ORIGINAL ARTICLE

Outcome of Continuous Versus Interrupted Method of Episiotomy Stitching

RUBINA IQBAL, AYESHA INTSAR, SAMINA KHURSHEED, *SHEHNEELA ZAFAR*

ABSTRACT

Aim: To determine the outcome of continuous versus interrupted method of episiotomy stitching.
Study design: Randomized controlled trial.
Setting: Study conducted at Fatima Memorial Hospital, affiliated with Fatima Memorial College of Medicine & Dentistry, Lahore.
Duration: From 2nd May 2 011 t o 1st November 2011. Total duration of study was 6 months.
Subjects and methods: This randomized controlled trial was conducted at Fatima Memorial Hospital Lahore over a period of 6 months. A total of 200 patients delivering singleton fetus and having episiotomy were included in this study and were divided into two groups; one with interrupted stitching of episiotomy and another with continuous stitching of episiotomy. They were followed for perineal pain on 2nd postnatal and 10th postnatal day.
Results: The study revealed the pain at 48 hours postpartum and day 10 was more in interrupted group (83% versus 37% and 57% versus 28% respectively) which was found to be statisitically significant.(p = 0.0005)
Conclusion: The continuous suturing techniques for perineal closure, compared to interrupted methods, are associated with less pain at 48 hours and 10th day postpartum.
Key words: Episiotomy, perineal repair, suturing, continuous suture, interrupted suture,

INTRODUCTION

Episiotomy is the incision of the perineum during the last part of second phase of labour or delivery. Long term complications of episiotomy repair are common. A large proportion of women suffer short term perineal pain and up to 20% have long term problems e.g., dyspareunia.Other complications involve the removal of suture material and need for resuturing[1].

The best technique for episiotomy repair would be that which requires less time to perform and less use of materials ,and that which produces less pain in short and long term, permitting the resumption of intercourse sooner and with less pain, and requiring less of a need to remove the suture and a low frequency of resuturing[2].

The traditional technique used for episiotomy repair was three layer techniques, in which vaginal mucosa was sutured with a continuous running stitch. Muscle layer was sutured by interrupted sutured into two layers, and skin by subcuticular sutures. In continuous technique, there is only one knot at apex of vaginal mucosa. Vaginal wall is then sutured with continuous running stitch. The same suture is the continued in the muscles which is then carried in the skin and subcuticular sutures are used to reach the end of the incision[3].

Depart. of Obs. & Gynae Fatima Memorial Hospital, Lahore Correspondence Dr Ayesha Intsar Mohar Email: ayeshaintsar@gmail.com.

The continuous suturing technique for perineal repair compared to interrupted technique is associated with less short term pain[4]. Less number of sutures are utilized in continuous technique as compared to interrupted method, so it is very cost effective especially for resource poor setting as it significantly less suturing material is required for continuous suturing. The continuous suturing is also less time consuming[5].

In a study conducted on 214 women delivered vaginally(107 in continuous suturing group and 107 in interrupted suturing group),significantly fewer women reported pain at 48 hours and 10 days post partum with continuous stitching of episiotomy then with interrupted stitching of episiotomy.(52.3% versus 83.2% at 48 hours post partum and 32.3% versus 60.4% at 10th day postpartum respectively.36 patients in continuous group required analgesia in continuous stitching group as compared to 58 patients in interrupted group[6].

In our setup, interrupted method of episiotomy is routinely performed. I want to conduct this study to compare the effectiveness of continuous method of episiotomy stitching as compared to interrupted method. If it proves to be effective then it can be adopted in obstetrical setup as it will result in reduction in the financial burden on patients as it will consume less suture material and will be less time

consuming and also results in reduction in the post delivery perineal pain.

MATERIALS AND METHODS

This study was a randomized controlled trial conducted in the department of Obstetrics and Gynaecology at Fatima Memorial Hospital, Lahore for 6 months from 2nd May 2011 to 1st November 2011 and 200 patients taken by non-probability purposive sampling technique were included in the study. Women included in the study were in reproductive age group with any parity in labour having no gross anomaly on anomaly scan having singleton pregnancy with cephalic presentation at or more than 37 weeks. Women with 3rd or 4th degree perineal tear, instrumental vaginal delivery, maternal illness such as anemia and diabetes and with previous history of gaped episiotomy were excluded from the study. Outcome Was determined in terms of presence or absence of pain. Post delivery pain at 48 hours and 10 days post partum and was measured by visual analogue scale.

Visual analogue scale is usually a horizontal line 10 mm in length anchored by word descriptors as

No pain (0) mild pain (1-3) moderate pain (4-6) severe pain (7-10)

Data Collection Procedure: Participants included 200 pregnant females in labour fulfilling the inclusion criteria, getting admitted in labour room of Fatima Memorial Hospital. An informed consent for using their data in research was obtained. Two groups of participants were made and group allocated 'A' or 'B' randomly by lottery method.

