ORIGINAL RESEARCH PAPER

Volume-7 | Issue-12 | December-2018 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A COMPARATIVE STUDY ON EPISIOTOMY SUTURING WITH CHROMIC CATGUT VS VICRYL RAPIDE

Gynecology

Dr.E.Sukanya MD(OG).,Associate professor of Obstetrics and Gynaecology, Govt Mohan Kumaramangalam Medical college,Salem.

Dr. Aiswarya. R* Junior resident, Govt Mohan Kumaramangalam Medical college,Salem.*Corresponding Author

ABSTRACT

AIM: To compare the efficacy between two suture materials used for episiotomy suturing - chromic catgut and polyglactin 910 rapidly absorbable (vicryl rapide).

MATERIALS AND METHOD: It is a prospective randomized control study , conducted in 100 labouring women who needed episiotomy and were divided into two groups using either chromic catgut or vicryl rapide for episiotomy suturing.

RESULTS: 2% and 22% had cut through during suturing with catgut and vicryl rapide respectively. In the Chromic catgut group ,3(6%) had edema or induration on both 2nd and 7th day. In the vicryl rapide group, none (0%) had edema or induration . Among the Chromic catgut group 47 (94%) and 48 (96%) had normal wound healing on 2nd and 7th day respectively. 100% had normal wound healing at 2 and 7 days in vicryl rapide group. In the Chromic catgut group 15 (30%)and 2(4%) had pain at 2 days and at 7 days respectively. In the vicryl rapide group, 1 (2%)and none (0%) had pain at 2 days and at 7 days respectively.

CONCLUSION: Polyglactin 910 is superior to chromic catgut for episiotomy suturing.

KEYWORDS

Episiotomy,suture material,chromic catgut,polyglactin910,vicryl rapide

AIM AND OBJECTIVES

The aim of the study was to compare the efficacy between two suture materials- chromic catgut and polyglactin 910 rapidly absorbable (vicryl rapide).The parameters that were assessed are

1. Cut through while suturing
2. Pain over the episiotomy site and the need for analgesics
3. Wound healing in terms of induration,discharge and dehiscence

All these parameters were assessed at day 2 and day 7.

MATERIALS AND METHODS

This study was conducted in women admitted in our labour ward in Government Mohan Kumaramangalam medical college hospital,Salem ,Tamil Nadu ,in those who underwent labour natural with an episiotomy. Written consent was obtained before the procedure and parameters monitored as in the proforma.

It is a prospective randomized control study , conducted in 100 patients divided into two groups of 50 each, conducted during the period of January 2016 to June 2017. The two groups in which patients were assigned are, episiotomy suturing as

1. Intermittent technique using chromic catgut
2. Intermittent technique using Polyglactin 910 absorbable (vicryl rapide)

METHODS

All women admitted with labour pains and needed an episiotomy, in the age group of 18-30 years were included in the study.Written consent was obtained.

EXCLUSION CRITERIA: women with,

1.Intrapartum fever
2.Cervical tear
3.Extension of episiotomy
4.Anemia
5.Gestational diabetes mellitus
6.Severe pre-eclampsia
7.HIV and Hep-B positive
8.IUD
9. Cases handled outside

The women who fulfilled the above criteria were assigned in one of the groups for episiotomy and sutured using either of the materials- vicryl rapide 2-0, 36mm round bodied ½ circle needle or chromic catgut 1-0 ,30mm round bodied ½ circle needle. All the episiotomy repairs were done after infiltration with a local anesthetic lignocaine hydrochloride 2%. General asepsis was maintained while performing the episiotomy using with betadine. Lignocaine test dose was first given to prevent any untoward events due to lignocaine toxicity.

Episiotomy was given when the baby's head was crowning and the perineum was well thinned out. Performing an episiotomy too early may cause excess bleeding and hence avoided.

