ORIGINAL ARTICLE

Comparison of Post-Episiotomy Repair Complications between Continuous Subcuticular and Interrupted Mattress Sutures

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ABSTRACT

Background and Objective: *Episiotomy is the most common surgical procedure in obstetrics and the utilization of this surgical technique is increasing day by day. The importance of absorbable sutures for episiotomy repair cannot be denied. This study was carried out to compare post-episiotomy repair complications between continuous subcutaneous stitching with vicryland interrupted mattress closure with catgut.*

Methods: *This cross-sectional study was carried out in Hussain Memorial Hospital Lahore and Kishwar Fazal Teaching Hospital Sheikhupura. Four hundred patients, admitted with labour pains were equally divided into two groups. Group A, comprised of patients, who had episiotomy repair by continuous subcuticular sutures with vicryl and group B patient's episiotomy repair was done by interrupted mattress sutures with catgut. All patients were delivered by vaginal route with episiotomy, to widen the perineum. The details of history and post episiotomy repair complications like postpartum pain, in duration, process of healing, wound discharge, wound dehiscence and need for re-stitching were recorded in the relevant proformas. Post-partum pain in episiotomy stitches was assessed by a visual analogue scale.*

Results: *Among 400 patients mostly were primipara; 73% in group A and 75% in group B. A total of 44% of patients in the study belonged to age group between 21 to 25 years. Analgesia was required in 5% patients of group B and 9% of group A patients, which was statistically significant (P-value< 0.05). Among post-operative complications, feeling of stretch in the stitches and wound dehiscence were statistically significant in group B with P-value 0.02 and P-value 0.04 respectively when compared with group A.*

Conclusion: *It is concluded that repair of episiotomy by subcuticular stitches with vicryl causes less post-operative complications and a better healing with less complications than closure by interrupted mattress suture with catgut.*

KEYWORDS: *Episiotomy, Continuous subcuticular repair, Interrupted mattress sutures, Perineal discomfort.*

INTRODUCTION

An episiotomy is a surgical incision made on the posterior vaginal wall and perineum, when the delivering patient is in the second stage of labour. Episiotomy is the most common surgical procedure in obstetrics nowadays. The utilization of this surgical technique is increasing day by day.[1,2] The use of this technique has been reported to reduce the labour related trauma to the fetus, decrease the occurrence of extensive tears in the perineum and preserve the soft perineal tissues but still there have been conflicts about its actual efficacy. Episiotomy rate fluctuates worldwide, depending upon the situation whether the procedure was used routinely or selectively.[3] Episiotomy rates are still higher in developing countries, as restrictive use of episiotomy in primigravidae has not been widely practiced. Among younger patients with estimated fetal weight > 4000 g, the episiotomy rate has increased, especially when presentation is not occipito-anterior. Nevertheless, various studies indicate that the average episiotomy frequency has dropped from 20.6% to 17.7%.[4]

Vicryl is polyglactin; it causes less tissue reaction and is absorbed by hydrolysis while chromic catgut is manufactured by collagen and causes an inflammatory response into the tissues, hence it is broken down by proteolytic enzymes and phagocytosis.[5,6] Vicryl for perineal repair following child birth appears to decrease women experience of short term pain after delivery. Catgut sutures on the other hand increase

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short term pain and need more analgesics, i.e. up to ten days postpartum. Moreover catgut might need re-suturing than vicryl. There is no difference between two suture materials in long term perineal pain at 6 to 12 months.[5,6] The aim of the study is to compare the post episiotomy repair complications after closure by subcuticular stitches with 2-0 vicryl and by interrupted matters suture with catgut 1-0.

METHODS

This cross-sectional study was carried out in the Department of Obstetrics & Gynaecology of Hussain Memorial Hospital Lahore and Kishwar Fazal Teaching Hospital Sheikhupura after ethical approvals with No. H/2017/ERC/201, from former and No. KFH-17-ADMN-99, from latter. Sample size comprised of 400 patients (primigravida and gravida 2) with labour pains admitted in the Obstetrics & Gynaecology Department and were selected by systematic randomized trial. All patients were delivered by vaginal route and episiotomy was performed. Patients were divided into two groups A and B with two hundred patients in each group. Episiotomy was stitched by continuous subcuticular sutures with 2-0 vicryl in group Aand by interrupted mattress sutures with catgut 1-0 in group B. Parameters like pain, perineal discomfort, woundhealing, and complications of healing process were assessed and compared between two groups. Patients diagnosed with bleeding disorders, anaemia and jaundice were not included in this study. A visual analogue scale was used to measure the pain.[7] History, examination and investigations of all the patients were recorded in the relevant proformas.

STATISTICAL ANALYSIS

Data was analyzed using version 25.0 of SPSS software. Comparison of complications in groups was calculated by Student's t-test, taking P-value ≤ 0.05 as significant.

RESULTS

In the present study 400 patients with labour pains, admitted in the labour room, delivered babies by vaginal route and episiotomy was given to all. These were randomly divided into two groups, A and B. In group A, episiotomy was stitched by continuous subcuticular sutures with vicryl (2-0). Patients in group B had episiotomy repair by interrupted mattress sutures with 1-0 catgut. The maternal demographic characteristics of maternal age and parity are shown in (Table-1).

