

COMPARATIVE STUDY OF EPISIOTOMY REPAIR: CHROMIC CATGUT AND VICRYL RAPIDE

Dr. B S Meena¹, Dr. Prerna Sharma², Dr. Parveen³

¹Sr. Professor & HOD, ²⁻³ Resident doctor.

Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur

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Corresponding author: Dr. Prerna Sharma

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Abstract

Background: Prevalence of the episiotomy varies around the world depending on whether it is used as a routine or a restricted procedure. The rates are still higher in developing countries, like ours, since the use of restricted episiotomy is not being practiced widely in primigravidas.

Methods: In our randomized comparative study of 222 women who were admitted to the Department of Obstetrics and Gynaecology, SMS Medical College Jaipur, the enrolled women were divided into 2 groups. In Group-A: Vicrylrapide (polygalactin-910) suture material was used in 111 patients and in Group-B chromic catgut suture material was used in another 111 patients, for repair of episiotomies.

Results: In our present study in vicryl rapide group at 24-48 hrs pain was present in 49.55% of patients, redness was found in 8.10% of patients, swelling was found in 3.60% patients and analgesic used by 72.97% of patients. In chromic group at 24-48 hrs pain was present in 69.36% of patients, redness was found in 21.62%, swelling was found in 7.20% and analgesic was used by 89.18% of patients.

Conclusion: Our study recommends use of vicryl rapide for episiotomy repair in the care of parturient women.

Keywords: Complication, Chromic Catgut, Vicryl Rapide, Episiotomy

Introduction

Prevalence of the episiotomy varies around the world depending on whether it is used as a routine or a restricted procedure. Rates vary from 8% in the Netherlands, 13% in England to 25% in USA. The rates are still higher in developing countries, like ours, since the use of restricted episiotomy is not being practiced widely in primigravidas. Although the Cochrane Database Review has now recommended the practice of restrictive episiotomy, routine use of it still continues in most of our maternity units. Prevalence rate of 54.9% and 99% have been reported in West African countries and East European countries respectively.¹

Although the use of episiotomy remains a controversial topic in obstetrics, when it is done, it has to be repaired with an ideal suture material and the best suturing technique by a skilled operator. The search for an ideal suture material continues for decades. Ours, being a developing country with poor resources, chromic catgut is being used in most of our government institutions. Use of materials of natural origin is associated with a more pronounced tissue reaction than that caused by synthetic materials. Studies have shown synthetic suture materials like polyglactin to have less post-natal morbidity compared to catgut but with the risk of increased need for suture removal.^{5, 6} This was addressed by irradiated polyglactin

which gets absorbed rapidly than the standard polyglactin. The aim of our study is to compare the effect of two different suture materials chromic catgut and rapidly absorbable polyglactin in the repair of episiotomy and its postpartum morbidity.

Material & Methods

- **Place of study:** Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur.
- **Duration of study:** June 2018 to September 2019.
- **Type of study:** Randomised controlled study
- **Study Design:** Prospective study

Sample Size

Sample size of 111 women undergoing episiotomy repair in each group was required at 80% study power and α -error of 0.05 assuming primary wound healing in 84% patients of vicryl rapide A group and in 67% of chromic catgut B group as per results of seed article (Abhinayaa S, Jayanthi R, Nishanthini. A Prospective Randomized Comparative Study Of Episiotomy Repair: Vicryl Rapide Versus Chromic Catgut. IOSR Journal of Dental and Medical Sciences, e-ISSN : 2279-0853, p-ISSN : 2279-0861. Volume 16, Issue 10 Ver. VIII (Oct 2017), PP 72-79.).

Inclusion Criteria

- ❖ All primigravida patients with an elective episiotomy.

Exclusion Criteria

- ❖ Episiotomy incision extended by instrumental delivery
- ❖ Severe anaemia
- ❖ Diabetes mellitus
- ❖ On drugs like steroids, immunosuppressant
- ❖ Epidural labor analgesia
- ❖ Severe preeclampsia

Methodology

- Women who fulfilled the above inclusion and exclusion criteria underwent an episiotomy suturing, either with vicryl rapide 2-0 (36 mm ½ circle double reverse cutting and round bodied needle) or chromic catgut 1-0 (30 mm, 1/2 circle round bodied needle).
- All the episiotomies were right mediolateral.
- The episiotomies were repaired by a standard three-step approach.
- Vaginal mucosa - continuous interlocking suture
- Perineal muscle - intermittent suture.
- The skin closure - mattress suture.
- Both the groups were assessed at 24-48 hrs, on days 3-5 and at 6 weeks postpartum.
- The outcome measures which were recorded were (1) 24 to 48 hours: Perineal pain, temperature, feeling of slight stitches swelling, retention of urine (2) Days 3 to 5: Pain, temperature, feeling of slight stitches, indurations, wound discharge, wound dehiscence (3) 6 weeks: Perineal pain, temperature, healing by primary, secondary and tertiary intentions, wound indurations, wound dehiscence

