenta the two cut edges of the lower segment

were properly visualised and stitched in single continuous layer using No. 1 chromic catgut. A second layer of stitches were given only in 2 patients where haemostasis was not properly maintained. Reperitonisation was done only in 5 cases. After achieving proper haemostasis abdomen was closed in layers.

OBSERVATIONS

Total 81 patients underwent LSCS in the study period. 59 were first LSCS and 22 repeat operations. Sixty nine cases were opened by transverse muscle retracting

Table I
ABDOMINAL SKIN INCISION IN THE TWO GROUPS

	Study Group	Control Group
Transverse	69	109
Vertical	12	18
Total	81	127

Table II

	Study Group	Control Group
Age	18 - 32 years (Mean 26 yrs)	18-39 years (Mean 25 yrs)
Parity	G1 - G6	G1 - G5
Emergency LSCS	52 (75.3%)	85 (78%)
Elective LSCS	17 (24.7%)	24 (22%)

abdominal incision. Twelve cases were opened by vertical midline abdominal incision. All these 12 cases were repeat LSCS and at the first event abdomen was opened by vertical incision. These cases were excluded from the study. In the control group 109 cases were opened by transverse incision (Table I).

Table II shows demographic distribution of patients in the two groups. Ages ranged from 18-32 years (mean 26 years) in the study group and 18-39 years (mean 25 years) in the control group. Parity ranged from G1-G6 to G1-G5 respectively. Seventeen cases were elective operation (24.7%) while 52 were emergency ones (75.3%) in the study group. The control group comprised of 24 (22%) and 85 (78%) cases respectively.

The indications for doing the caesarean operation are shown in Table III.

Table IV shows closure of uterine incision.

In the study group uterine incision was closed in single continuous layer using No. 1 chromic catgut in 67 cases. Two patients needed second layer closure due to oozing. Uterovesical fold of peritoneum was left unsutured after maintaining haemostasis in 64 cases. Only in 5 cases reperitonisation of uterine incision was done. In all the 109 patients in the control group uterine incision was closed in two layers and both parietal and visceral peritoneum were sutured.

A mean of 7 (5-9) skin stitches were put in the control group while 4 (5-9) were needed in the study group.

Only one No. 1 chromic catgut was used in the study group while 2 or sometimes 3 catguts were needed in the control group.

Table V indicates the mean operating time taken in the two groups.

Table III
INDICATION FOR LSCS

Indication	Study Group	Control Group
C.P.D.	22	36
Foetal Distress	14	18
Cervical Dystocia	9	14
Placenta Previa	8	15
Postmaturity with failed induction	6	9
Abnormal Lie	10	17

Table IV
CLOSURE OF UTERINE INCISION

	Study Group	Control Group
Uterine incision closed in one layer	67 (91.1%)	-
Uterine incision closed in two layers	2 (2.9%)	109
Visceral peritoneum sutured	5 (7.2%)	-
Visceral peritoneum unsutured	64 (92.8%)	109

Table V
TIME TAKEN FOR OPERATION

	Study Group	Control Group
Time taken from skin incision upto delivery of baby	2 - 6 min (mean 4 min.)	2 - 6 min (Mean 4 min.)
Closure	11 - 16 min. (Mean 12 min)	25 - 32 min. (Mean 28 min.)
Total time taken in completing the operation	25 - 20 min. (mean 18 min.)	28 - 40 min. (mean 34 min.)

Mean time taken in opening the abdomen upto delivering the baby was 4 minutes in both the groups. Closure took 12 minutes (11-16 min.) in the study group and 28 min. (25-32 min.) in the

control group. Total mean time taken in completing the procedure was 18 minutes (15-20 min) and 34 minutes (28-40 min) respectively.

The patients in study group were orally

Table VI
POSTOPERATIVE RECOVERY

	Study Group	Control Group
Orally allowed	2 - 12 hours (mean 4 hrs)	6 - 12 hours (mean 10 hrs)
Sitting in bed (mean 6 hrs)	4 - 10 hours (mean 15 hrs)	12 - 24 hours
Ambulation	1st or 2nd day	2nd day

Table VII
POSTOPERATIVE RECOVERY (Contd.)

	Study Group	Control Group
Analgesics required	1 - 2 shots	3 - 4 shots
Postoperative pyrexia	6 cases (8.7%)	18 cases (16.5%)
Hospital stay	7 - 8 days (mean 7)	7 - 9 days (mean 8)

allowed within 2-12 hrs. (mean 4 hours). They were sitting in bed within 4-10 hours (mean 6 hrs) and were ambulatory on the very first or second postoperative day. The comparison with control group is shown in Table VI.

Table VII shows postoperative period and hospital stay of the patients in the two groups. Only 1 or 2 shots of analgesics were required in the postoperative period in study

group while 3 or 4 shots were needed in controls. There were 6 cases of postoperative pyrexia (8.7%) while 18 cases in control group had fever (16.5%). The patients were discharged from 7th to 9th day in the two groups.

As a routine, dressing was changed on third postoperative day. Sixty five cases in study group had healthy wound on 3rd day while in 4 there was

Table VIII
CONDITION OF WOUND

	Study Group	Control Group
On third day		
Healthy	65 (94.2%)	100 (91.7%)
Serous or purulent discharge / induration	4 (5.8%)	9 (8.3%)
On stitch removal		
perfect union	64 (92.8%)	96 (88.1%)
Discharge/Induration/superficial gaping/haematoma	5 (7.2%)	13 (11.9%)

induration or discharge. One hundred control patients had healthy wound on 3rd day while induration or discharge was present in 9 (8.3%). 64 patients in study group showed perfect union on stitch removal while 5 (7.2%) had discharge, induration or superficial gaping. 96 controls had perfect union while 13 (11.9%) had discharge, induration or superficial gaping. None of the patients in the two groups had deep gaping upto rectus sheath (Table VIII).

DISCUSSION

Today, caesarean operation is a common obstetric procedure. With better antibiotics, improved anaesthesia, availability of blood and better understanding of physiology and anatomy of pregnant woman, the technique of operation is undergoing modification. For all practical

purposes caesarean sections performed today are lower segment operations done with much less blood loss and minimal chances of infection to general peritoneal cavity due to low placement of operation area. A transverse skin incision of Pfannenstiel type for opening the abdomen is now the choice.

The Misgav Ladach method preferring manual manipulations and minimising the use of instruments refers to suturing the uterus in one layer and leaving the peritoneal layers unstutured. This modified approach enhances recovery requiring much less analgesics and early ambulation.

In our study we tried to follow the above method. Uterine incision was closed in single layer. However parietal peritoneum was stitched.

CONCLUSION

We conclude that single layer uterine closure is

1. Safe
2. Less time consuming
3. Cost effective
- (a) less suture material used

(b) less I/V infusion needed (early allowance of oral fluids).

4. Renders better postoperative recovery by

- (a) early ambulation
- (b) less postoperative pyrexia
- (c) better healing.