Table-1: *Age groups of the patients in group A and B.*

Age of the Patients	Subcuticular (Group A)	Interrupted Mattress (Group B)
< 21 years	52	64
21-25 years	92	84
26-30 years	40	32
>30 years	16	20

Most of the women in both groups were primipara, 73% in group A and 75% in group B. A total of 44% of the patients in the current study were falling in the age group between 21 to 25 years, shown in (Table-1). Only 8% were > 30 years group A and 10% in group B. Pain observed in 48 hours was scored as 0, 1, 2. It was 14%, 36%and 50% of patients in group A and 8%, 34%, 58% of patients in group B, respectively. However, it was not statistically significant *(P-value > 0.05)*. Requirement of analgesia was seen in5% of patients in group B and 9% of patients in group A, which was statistically significant *(P-value< 0.05)*. After 5 days pain score observed in group A was;42% patientshad pain score 0, 44% had pain score 1, 14% pain score 2 and in group B was 40%patients had pain score0, 44% had pain score 1 and 16% had pain score2. None of the associations were statistically significant between two groups.

Healing process in group A patients was 86% by 1st intention, 12% by 2nd intention and 2% by 3rd intention and in group B patients was76% by first intention, 22% by 2nd intention and 2% by 3rd intention with p-value of 0.56, 0.21 and 0.24, respectively. All associations were found to be statistically insignificant.

Post episiotomy complications in groups A & B were induration, feeling of stretch in stitches, wound discharge, wound dehiscence and resuturing of gaped episiotomy as depicted in (Table- 2).

Table- 2: *Comparison of post episiotomy complications in group A and B.*

Type of Episiotomy Repair	Induration	Feeling of Stretch in Stitches	Wound Discharge	Wound Dehiscence	Re-Stitching
Subcuticular	16	24	0	8	0
Interrupted Mattress	32	60	12	32	8
P-value	0.21	0.02	0.24	0.04	0.12

DISCUSSION

In the current study, primigravidae were the majority of mothers who had episiotomy. This is similar to the findings of other hospitals, especially where a generous policy is adopted regarding episiotomy and can reflect the belief that it is advantageous for all first births.[8-10] Wound healing is a naturally occurring process and it also has an impact on the quality of life.[11] Wound healing by secondary intention was observed in 12 percent of cases in group A and 22 percent of cases in group B. A tertiary form of healing was observed in 2% in the interrupted mattress group and none of the patients in the subcuticular group. The findings are statistically

significant, and we can equate them to different international studies.[2,12,13] During the first 48 hours, there has been no statistically significant decrease in discomfort. Nevertheless, only 14% of women complained of perineal pain requiring analgesics in group B as compared to 08% of women in group A, which was statistically significant *(P-value < 0.05)*. The postpartumduration of perineal pain, demonstrated a statistically significant reduction in thevicryl group on the subsequent follow-up at 5th day (50% vs. 34%).One study reported more pain and analgesic needs in the polyglactin group vs. catgut group.[14] Greenberg JA et al.[14] observed that in the fast-absorbing polyglactin group at 24-48 hours there was a statistically significant reduction in pain (25% vs. 34%) but there were no significant differences at 10-14 days between the two groups. In the current study, indurations 16 (08%) in group A and 32 (16%) in group B were observed in episiotomy sutures. Other parameters: feeling of stretch in stitches, wound discharge, wound dehiscence and resuturing was 12%, 0% 4% 0% in patients of group A and 16%, 30%, 6%, 16%, 4% in group B patients respectively. Another study also reported that wound swelling was observed in 6.5% patients in the vicrylgroup and in 7.6% cases in the catgut group during the first 24-48 hours and 2.8% in the vicryl group and 3.4% in the catgut group on the 5th day; which was statistically significant. Wound dehiscence was noted in 4% of cases in group A and 16 % of cases in group B on 5th day, which was statistically significant.[13] In the present study only one case in group B required resuturing. Bharathi et al.[15] also reported in a study that less suture dehiscence was observed in the vicryl group than in the catgut group.

CONCLUSION

Repair of the wound by subcuticular stitches with vicryl have less severity, duration of pain and better wound healing than those patients receiving interrupted mattress sutures by catgut. The group of subcuticular repair need less analgesics.In the interrupted mattress sutures group, wound dehiscence, perineal irritation and perineal pain were significantly higher compared to the subcuticular group.

LIMITATIONS OF STUDY

The limitation of the study was sample size and resource constraints. This study recruited patients from private teaching hospitalsonly. Public teaching hospitals with huge turnover may also be included for future studies to draw more accurate inference from the sample study.

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AUTHOR'S CONTRIBUTION

AT: Conception of work and design.
NM: Acquisition of data and substantial contribution and design.
MHD: Drafting article and receiving critically.
ZIB: Reviewing critically important intellectual content.
MZ: Final approval of version.

CONFLICT OF INTEREST

None to declare.

GRANT SUPPORT AND FINANCIAL DISCLOSURE

None to disclose.

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