The following equipments were used in this study: -

- Swabs of Acraflavin solution
- Sterile perineal sheet (towel) for draping
- Rectified spirit
- Xylocaine (lignocaine) 1% 10 CC used as local anaesthesia
- Suture material
- * Vicryl (polyglactin-910) No. 1-0 (on needle)
- * Chromic catgut No. 1-0 (on needle)
- Sterile pads
- Needle holder
- Long straight scissor and long curved scissor

- Tooth dissecting forceps
- Sponge holder
- Bowl of Acraflavin solution swabs
- An instrument tray
- Two Kocher's forceps
- A cord cutting scissor
- Small curved artery forceps

Pre-delivery Preparations

Perineum and bowel preparation (Enema) was done, if amniotic membrane intact.

Procedure

Just after admission to labour room, detailed history and clinical examination was done and then shaving of perineum and bowel preparation (Enema) was done. After that p/v examination was done with all aseptic precautions.

In second stage of labour, patients were lying in lithotomy position and after painting and draping of perineum, wait for crowing of head was done. Just prior to crowing of head, local anaesthesia (1% Xylocaine) was injected and episiotomy was given by help of curved scissor. After delivery of baby, placenta and after achieving haemostasis, episiotomy wound was repaired. Episiotomy wound was repaired in three layers: -

First Layer (Mucosal Layer) : In this layer suturing was started about 1 cm above the apex of mucosal incision and continuous suture applying to whole length of mucosa, except where episiotomy had extended high up in vagina, where interrupted sutures was used.

Second Layer (Muscular Layer) : The full depth of muscles was sutures by interrupted sutures, till there is no dead space and oozing of blood present.

Third Layer (Skin Layer) : It will be sutured by interrupted mattress suture or interrupted plain suture.

After completion of repair of episiotomy wound was observed for bleeding and haematoma formation, and then swabbing with spirit was done and a sterile pad was applied on wound and then both lower limbs are put on each others as Criss cross manner.

After 1-2 hours patients were shifted to maternity ward. In post operative treatment antibiotics, analgesics, antispasmodics and vitamins were given and perineal care was done.

Follow-up : After discharge from hospital on 2nd to 5th day, patient was asked to come in hospital for checking of

episiotomy stitch line at 5th day if discharge earlier, at 20th day and 90th day. We asked the patient about any complain and examine the stitch line of episiotomy, in the form of pain, tenderness, discomfort, swelling, infection, gaping, healing and suture material on the episiotomy wound. If suture was not absorbed or removed itself then we removed the suture material to prevent long term pain and scarring.

Statistical Analysis

The descriptive data was presented as number and percentages with mean and standard deviations, wherever required. The Chi square test was used for analysing the categorical data. The unpaired "t" test was used to compare the mean between the two groups. A p-value of <0.05 was considered to be statistically significant. The data collected were analysed with Medcalc 16.4 version software.

Observations & Discussion

Table 1: Distribution of Cases According to Age in Both Groups

Age Group (in yrs)	Group-A (Vicryl Rapide)	Group-B (Chromic Catgut)
Mean ± SD	2.37 ± 3.82	23.96 ± 3.48

In present study in vicryl rapide group out of 111 patients age of patients were ranging from 18-35 yrs (Mean - 23.7 yrs) and in chromic catgut group out of 111 patients age of the patients were ranging from 18-35 yrs (Mean - 23.96 yrs).

In the study done by Bharathi A et al (2013)³ both the groups were comparable in terms of the age.

Table 2: Distribution of Cases According to Type of Episiotomy in Both Groups

Type of Episiotomy	Group-A (Vicryl Rapide)		Group-B (Chromic Catgut)	
	No.	%	No.	%
Right Medio-Lateral	111	100.00	111	100.00
Left Medio-Lateral	0	0.00	0	0.00
Median	0	0.00	0	0.00
Total	111	100.00	111	100.00

In our present study in vicryl rapide group out of 111 patients type of episiotomy was right medio-lateral in 100.00% patients. In chromic catgut group out of 111 patients type of episiotomy was right medio-lateral in 100.00% patients. Other types of episiotomies were not applied in both groups.