Keeping two fingers between the fetal head and the perineum, we cut about 4-5 cm in the mediolateral direction. The fetal head and mainly the shoulders should be delivered in a well controlled manner with good perineal support, so that extension of episiotomy is avoided.

After delivery of placenta the perineum is thoroughly examined for any lacerations,extension of the cut or excess bleeding elsewhere.

During suturing , cut through while taking a bite with the suture material was noted. All women were routinely put on analgesic T. Diclofenac sodium 50 mg 8 hourly and antibiotic C. Amoxicillin 500 mg 8 hourly for 5days. The women were followed up in the postnatal ward on day 2 and day 7 and looked for pain and wound healing. The pain was measured using an oral analogue scale and also if there need for analgesics was noted. Wound healing was measured in terms of induration,discharge and dehiscence by local examination.

RESULTS

Statistical methods:

Cut through, pain at 2 days,need for analgesics,wound induration,discharge and dehiscence at 2 days and 7 days were considered as outcome variables. Chromic catgut and vicryl rapide were consider as primary explanatory variable. Age and gravidity, were considered as other explanatory variable.

Descriptive analysis:

Descriptive analysis was carried out by mean and standard deviation for quantitative variables, frequency and proportion for categorical variables. Both the study groups (chromic catgut and vicryl rapide) were compared with respect to all the potential confounding baseline variables.

The association between categorical explanatory variables and quantitative outcome was assessed by comparing the mean values. The mean differences along with their 95% CI were presented. Independent sample t-test. Association between quantitative explanatory and outcome variables was assessed by calculating person correlation coefficient .

Categorical outcome:
The association between explanatory variables and categorical outcomes was assessed by cross tabulation and comparison of percentages. Chi square test was used to test statistical significance.

P value < 0.05 was considered statistically significant. IBM SPSS version 22 was used for statistical analysis.

Table1

Parameters	Out come	Chromic catgut	Vicryl Rapide	Chi Square	P value
Cut through	Present	1(2%)	11(22%)	9.470a	0.002
	Absent	49 (98%)	39 (78%)		
Pain&need for analgesics at 2 days	Yes	15 (30%)	1(2%)	14.583a	<0.001
	No	35 (70%)	49 (98%)		
Pain&need for analgesics at 7 days	Yes	2(4%)	0(0%)	-	-
	No	48 (96%)	50 (100%)		
Edema and induration at 2 days	Yes	3(6%)	0(0%)	-	-
	No	47 (94%)	50 (100%)		
Edema and induration at 7 days	Yes	3(6%)	0(0%)	-	-
	No	47 (94%)	50 (100%)		
Wound healing at 2 days	Normal	47 (94%)	50 (100%)	-	-
	Abnormal	2(4%)	0(0%)		
Wound healing at 7 days	Normal	48 (96%)	50 (100%)	-	-
	Abnormal	2(4%)	0(0%)		

Among the study population, 50(50%) people were in chromic catgut group and 50(50%) people were in vicryl rapide. Among the Chromic catgut 23 (46%) were in Primi and 27 (54%) were Multi respectively. The number of Primi and Multi was 16 (32%) and 34 (68%) in vicryl rapide group. The differences gravida proportion between the two groups was statistically not significant (P value 0.151). The mean age of chromic catgut group was 23.98 ± 3.47 and the vicryl rapide group was 24.88 ± 3.2. The difference between two groups was statistically not significant (p value 0.180). Among the Chromic catgut group, 1 (2%) had cut through and in 49 (98%) Cut through was absent. The number of cut through present and absent was 11 (22%) and 39 (78%) in vicryl rapide group. The differences in cut through proportion between the two groups was statistically significant (P value 0.002).

In the Chromic catgut group 15 (30%)and 2(4%) had pain at 2 days and at 7 days respectively. In the vicryl rapide group, 1 (2%)and none (0%) had pain at 2 days and at 7 days respectively. The differences in the proportion between the two groups was statistically significant (P value <0.001).

