

ORIGINAL ARTICLE

Comparing Outcome of Peritoneal Closure with Nonclosure during Patients' Caesarean Section

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ABSTRACT

Objective: To compare closure procedure with the nonclosure-peritoneum protocol during cesarean section.**Study Design:** Randomized control trial**Place and Duration of Study:** Department of Obstetrics & Gynecology, District Headquarter Hospital, Gujranwala from 12th May 2018 to 12th November 2018.**Methodology:** One hundred females were enrolled and divided into two different groups. In first Group designated as "Group I" visceral peritoneum was closed with chromic 2/0 suture while in group II, no closure was done. According to VAS the post-op pain was noted.**Results:** The mean age of the females from closure group was 31.06±7.57 years while the mean age of the females from non-closure group patients was 31.78±7.59 years. There were 19 (19%) female were nulliparous. The post-operative pain was noted in 30(30%) females (P<0.001).**Conclusion:** Closure group females showed significantly lower post-operative pain after 24 hours of cesarean section delivery than non-closure females.**Keywords:** Caesarean section, peritoneum, Closure, Postoperative pain, delivery

INTRODUCTION

Cesarean section delivery is known to mankind since beginning of second millennium BC. This method has been evolved over the centuries and outcomes have been excellent with the advent of antibiotics, anesthesia techniques, blood transfusion and aseptic measures¹. Over the years, there is significant increase in the rate of cesarean sections.

In most part of the world, there is 5-10% increase in cesarean section rate as compared to last decade. The main causes for this surge include fetal-distress, fetal indications, more than one pregnancy as well as decent arrest. Comparing c-section with delivery through vagina there are more chances of morbidity and complications in later due to high additional risk involved due to surgery and its related surgical complication as ascended post-operative pain. The closure of visceral peritoneum in contrast to parietal has a debatable effect on reducing post-operative pain.^{2,3}

A study by Nasiret al⁴ elaborated in their research that not closing the visceral-peritoneum can lead to more postoperative pain i.e. 10% and 40% patients suffered from nominal pain either if peritoneum is left open or closed within the first twenty four hours of post-operative period (p value less than 0.05). Another study described that when visceral-peritoneum is closed then it causes increase in postoperative pain.⁵

The hospital stay has also been observed to increase in patients suffering from post-operative pain in addition to high cost of hospitalization and delayed recontination of active lifestyle.⁶ In this study, a comparison of visceral-peritoneum closure is made with leaving it not closed. This comparison is done to check that either any of these two protocols offers reduction in post-operative pain related with cesarean or not. This study will assist in providing results which can further help in reducing morbidity, cost of hospitalization as well as the required stay at the hospital.

METHODS AND MATERIALS

It was a comparative study analysis including randomization. The study was performed at Obstetrics & Gynaecology Department of District Headquarter Hospital, Gujranwala during 12th May 2018 to 12th November 2018. A total of 100 pregnant ladies were enrolled and informed consent was taken. Patients were then separated into two groups such as Group I, and Group II. In the first group (Group I), visceral peritoneum was closed with chromic 2/0 suture while in group B, no closure was done. Patients with 37-42 weeks

of pregnancy, undergoing cesarean section delivery and age range of 20 to 45 years were included. The exclusion criteria consisted of patients having clinical history of chronic illness as diabetes, hepatic or renal diseases in addition to those who were immunocompromised and under steroidal therapy. Patients having gestational hypertension or having more than one fetus were also not included in the study. All the patients undergo cesarean section delivery by senior postgraduate trainee under supervision of consultant. Detailed history, clinical and ultrasound examinations were done. The parietal peritoneum was closed in all patients. Standard postoperative care was provided to all patients according to hospital protocols. The postoperative pain was assessed by VAS at 24 hours after operation and all the data was recorded.

Data was entered and analyzed using SPSS-24. The groups were analyzed by independent t test which compared their mean scores of post-operative pain. p-value which was less than 0.05 was taken to be significant.

RESULTS

Females mean age in group where closing was performed was 31.06±7.57 years while the mean age of the females from non-closure group patients was 31.78±7.59 years. The mean value of gestational age of the females from closure group was 38.38±1.176 weeks while the mean value of gestational age from non-closure group females was 38.06±1.114 weeks (Table 1).

Table 1: Descriptive statistics of age and gestational age with study groups

Variable	Closure group	Non-closure group
Age (years)	31.06±7.57	31.78±7.59
Gestational age (weeks)	38.38±1.17	38.06±1.11

Table 2: Demographic information of the patients

Variable	No.	%
Parity		
No parity	19	19.0
One	23	23.0
Two	26	26.0
Three	32	32.0
Postoperative pain		
Yes	30	30.0
No	70	70.0

There were 19 (19%) nulliparous, 23 (23%) had parity 1, 26 (26%) had parity 2 and 32 (32%) had parity 3. Out of 100 females,

the post-operative pain was noted in females 30 (30%) [Table 2].

The study results showed that the post-op pain from closure group noted in 6(12%) females while in non-closure group the post-op pain was noted in 24(48%) females. This variance was considered significant as p-value was found as <0.001. [Table3].

Table3: Comparison of post-op with study groups

Post-operative pain	Closure group	Non-closure group	P value
Yes	6 (12%)	24 (48%)	<0.001
No	44 (88%)	25 (52%)	

DISCUSSION

Caesarean or simply C section is a surgical procedure of taking out baby through abdomen/uterus of the mother. It is considered as a global common surgical method with higher complications rate as fever or surgical site infection than observed in normal vaginal-delivery.⁷ The present study reported 30% those females who suffered from post-operative pain with 12% presented in closure protocol and 48% in those where no closing was done. Studies has reported short duration variance among closure and no closure peritoneum groups.⁸ The duration of operation has been shown to be significantly lower in patients where closure has not been performed as assessed after 24 hours of their surgery. However, no change has been noticed between above mentioned groups in conditions of febrile or with varied hemoglobin levels. Studies have also shown that rate of morbidity is ascended in closure group than where no closure is performed.^{3,9-12}

A research conducted by Højberg and his colleagues¹³ reported peritoneum closing in comparison with non-closing with post-operative pain as their main outcome of research. They showed no specific variance among both groups however the use of analgesic was lower in patients where peritoneum was left unclosed. Similar results have been quoted by other researchers within the first twenty-four hours of patient's cesarean surgery. Less morphine uses and higher satisfaction has been observed in patients where peritoneum was left opened.¹⁴

In other studies, such as of Nasir and his co workers⁴ presented that keeping the visceral-peritoneum opened can cause higher post-operative agony and pain. They showed in their results that ten percent of patients where closure has been done in contrast to forty percent patients where no closure was attempted had felt mid pain within the 24 hours of post-operation. This results are similar to the current study research.

Whereas a study conducted by Bhaumik¹⁵ stated that that not closing the visceral or parietal-peritoneum is a better option than closing the visceral or parietal-peritoneum. Another study debated that closure of visceral peritoneum is associated with more postoperative pain.⁵

Bhaumik's study further suggested that closing the visceral or parietal-peritoneum is not a favorable choice.¹⁵ Contrary to this data a study concluded no variance in post-operative pain among closure or the not closing group in patients having repetitive cesarean.¹⁶ Therefore the debates on either opting closing the visceral or parietal-peritoneum or not still continues and requires further data for evident confirmation.

CONCLUSION

The closure group females showed significantly lower post-op pain after 24 hours of cesarean section delivery than to non-closure females presented at District Headquarters Hospital, Gujranwala.

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