Group A: included 100 females on whom interrupted method of episiotomy stitching was employed.

Group B: included 100 females on whom continuous method of episiotomy stitching was employed.

Both types of episiotomy repair was done by operator if equal competence that was assessed by year of training to avoid bias of skill i.e. repair in both group was done by trainees of same year.Patients were inquired at 48 hours after delivery and at 10th postpartum day when she was called for post natal follow up about pain using visual analogue scale.All this information was entered in a pre-designed proforma and was analysed to compare the outcome of continuous method of episiotomy stitching with interrupted method of episiotomy repair.

Data Analysis: The collected information was entered into SPSS version 10 – computer software and analyzed through its statistical program. The quantitative variables including age were presented as mean $\pm$ S.D. Qualitative variables like pain (48 hours and at 10th day post partum) and parity of patients was presented as frequency and percentage. Chi square test was applied to compare the outcome (in terms of pain at 48 hours and 10 days post partum) in both groups and p-value of less than 0.05 was considered as significant.

RESULTS

The subjects were similar with respect to mean age, parity and estimated gestational age at entry (Table-I,II). All the subjects were followed till completion of data collection, and no subject dropped out of study during data collection and follow up. Table III shows distribution of patients according to pain at 48 hours partum.In our study significant number of patients with interrupted suturing had complaint of postpartum pain at 48th hour and it was found to be statistically significant($p<0.0005$).When studying patients for pain on 10th day postpartum , it was again seen that interrupted suturing group patients experienced pain as compared to continuous suturing group.($p<0.0005$)(Table V).

Table 1: Age distrbution of subjects under study (n=200)

Age in years	Group A	Group B
16-20	23(23%)	13(13%)
21-25	54(54%)	54(54%)
26-30	23(23%	30(30%
31-35	0	3(3%)
Mean	23.50±3.32	24.40±3.47

p>0.05

Table II: Distribution according to gravidity (n=200)

Gravidity	Group A	Group B
Nulliparous	57(57%)	70(70%)
$G_2 – G_3$	26(26%)	20(20%)
$G_4 – G_6$	12(12%)	15(15%)
$> G_6$	5(5%)	2(2%)

P>0.05

Table III: Distribution according to presence of pain at 48 hours post partum (n=200)

Postpartum pain at 48 hrs	Group A	Group B
Yes	83(83%)	37(37%)
No	17(17%)	63(63%)

P<0.0005

Table IV: Distribution according to pain grading at 48 hours postpartum (n=200)

Severity of postpartum pain at 48 hrs	Group A	Group B
0	17(17%)	63(63%)
1-3	25(25%)	27(27%)
4-6	35(35%)	8(8%)
7-10	23(23%)	2(2%)

P>0.05

Table V: Distribution according to presence of pain on 1oth post partum day (n=200)

Postpartum pain on 10th postpartum day	Group A	Group B
Yes	57(57%)	28(28%)
No	43(43%)	72(72%)

P<0.0005

Table VI: Distribution according to pain grading at 10th day postpartum (n=200)

Severity of postpartum pain at 48 hrs	Group A	Group B
0	43(43%)	72(72%)
1-3	22(22%)	25(25%)
4-6	25(25%)	3(3%)
7-10	10(10%)	0

P>0.05

DISCUSSION

In our study the comparison of continuous and interrupted technique revealed slightly more pain on day 0 in continuous suturing which may be due to more tightened stitches resulting in tissue oedema. Pain at day 10 in interrupted group was found to be higher as compared to continuous group. This benefit of continuous technique was consistently found in another study regarding pain associated with daily activities, suture material or skill of operator. Kettle *et al*[7] carried out a trial comparing the two techniques of episiotomy repair (continuous and discontinuous) using two suture materials (quick absorption and standard) and found that less pain was experienced with the continuous suture technique.

In contrast to this , Southmead perineal suture study reported no clear difference in outcome between the policies of subcuticular and interrupted sutures and the given reason for this was being less practiced method and technically more difficult than the interrupted approach[8.] A systematic review by Viswanathan et al reported two good quality trials with inconsistent evidence that continuous method of repair has less perineal morbidity and more patient satisfaction as compared to interrupted method[9]. RCOG 2004 guideline also given level A gradation to the use of continuous subcuticular technique for perineal skin closure and a loose, continuous nonlocking suturing technique to appose vaginal tissue and perineal muscle as it is associated with less short term pain compared with the interrupted method[10.]

A meta-analysis reported in Cochrane database 2008 also claimed less pain up to 10 days postpartum and even greater reduction in pain when continuous suturing techniques were used for all Layers[7]. In a recent meta-analysis that included seven clinical trials involving health personnel who differed in their ability to repair episiotomies, it was found that the continuous suture technique was associated with less pain in the short term compared with the discontinuous technique[11].