In the Chromic catgut group ,3(6%) had edema or induration at both 2 days and at 7 days. In the vicryl rapide group, none (0%) had edema or induration at 2 days and at 7 days.

Among the Chromic catgut group 47 (94%) and 48 (96%) had normal wound healing at 2days and at 7 days respectively. The number of normal wound healing at 2 and 7 days was 50 (100%) in vicryl rapide group.

DISCUSSION

Episiotomy in labour has been debated for a long time since the early 1900s, and became popular only after Pomeroy's study in 1918. Since then various studies have been conducted regarding the need for episiotomy and proved that restricted episiotomy in cases of tight perineum maybe beneficial than the routine episiotomy for all patients. With the introduction of newer , thinner , monofilament, synthetic absorbable suture materials, started the studies regarding which material is best for episiotomy. First, a comparison between chromic catgut traditionally used and vicryl was done. The results were in favour of vicryl which was less tissue reactive and absorbed by hydrolysis and longer time for absorption taken, leading to lesser wound infections and better wound healing and lesser pain postpartum. Further developments in the materials into the vicryl rapide or polyglactin rapide are recently being studied and the use of these have found to be even better than the conventional vicryl. Most recent ones are studies involving the newer material Dexon and the use of adhesive glue for episiotomy wound.

Even after so many studies being conducted, regarding the need for episiotomy, technique of suturing and the material to be used, most of our government institutions in Tamilnadu still go with the older technique of intermittent suturing and the use of chromic catgut material for suturing. Hence the need for more of such studies to be conducted in our setup and institutions to bring about a change for better pain reduction and wound healing in the simple episiotomy wound.

In our study there was no significant difference in the groups in terms of mean age and parity.

Next comparing the incidence of cut through in both the materials, in 50 patients sutured with catgut, only 1 had cut through that too very minimal. But the vicryl group had 11 cut through while suturing in 50 patients. The study comparision gave a P-Value which was 0.002 which was statistically significant at 2 days and at 7 days . This cut through caused us to resuture over the already sutred points at certain bleeding points in very soft and fragile vaginas in few gravid females. Most of the cut throughs though present , did not require to be sutured again to achieve hemostasis and there was no difference in wound healing in the patients who had cut through during suturing.

This comparison of cut through is new in our study not compared extensively in previous studies. This was the only disadvantage observed in our study in the vicryl rapide group which was cut through during suturing.

The main parameter studied on the 2nd postnatal day was pain and the need for analgesics and there was statistically significant difference between both the materials.In the 50 patients sutured using catgut there was pain in about 15 patients whereas in the vicryl group of 50, only 1 patient had complained of pain in the 2nd PND. This shows that suturing using monofilament vicryl rapide causes lesser pain than the chromic catgut.

Masson et al conducted a study in 2000 patients comparing the pain at 2nd PND and showed significant difference in pain with very much decreased pain in the polyglactin group. Shah PK studied the same and found out about 51% pain at postnatal day 2 in the polyglactin group, compared to 61% in the catgut group.

From the above results , we can see that there were no abnormalities in the wound healing and no derangements like edema or induration in the vicryl rapide group . In all 50 patients in whom we used vicryl rapide, the wound healing was normal on the 2nd postnatal day.

These results are similar to all the previous studies done by Bharathi et al, Abdullah et al, . Kurian J et al, Esa Bose et al, Kettle C et al, which say that wound healing is better in the vicryl rapide material than when using chromic catgut.

According to the study conducted in Davangare, the primary intention of the wound healing was observed in 82% of the cases in the vicryl rapide group and in 71% of the cases in the chromic catgut group. The wound healing by secondary intention was observed in 3.5% of the cases in the vicryl rapide group and in 8% of the cases in the chromic catgut group. The tertiary type was seen in 2% of the cases in the chromic catgut group and in none in the vicryl rapide group. This is similar to our study where none in the vicryl rapide group had tertiary wound healing.

