

## Single Layer Closure of Caesarean Section – A Comparative Study

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### Summary

The aim is to introduce a safer, short and simple technique of caesarean section. The study group includes 1500 cases against a control of another 1500 cases. In this technique a transverse skin incision is made 2.5 to 3 cm. above the symphysis pubis. Through the fatty layer a nick is made in the rectus sheath which is then stretched cranially and caudally on either side. A hole is made with finger in the parietal peritoneum which is now widened. Lower segment is incised, baby and placenta are delivered in usual manner. Uterine wound is closed in single layer with continuous unlocked catgut stiches. Visceral peritoneum is stiched. Parietal peritoneum is not stiched. Rectus sheath is stiched with vicryl. Skin is repaired with nylon. Results have been found to be encouraging and much better than that in conventional technique. The new Technique is simple, safe, cost-effective with faster post operative recovery.

### Introduction

This is a single layer closure of the caesarean section wound (Stark, 1994) conducted at Indira Gandhi Memorial Hospital, Agartala, India over a period of 3 ½ years. The aim of the study was to introduce a simpler, safer and cost effective technique of caesarean section with minimal post-operative morbidity and faster recovery.

### Material and Method

In this study 1500 cases of caesarean sections were done in single layer closure technique against a control of another 1500 cases of caesarean sections conducted in the conventional method. Both the groups included primigravida to 5<sup>th</sup> gravida between the age group of 18-40 years.

### Steps of Operation

A transverse skin incision is made 2.5-3 cm.

above the symphysis pubis of standard length. Only the skin and subcutis are cut and then a nick is made in the avascular midline upto the depth of the rectus sheath. The nick is then extended little bit on either side with the tip of the scalpel. The index fingers of both hands are introduced on either side by the surgeon as well as the assistant and layers of the sheath are stretched caudally and cranially to expose the rectus muscles. The recti are then pulled laterally on either side by the surgeon and his assistant exposing the parietal peritoneum.

A hole is made over the parietal peritoneum with the index finger and now it is stretched caudally and cranially keeping the bladder out of danger. An incision is made over the lower uterine segment after stripping off the visceral peritoneum in usual manner. The baby and the placenta are delivered as usual. The uterus is exteriorized. The cut margins of the lower uterine segment are stitched in single layer with continuous unlocked sutures with chromic catgut no. 1 thread. After that the visceral peritoneum is stitched. Uterus is compressed between the two hands and is put

back in the abdominal cavity. Abdomen is cleaned after ensuring complete haemostasis.

The parietal peritoneum is not stitched. Rectus sheath is stitched with vicryl no. 1. Skin is repaired with nylon. A few stiches in the fatty layer are required in obese patients occasionally.

#### Post Operative period

IV drip is omitted 6-8 Hrs after the operation. Patients were allowed to sit and go to toilet on the same day. Analgesics required in the postoperative period are minimal because of less postoperative pain. Antibiotics commonly given in a combination of two drugs used for 5-7 days. Patients are allowed oral fluids & Biscuits on the same day of operation and on the first postoperative day she is given semisolid diet like Khichuri etc.

#### Observations and Results

No significant difference is observed as far as results in elective and emergency Section cases in the two groups. Use of antibiotics in both the groups is almost same. While closing the uterine wound extra haemostatic sutures required were 5.06% in the study group as against 8% in control group. Visceral peritoneum was sutured in 99% of cases in study group as against 100% in the control group. The parietal peritoneum was not sutured in study group whereas it was sutured in all cases of control group. Rectus sheath was sutured with vicryl No 1 in all cases in study group and with chromic catgut No 2 in control group. The number of Fatty layer hasemostatic stitches was much less in study group in comparison to the control group, Incision delivery interval was less (3-5 min) in study group as against 5-7 min in control group. Total operation time from skin to skin was 20-26 min in study group whereas it was 35-45 min in control group. The amount of blood loss was much less in study group than that in control group. Because of short surgical procedure and less tissue handling in the study group patients required less I.V. fluid i.e. for only 6-8 hours and they were able to go to toilet after 7-9 hours which is much shorter than in control group, patient in the study group

had less postoperative complications in terms of pyrexia, pain in abdomen, sepsis etc. in comparison to that in control group. The patients were discharged on 5<sup>th</sup> postoperative day in 98% of cases in study group and on 7<sup>th</sup> or 8<sup>th</sup> POD in the control group. On an average the hospital stay in study group was 5 days as against 7-9 days in control group.

#### Advantages of the single layer technique

It is less time consuming with less blood loss, requires less I.V. fluids, less suture material, less instrumentation, less analgesic. Patients have faster post operative recovery with better wound healing and becomes ambulatory earlier.

This technique is safer, cost effective, ensures surgeon comfort and also it is patient friendly and cosmetically better accepted. There is no significant difference in the baby profile except that patients can breast feed earlier in the study group and they are able to take care of the newborn.

#### Conclusion

The Single layer closure technique of caesarean section (Stark 1996-97) has been found to be safe, simple, cost-effective and much better in all respects than the conventional method. Postoperative morbidity in this technique is much less. Because of the minimal postoperative pain and faster recovery, patient becomes ambulatory much early, she is able to breastfeed and take care of her baby earlier than in conventional method.

#### References

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