

Does a New Fascial Closure Technique during Cesarean Section have an Impact on the Postoperative Corner Pain and Patient Satisfaction?

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Abstract

Cesarean section is one of the most common operations worldwide. For this reason, techniques related to cesarean delivery have extremely important. In this study, it was aimed to evaluate postoperative pain and patient satisfaction following a new fascia closure technique.

This study was designed as a prospective randomized controlled trial. In this context, a total of 51 women who were planned for lower segment cesarean section with Pfannenstiel incision were randomly divided into two groups. In our new technique, the corner nodes were embedded under the fascia layer on the muscle layer. The main outcome measures used in the assessment were postoperative corner pain not requiring analgesic supplementation and patient satisfaction. Postoperative pain was evaluated with the verbal rating scale and patient satisfaction with the verbal rating satisfaction scale. Preoperative and postoperative hemoglobin estimation, blood loss, and length of hospital stay were used as secondary outcome measures.

There was no statistically significant difference between the two groups in terms of estimated blood loss, pre- and post-procedure hemoglobin values, and length of hospital stay ($p > 0.05$). Similarly, no statistically significant difference was found in terms of the results of the early postoperative verbal rating scale and the patient satisfaction scale. A rating scale was applied to the participants in the sixth week postpartum. According to the results, corner pain and patient satisfaction scores in the group in which the new technique was applied were found to be more satisfactory than the traditional technique. This difference is also statistically significant.

Examination of our technique in large samples with multicenter planned studies will benefit its development. It is thought that after this stage, it can enter into widespread use.

Keywords: fascial closure; cesarean section; corner pain

Introduction

Cesarean section is an operation that involves an open incision in the abdomen and an incision made on the uterus for the purpose of delivery. One of the most common operations worldwide is cesarean section, with more than one million per year in the USA alone. For this reason, techniques related to cesarean delivery have extremely important effects in the lives of women and their families. In cesarean deliveries, the surgeon must pass through all the layers surrounding the fetus to reach the fetus. First, the skin is opened, followed by the subcutaneous tissues. The

next layer is the fascia of the rectus abdominis muscles. Following the separation of the rectus muscles, the abdominal cavity is entered. In pregnant women, the uterus is often encountered as soon as it enters the abdomen [1].

Cesarean section is an operation that includes many techniques. Various techniques are used at each stage or tissue layer during the operation. Many factors affect the operator's decisions regarding the technique to be used. Decisions on cesarean section techniques, no different from any medical field, should also be evidence-based [2].

It is essential that all surgeries to be performed on the human body are performed with the least damage to the tissue. Respect for tissue is extremely important at all stages of surgery. The most common incision today is the Pfannenstiel incision. Post-operative complications are often pain and infection [3].

The incidence of cesarean delivery has increased significantly in recent years. Although it is considered a safe operation, possible complications are important. In all cases where cesarean delivery is indicated, the appropriate technique should be selected, and surgical principles should be followed. It is necessary to enhance current cesarean section techniques and to conduct continuous research [4].

In this study, it was aimed to evaluate postoperative pain and patient satisfaction following a new fascia closure technique.

Materials and Methods

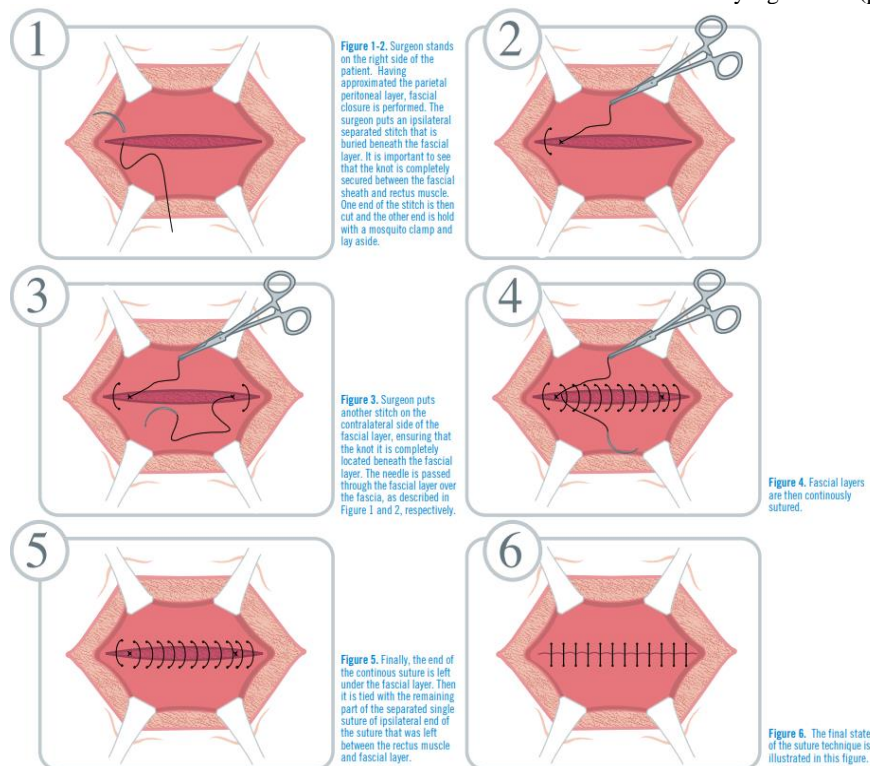
This study was designed as a prospective randomized controlled trial. In this context, a total of 51 women who were planned for lower segment cesarean section with Pfannenstiel incision were randomly divided into two groups. While a new technique was used to close the fascia in one of the groups (group I, n:26), the classical closure technique was used in the other (group II, n:25). In the traditional technique, both corner nodes