In a recent study in Dharmapuri medical college, conducted in 2017 by Devika perumal, showed better wound healing with no or zero percent wound dehiscence on PND 7 in the polyglactin group compared to 15% in the catgut group, which correlates with our study.Finally the results of our study state that

1. The incidence of cut through was higher in the vicryl rapide material than the chromic catgut.

2. The incidence of pain on the 2nd postnatal day was significantly higher in the chromic catgut group than in the vicryl rapide group.
3. The abnormal wound healing incidence was higher in the chromic catgut group than the vicryl rapide material.
4. The parameters like edema, induration and dehiscence were more in the chromic group than the vicryl group

5. CONCLUSION

It is obvious that absorbable sutures must be used for episiotomy. Of those polyglycolic sutures are preferred over chromic catgut because of their non- allergic properties,increased tensile strength, lesser probability of pain and lower chances of infection. Catgut is an alternative, but not the ideal suture material.

REFERENCES

1. Thorp JM, Bowes WA. Episiotomy: Can its routine use be defended? Am J Obstet Gynecol. 1989 May;160(5):1027–30.
2. Routine vs selective episiotomy: a randomised controlled trial. Argentine Episiotomy Trial Collaborative Group. Lancet (London, England). 342(8886–8887):1517–8.
3. Bonet M, Ota E, Chibueze CE, Oladapo OT. Routine antibiotic prophylaxis after normal vaginal birth for reducing maternal infectious morbidity. In: Bonet M, editor. Cochrane Database of Systematic Reviews. Chichester, UK: John Wiley & Sons, Ltd; 2016.
4. Sleep J, Grant A, Garcia J, Elbourne D, Spencer J, Chalmers I. West Berkshire perineal management trial. Br Med J (Clin Res Ed). 1984 Sep;289(6445):587–90.
5. Bahulekar A, Vaswani B, Patange R. Continuous Versus Interrupted Sutures for Episiotomy Wound Repair. J Evol Med Dent Sci. 2016;5(95):7016–8.
6. Bharathi A, Dharma Reddy DB, Sharath Kote GS. A prospective randomized comparative study of vicryl rapide versus chromic catgut for episiotomy repair. J Clin Diagnostic Res. 2013;7(2):326–30.
7. Abdullah M, Noreen A, Iqbal M, Sohail R. comparison between chromic catgut and vicryl rapide for analgesia requirement in episiotomy repair in primigravidas. 2015;21(3):193–6.
8. Kettle C, Dowswell T, Ismail KM. Absorbable suture materials for primary repair of episiotomy and second degree tears. In: Kettle C, editor. Cochrane Database of Systematic Reviews. Chichester, UK: John Wiley & Sons, Ltd; 2010. p. Cd000006.
9. Perumal D, Selvaraju D. Comparative study of episiotomy repair: absorbable synthetic versus chromic catgut suture material. Int J Reprod Contraception, Obstet Gynecol. 2017 May;6(6):2186.
10. Kurian J BS, Shivaram P. Comparative study of episiotomy repair: Absorbable synthetic versus chromic catgut suture material. J Obstet Gynecol India, 2008; 58: 495
11. Esa Bose MS, Poonam Lal, Swati Mishra, Arijit Ghosh. Comparison of impact of polyglactin 910 (Vicryl rapide) and chromic catgut sutures on perineal pain following episiotomy wound repair in eastern Indian patients. Obstretics and Gynecology, 2013; 40 (2): 95-8
12. F Masson et al. Interest in a new suture material for 2000 episiotomy repairs: Polyglactin 910. Clin Gynecol et Obstet 1995;8:3-4. 3
13. Shah PK., et al. "A Randomized Comparative Study of Polyglactin-910 vs Chromic Catgut for Postpartum Episiotomy Repair: A Pilot Study". Journal of Obstetrics and Gynaecology 6.8 (2001): 465-468.