Original Article

Comparative Efficacy of Vicryl Rapide Suture Versus Chromic Catgut Suture for Episiotomy Repair

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Abstract

Objective: To compare the efficacy of vicryl rapide suture versus chromic catgut suture for episiotomy repair in term of pain score and wound healing at tertiary care Hospital.

Methodology: This Randomized Controlled Trial was done from January 2017 to December 2017 at Obstetrics & Gynecology Department, Bahawal Victoria Hospital of Bahawalpur. Patients those underwent episiotomy to facilitate the delivery of the head in the labour room with age rang 18 to 35 years and parity 1-4 were included. Patients were randomly placed into two Groups (Group-A: vicryl RAPIDE) and (Group B: chromic catgut), via lottery method. Each patient was evaluated for efficacy in term of postoperative pain at 48 hours after delivery.

Results: Total 150 patients were studied. Mean age of Group A patients was 26.60±3.37 years and 27.32±3.14 years of group B. Mean gestational of group A was 39.24±1.32 weeks and 39.20±1.08 weeks of group B. Efficacy was 78.67% among patients of Group A (vicryl RAPIDE) while 36 (48.0%) in Group B (chromic catgut) patients with p-value of 0.0001.

Conclusion: It was concluded that vicryl RAPIDE suture are ideal for the episiotomy repair with significant less pain and better wound healing as compared to chromic catgut suture.

Keywords: Episiotomy, suture, perineal pain, wound healing

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Introduction

For a fresh mother, the effects of perineal injury can be discomforting as she attempts to deal with hormonal fluctuations and her baby's needs; moreover, it can pose a long lasting impact on sexual intimacy.[1] Nearly 70% of females with vaginal birth would suffer perineum impairment to some extent because of episiotomy and tear would and require stitches.[2] Such injury may lead to instant perineal pain continuing up to two weeks following birth, and even during sexual activity many females report long-term discomfort and pain. Perineal traumas that happens during assisted or spontaneous vaginal deliveries are typically more severe following the initial vaginal delivery.[3] It is characterized as any injury to genitalia in the course of childbirth, which takes place intentionally by episiotomy or spontaneously.[4]

Essential treatment targets during pregnancy are to lower the risk for perineum injury at birth or to alleviate discomfort and pain caused by perineal sutures. Hence, it is essential to find

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stitches that have the ideal characteristics for perineal repair .[5] The variety of suturing product utilized in perineal restoration can possibly also affect the level of discomfort, superficial dyspareunia, and wound dehiscence that females undergo after childbirth.[6] The materials used for suture are non-absorbable and absorbable. At first, non-absorbable sutures such as nylon and silk were used that required removal following 1 week of treatment. Both polyglactin and polyglycolic, according to the current literature, trigger limited tissue inflammation and reaction in absorbable suture products.[7,8] A relatively recent product quick polyglactin 910 (PR) is made up of smaller molecules with the same components as coated polyglactin 910 (PG) and is soluble quicker than most other absorbable products.[9] As the post-episiotomy perineal pain is the commonest cause of maternal morbidity and is directly related with the type of suture material used for episiotomy repair and previous studies have shown large variation in the efficacy of these two sutures for episiotomy repair.[10] So the rationale of this study was to compare the efficacy of vicryl RAPIDE suture versus chromic catgut suture for episiotomy repair. Current study will be different from previous studies with respect to larger sample size. However, this study will not only help to resolve the issues in their efficacy but also will be a useful in enriching the existing literature with local data.

Methodology

This Randomized Controlled Trial (double blind) was done from January 2017 to December 2017 at Obstetrics & Gynecology Department, Bahawal Victoria Hospital of Bahawalpur. Approval from local ethical committee was taken. Women of age range 18-35 years and 37-41 weeks of gestational age, singleton pregnancy with vertex presentation, parity 1-4, delivering vaginally followed by episiotomy to facilitate the delivery of the head in the labour room were selected. Women with twin pregnancies, instrumental delivery, any bleeding disorder, breech presentation and any chronic disease were excluded. After taking written and informed consent, the selected subjects were equally distributed into A & B groups, via random integer table. All study participants were given a choice to pick any slip from all slips that were completely intermixed (50% of the slips were marked with letter ' A' and the remaining 50% with letter ' B ') and the patients were allocated their respective groups according to this procedure. In group A cases, episiotomy restoration was performed with vicryl RAPIDE suture, whereas in group B cases episiotomy restoration was performed with chromic catgut suture. The same surgeon carried out all the operations (with minimum five years of post-fellowship experience). Each patient was injected with intramuscular diclofenac sodium with two equal intervals of 12 hours during 1st 24 hours. All the patients were assessed post-operatively for efficacy in term of postoperative pain by using VAS and wound healing. Data was collected by self-made proforma. All the data was analyzed by using SPSS version 19.0. Mean and standard deviation were calculated for numerical variables. Frequency and percentage were calculated for categorical variables. Chi-square test was used and p-value ≤ 0.05 was considered as significant.