remained below the subcutaneous layer, above the fascia. In our new technique, the corner nodes were embedded under the fascia layer on the muscle layer (Figure 1-6).

The main outcome measures used in the assessment were postoperative corner pain not requiring analgesic supplementation and patient satisfaction. Postoperative pain was evaluated with the verbal rating scale and patient satisfaction with the verbal rating satisfaction scale. Preparative and postoperative hemoglobin estimation, blood loss, and length of hospital stay were used as secondary outcome measures.

Results

There was no statistically significant difference between the two groups in terms of estimated blood loss, pre- and post-procedure hemoglobin values, and length of hospital stay ($p>0.05$). Similarly, no statistically significant difference was found in terms of the results of the early postoperative verbal rating scale, which evaluates postoperative corner pain, and the patient satisfaction scale, which examines patient satisfaction. A rating scale was applied to the participants in the sixth week postpartum. According to the results, corner pain and patient satisfaction scores in the group in which the new technique was applied were found to be more satisfactory than the traditional technique. This difference is also statistically significant ($p<0.001$).



Discussion

Today, cesarean section is one of the most frequently performed operations. Although considered simple compared to other operations, possible complications can have devastating consequences for both mother and fetus. It is very important for specialist physicians to be informed about new developments and various modifications in standard cesarean section techniques to minimize morbidity and mortality [5].

The risk of developing an infection after cesarean section is higher in women who gave birth by cesarean section by up to 20 times compared to those who gave birth normally. In addition to infection, wound complications such as hematoma, seroma, and separation can also be seen

after cesarean section. Complications may cause adverse effects on maternal health, the mother's ability to care for her baby, and birth experience in the postpartum period [6, 7].

In cesarean section operations, closure of the fascia is an important step since it is largely responsible for the durability of the skin in the postoperative period [8].

Postoperative pain that develops after cesarean section affects daily activities and contributes to the development of permanent pain. This pain has also been reported to affect their ability to care for the infant, effective breastfeeding, and quality interaction with infants. The factors affecting the perception of pain in the postoperative period have not been examined

in detail. In a study, the incidence of moderate-to-severe postoperative pain was found to be approximately 80% [9].

Pain after cesarean section has not been adequately studied. To examine this issue, a prospective study was planned and the incidence of chronic pain at 3, 6, and 12 months after cesarean section was examined. Accordingly, the incidence of chronic pain at the 3rd, 6th, and 12th months after cesarean section was calculated to be 18.3%, 11.3%, and 6.8%, respectively [10].

In one study, 111 women who gave birth by cesarean section were prospectively examined. In women who were operated with the Pfannenstiel cesarean section method, the duration of delivery and surgery was found to be significantly longer. Complaints of incision pain and need for analgesic injections were also found to be significantly higher in women on the second postpartum day [11].

A study was conducted to investigate the prevalence of post-Pfannenstiel pain complaints. A questionnaire assessing pain in the Pfannenstiel area was administered to all women who had a Pfannenstiel incision for cesarean delivery or abdominal hysterectomy. After a two-year follow-up, approximately 35% of the participants experienced chronic pain in the incision area [12].

Conclusion

Pain complications arise in cesarean section operations, especially after Pfannenstiel's incision. It is also common for this condition to turn into chronic pain. In addition, the comfort of life of the mother and baby decreases due to the pain experienced. With the new fascia closure technique examined in our study, the sutures are left under the fascia during closure, thus reducing postoperative corner pains and indirectly increasing patient satisfaction and the life comfort of mother and baby. Examination of our technique in large samples with multicenter planned studies will benefit its development. It is thought that after this stage, it can enter into widespread use.

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