In the study done by Bharathi A et al (2013)³ both the groups were comparable in terms of type of episiotomy.

Table 3: Distribution of Cases According to Dyspareunia in Repaired Episiotomies at Various Time Intervals

Time	Group-A (Vicryl Rapide)		Group-B (Chromic Catgut)		Chi-square	p-value
	No.	%	No.	%		
24 - 48 hrs	0	0.00	0	0.00	-	-
3 - 5 days	0	0.00	0	0.00	-	-
6 wks	3	2.70	17	15.31	5.98	0.014

In our present study in vicryl rapide group dyspareunia at 6 wks postpartum seen in 2.70% patients. In chromic catgut group dyspareunia in repaired episiotomies at 6 wks postpartum is seen in 15.31% patients. p-value related to dyspareunia in repaired episiotomies is statistically significant(0.014). It shows that dyspareunia was less in vicryl group than in chromic catgut group at 6 wks postpartum.

In a study done by Ketcham KR et al (1994)⁴ observed that the recovery of function, measured by resumption of sexual activity by 6 weeks, was demonstrated in 1 of 42 patients who had chromic sutures versus 19 of 37 patients who had polyglycolic acid sutures.

In another study done by Upton A et al (2002)⁵ says that although there were no statistically significant differences, parity-adjusted odds ratios (aOR) suggest that compared with women sutured with catgut, women sutured with polyglycolic were less likely to experience perineal pain at Day 3 postpartum (aOR=0.70 95% confidence interval [95% CI] 0.46-1.08) but by six months postpartum were somewhat more likely to experience perineal pain (aOR=1.77, 95% CI 0.57-5.47), dyspareunia (aOR=1.21 [0.62-2.33] and require removal of a suture (aOR=2.61 95% CI 0.59-12.41).

Table 4: Distribution of Cases According to Follow-up and Examination of Repaired Episiotomy at 24-48 Hours in Both Groups

Complication	Group-A (Vicryl Rapide)		Group-B (Chromic Catgut)	
	No.	%	No.	%
Pain	55	49.55	77	69.36
Redness	9	8.10	24	21.62
Swelling	4	3.60	8	7.20
Gaping	0	0.00	0	0.00
Analgesic	81	72.97	99	89.18

In our present study in vicryl rapide group at 24-48 hrs pain was present in 49.55% of patients, redness was found in 8.10% of patients, swelling was found in 3.60% patients and analgesic used by 72.97% of patients.

In chromic group at 24-48 hrs pain was present in 69.36% of patients, redness was found in 21.62%, swelling was found in 7.20% and analgesic was used by 89.18% of patients.

Table 5: Distribution of Cases According to Follow-up and Examination of Repaired Episiotomy at 3-5 Days in Both Groups

Complication	Group-A (Vicryl Rapide)		Group-B (Chromic Catgut)	
	No.	%	No.	%
Pain	13	11.70	33	29.72
Redness	4	3.60	9	8.10
Swelling	0	0.00	9	8.10
Gaping	0	0.00	8	7.20
Analgesic	15	13.51	38	34.23

In our present study in vicryl rapide group at 3-5 days pain was present in 11.70% of patients, redness was found in 3.60% of patients and analgesic was used by 13.51% of patients, none of the patients shows swelling and gaping.

In chromic group at 3-5 days pain was present in 29.72% of patients, redness was found in 7.20% of patients, swelling was found in 8.10% of patients, gaping was found in 1.80% of patients and analgesic was used by 34.23% of patients.

Table 6: Distribution of Cases According to Follow-up and Examination of Repaired Episiotomy at 6 Weeks Postpartum in Both Groups

Complication	Group-A (Vicryl Rapide)		Group-B (Chromic Catgut)	
	No.	%	No.	%
Pain	4	3.60	6	5.40
Gaping	0	0.00	2	1.80
Healing	97	87.38	80	72.07
Wound Discharge	4	3.60	8	7.20
Dyspareunia	3	2.70	17	15.31

In our present study in vicryl rapide group at 6 wks postpartum pain was present in 3.60% of patients, healing was present in 87.38% of patients, dyspareunia was present in 2.70% of patients and wound discharge was present in 3.60% of patients.

In chromic catgut group pain was present at 6 wks postpartum in 5.40% of patients, gaping was present in 7.20% of patients, healing was present in 72.07% of patients, wound discharge was present in 7.20% of patients and dyspareunia was present in 15.31% of patients.

Conclusion

Our study recommends use of vicryl rapide for episiotomy repair in the care of parturient women.

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