Results

Age range in this study was 18 to 35 years with an overall mean age of 26.96±3.31 years. The mean age of women in group A was 26.60±3.37 years and in group B 27.32±3.14 years. Majority of the patients 104 (69.33%) were between 26 to 35 years of age. The mean gestational age in group A was 39.24±1.32 weeks and in group B 39.20 ± 1.08 weeks. The mean parity in group A was 2.48±1.01 and in group B 2.42±1.03. Distribution of patients according to type of episiotomy has been shown in Table I.

The mean BMI in group A was 28.67±4.41 kg/m^2 and in group B 28.39±4.22 kg/m^2. Efficacy was yes (no or mild perineal pain) in 59 (78.67%) patients in Group A (vicryl RAPIDE), while in Group B (chromic catgut), it

was seen in 36 (48.0%) patients with p-value of 0.0001 (Table II).

Table I: Type of episiotomy in both groups (n=150)

Type of episiotomy	Study groups		p-value
	Group A	Group B	
Midline	53 (70.7%)	50 (66.7%)	0.597
Mediolateral	22 (29.3%)	25 (33.3%)	
Efficacy Total	75 (100.0%)	75 (100.0%)	

Table II: Efficacy between both Groups (n=150)

Efficacy	Study groups		p-value
	Group A	Group B	
Yes	59 (78.67%)	36(48.0%)	0.001
No	16(21.33%)	39(52.0%)	
Total	75 (100.0%)	75 (100.0%)	
Mean VAS	02.23±0.45	04.95±0.22	0.001

Discussion

Roughly 70% of females with vaginal birth would suffer from perineum impairment to some extent because of tear or episiotomy (cut) and would require stitches. During the 2 weeks following birth, this impairment may lead to perineal pain, as well as some females encounter long-term discomfort and pain during intercourse. We performed this analysis to contrast the effectiveness of RAPIDE sutures for episiotomy restoration with chromic catgut sutures. In this study efficacy was higher (78.67%) in Group A (vicryl RAPIDE) as compared to Group B (48.0%), p-value 0.0001. Bose E et al[11] contrasted the efficacy of chromic catgut and vicryl RAPIDE sutures in perineal pain after episiotomy restoration and reported a 98% efficacy for vicryl RAPIDE and 82% for chromic catgut sutures. In another study of Bharathi A et al[12] no perineal pain following episiotomy was found in 57% patients in which vicryl RAPIDE suture was used as compared to 32.5% patients in which chromic catgut suture used. In another study stated that out of 50 cases patients, Vicryl RAPIDE group showed significantly minimal pain and most of the patients had no need of analgesia as compared to chromic catgut group p-value-0.000.[13] Kurian JBS et al[14] also found comparable findings. A Meta-analysis contrasted rapidly absorbing sutures with standard synthetic sutures and found similar outcomes for long and short-term pain.[16] In one study fewer females with rapid absorbing sutures were reported with analgesics utilization at 10 days. Most females needed suture removal in standard synthetic suture group than those in rapidly absorbed group.[8] Bharathi A et al[15] concluded that vicryl RAPIDE is the best suture material for the episiotomy, which showed less perineal pain and a better wound healing as compared to Chromic Catgut and wound infections and resuturing was higher chromic catgut group. Though in this study no infection was found in both groups. A randomized, controlled trial,[16] reported that no variance was found in the resumption of sexual intercourse at 6 weeks following the delivery between chromic catgut than the standard polyglactin group P = 0.23).

In this study mean VAS score was 02.23±0.45 in vicryl RAPIDE suture group, which was significantly lower as compared to catgut sutures group (VAS score 04.95±0.22), p-value 0.001. Similarly, Bose E et al[11] reported that VAS was significantly lesser in VR group in all three positions in contrast to CC group P < 0.001. Bose E et al[17] also found similar findings.

In this study the mean age of women in group A was 27.04 ± 3.76 years and in group B 27.04±3.72 years. Abdullah M et al[13] found comparable findings as mean age 24.72 ± 2.33 years in vicryl RAPIDE group and 24.76 ± 2.60 years in Chromic Catgut group. In this study the mean gestational age in group A was 39.24 ± 1.32 weeks and in group B 39.20 ± 1.08 weeks. Abdullah M et al[13] reported that the mean

gestational age of vicryl RAPIDE group was 37.96±1.36 weeks and mean gestational age of Chromic Catgut group was 38.19±1.27 weeks.

Conclusion

This study concluded that frequency of post-operative perineal pain becomes relatively less by using vicryl RAPIDE suture as compared to chromic catgut suture, following episiotomy repair. So, it is recommended that vicryl RAPIDE suture should be used as primary suture in episiotomy repair in order to reduce post-operative perineal pain as well as morbidity.

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