Another study also depicted significant advantage of subcuticular suturing both in terms of wound healing and resumption of sexual activity and similar results were reported in many other studies[4,7,12].

The continuous suture technique is also less time consuming as reported in literature[13]. Cochrane review 2000 suggested continuous technique was associated with less need for the removal of sutures which is also evident from our study in the chromic catgut group.[4] Other studies also drawn similar results regarding the suture removal[8,9].

We ruled out any confounding factor that could influence our study results. In our comparative study, in the two groups of women, the skills of the doctors suturing episiotomy and the type of material used were the same. The only difference was the suture technique. This was made to ensure that no bias occur at the end of study which could change the results.

However, two important limitations could potentially affect the interpretation of our study results which was not excluding out patients with previous psychiatric disorders and small sample number but at the same time it had the strength of excluding the bias of operative skill as most of the studies quoted in literature are heterogeneous in this respect, as the operative skill is one of the factors which affects the repair technique and its results positively. The point estimates desired from this trial appear to be in line with major studies in respect to pain at post partum period.

It is already established that skin sutures inserted into the subcutaneous tissue avoid nerve endings in the skin surface and reduce perineal pain. Hence use of subcutaneous suture for skin closure causes reduction in pain. Though there is no data available on the perineal repair techniques used in different hospitals in Pakistan, our observation is that majority still use the interrupted method with transcutaneous stitches inserted to close perineal skin. Therefore, results of our study will help in changing this practice. Since there is a rising concern about the perineal injury sustained during childbirth, our exploration of a less painful procedure will make normal vaginal delivery a more desirable outcome. These results should be shared with women themselves and to those health professionals who care for women in childbirth.

CONCLUSION

The continuous suturing technique for perineal repair compared to interrupted technique is associated with less short term pain as well as pain at 10^{th} day postpartum. Local protocols should be developed to implement the use of continuous stitching of episiotomy amongst patients undergoing vaginal delivery.

REFERENCES

1. Kalis et al. Material and type of suturing of perineal muscles used in episiotomy repair in Europe.Pelviperineology 2008; 27: 17-2
2. Valenzuela P, Saiz Puente MS, Valero JL, Azorín R, Ortega R, Guijarro R. Continuous versus interrupted sutures for repair of episiotomy or second-degree perineal tears: a randomised controlled trial. BJOG. 2009 Feb;116(3):436-41.
3. Zafar S.Comparison of single knot versus three layered techniques of perineal repair after vaginal delivery in women requiring episiotomy.J T Urkish-German Gynaecol asso 2008;9(3):129-133.
4. Kettle C, Hills RK, Jones P, Darby L, Gray R, Johanson R. Continuous versus interrupted perineal repair with standard or rapidly absorbed sutures after spontaneous vaginal birth: a randomised controlled trial. Lancet. 2002 Jun 29;359(9325):2217-23.
5. Parveen F,Shabbir T.Perineal repair:a comparison of suture material and suturing technique.J surg Pak 2009;14(1):1-12
6. Morano S, Mistrangelo E, Pastorino D, Lijoi D, Costantini S, Ragni N. A randomized comparison of suturing techniques for episiotomy and laceration repair after spontaneous vaginal birth. J Minim Invasive Gynecol. 2006 Sep-Oct;13(5):457-62.
7. Kettle C, Hills RK, Ismail KMK. Continuous versus interrupted sutures for repair of episiotomy or second degree tears. Cochrane Database of systematic Reviews 2007;4:CD 000947.
8. Mahomed A, Grant A, Ashurt H, James D. The Southmead perineal suture study. A randomized comparision of suture materials and suturing techniques for repair of perineal trauma. Br J Obstet Gynaecol 1989;96:1272-80.
9. Viswanathan M, Hartmann K, Palmieri R, Lux L, Swinson T, Lohr KN, Gartlehner G,Thurp J Jr. The use of episiotomy in obstetrical care: A systematic review. Agency for Healthcare Research and Quality Evidence Report 2005; 12:1-8.
10. Royal College of Obstetricians and Gynaecologists (RCOG). Green-top Guideline No. 29: The management of third- and fourth-degree perineal tears. 2007. pp.1-11.
11. Kettle C, Johanson RB. Absorbable synthetic versus catgut suture material for perineal repair. (Cochrane Review). In: The Cochrane library, issue 2.Oxford: Update Software; 2005.
12. Bick et al. PErineal Assessment and Repair Longitudinal Study (PEARLS): protocol for a matched pair cluster trial.BMC Pregnancy and Childbirth 2010, 10:10http://www.biomedcentral.com/1471-2393/10/10
13. Kindberg S, Stehouwer M, Hvidman L,Henriksen TB. Postpartum perineal repair performed by midwives : a randomized trial comparing two suture techniques leaving the skin unsutured. Br J Obstet Gynaecol 2008;115: 472 – 79.