

Comparison of Efficacy of Continuous Versus Interrupted Suturing Technique in Episiotomy

SADAF-UN-NISA, SHAMAS-UN-NISA, MEHAR-UN-NISA

ABSTRACT

Aims: To compare the efficacy of continuous versus interrupted suturing technique in episiotomy.

Study design: It was Randomized Controlled Trial.

Duration: The study was conducted from January 2009 to September 2009.

Settings: Department of Obstetrics and Gynaecology Unit-I, Bahawal Victoria Hospital, affiliated with Quaid-e-Azam Medical College, Bahawalpur.

Methods: A total of one hundred patients (50 in each group) with singleton vaginal pregnancy, were included in the study.

Results: In our study, 76%(n=38) in continuous and 80%(n=40) in Interrupted group were between 20-30 years of age while 24%(n=12) in continuous and 20%(n=10) in interrupted group were between 31-35 years of age, mean±sd was calculated as 27.34+4.65 years, while comparison of efficacy was recorded in both groups, which shows that 42%(n=21) in continuous and 76%(n=38) in interrupted group were suffering with pain while 58%(n=29) in continuous and 24%(n=12) in interrupted group had no pain, p value was recorded as 0.000 which shows a significant difference in both groups.

Conclusion: We concluded that efficacy of continuous suturing technique is significantly higher as compare to interrupted suturing technique for episiotomy after vaginal delivery in terms of perineal pain.

Keywords: Perineal trauma, perineal pain, episiotomy, continuous suture, interrupted suture, efficacy.

INTRODUCTION

Episiotomy is among the most common surgical procedures experienced by women of reproductive age group.¹ Thirty percent to 35% of vaginal births include episiotomy^{2,3}. Professional opinions and practice patterns varies widely about maternal risks and benefits associated with its routine use⁴.

Although the current tendency is to reduce the incidence of episiotomies⁵ but its practice varies considerably depending on population. Despite this, repair of the perineum continues to be an aspect of childbirth that affects a great number of women and can produce maternal morbidity. The majority of women experience pain of short duration as a result of perineal repair after birth and some continue with long-term problems, such as sexual discomfort⁶.

Morbidity associated with it may effects women physical, psychological and social well being both in the immediate and long term postnatal period⁴.

It is associated with short and long term complications. Short term complications include hemorrhage, paragenital hematoma formation, perineal pain, sepsis. Long term complications including dyspareunia, incontinece of flatus and feaces⁶.

In addition to the extent of the trauma, the surgical skill, the type of material used, and the suture technique for perineal repair after childbirth can have an important effect on the magnitude and degree of morbidity experienced by women after repair⁷.

The best technique for perineal repair would require less time to perform and less use of materials and that which produces less pain in the short and long term⁷. In relation to suture techniques a continuous suture technique for approximating second degree lacerations and episiotomies has been documented to be less painful and causes less need for subsequent suture material removal than interrupted stitches including closure of perineal skin.

In our setup both the techniques are used but the effective technique is not recorded. In this study we compared the efficacy of these techniques to establish the appropriate suturing technique for perineal repair so that best technique may be determined and used in future.

MATERIAL AND METHODS

In this randomized controlled trial, 50 patients in each group nulliparous women having singleton pregnancy, sustained episiotomy or second degree perineal laceration were included, while twin/triple pregnancies undergoing instrumental delivery having

^{1,2}Department of Gynaecology, BVH Bahawalpur, ³District Gynaecologist, Jahanian
Correspondence to Dr. Sadaf un Nisa

perineal injury involving the anal sphincter and/or anal mucosa, previous perineal surgery were excluded from the study. Randomization was computer based. Each patient was asked to pick one draw and she was included in that group (A or B). Group-A patients were repaired with Continuous Suturing technique which involved continuous non locking suture to close the vaginal mucosa and the muscular layer of the perineum. In Group-B patients were repaired by Interrupted Suturing technique involving continuous non locking suture to close the vaginal mucosa ending the hymenal ring. Two or four interrupted stitches were applied to the muscular layer of the perineum. The perineal skin is approximated using interrupted sutures.

No comments were made about technique during delivery or during outcome assessment sessions to control the effect modifiers. Participants were questioned regarding the sensation of pain and the use of painkillers on the second and tenth postnatal day. Structured interviews were performed by a post graduate trainee blinded to treatment allocations. Pain was evaluated using a visual analogous scale and results were analyzed at 24 hours and 7th postpartum day. Patient was advised to come for follow up at ten days after delivery the same questions were asked by same postgraduate trainee who conducted interview before hence interviewer's bias were controlled. For this purpose telephonic contact of the patient was taken.

The data was collected and entered in SPSS version 15. Mean and standard deviation for numerical data i.e., age was calculated. Qualitative data like episiotomy/perineal tear, continuous/interrupted suturing technique and postpartum pain was expressed as frequency or percentage. Chi-square test was used to compare pain in both groups at 24 hours and day 7. P-value ≤ 0.05 was considered as significant.

RESULTS

Age distribution of the patients was done which shows that 38(76%) in continuous and 40(80%) in Interrupted group were between 20-30 years of age while 12(24%) in continuous and 10(20%) in interrupted group were between 31-35 years of age, mean+sd was calculated as 27.34+4.65 years. (Table 1)

Table 1: Age Distribution (n=100)

Age (Yrs)	Continuous		Interrupted	
	n	%	n	%
20-30	38	76	40	80
31-35	12	24	10	20

Mean±Sd: 27.34±4.65

Comparison of efficacy was recorded in both groups, which shows that 21(42%) in continuous and 38(76%) in interrupted group were suffering with pain while 29(58%) in continuous and 12(24%) in interrupted group had no pain, p value was recorded as 0.000 which shows a significant difference in both groups. (Table 2)

Table 2: Comparison of Efficacy (n=100)

Pain	Continuous		Interrupted	
	n	%	n	%
Yes	21	42	38	76
No	29	58	12	24

P value=0.000

DISCUSSION

Episiotomy is a surgical incision given in the perineum to increase the diameter of the vulval outlet during childbirth. It causes surgical reduction of resistance offered by the pelvic floor. It is an intentional second degree perineal tear.⁸ It is among the most common surgical procedures experienced by women in United States,⁹ 30-35% of vaginal births include episiotomy.¹⁰ Morbidity associated with it may affect women physical, psychological and social well being both in the immediate and long term postnatal period.¹¹

For nearly 70 years, researchers have been suggesting that continuous repair techniques are better than interrupted suture methods in terms of reported postpartum pain, but in developed countries, the most frequent technique used is the interrupted one. In our setup both the techniques are used but the effective technique is not recorded, so this study was conducted.

In our study, 38(76%) in continuous and 40(80%) in Interrupted group were between 20-30 years of age while 12(24%) in continuous and 10(20%) in interrupted group were between 31-35 years of age, mean+sd was calculated as 27.34+4.65 years, while comparison of efficacy was recorded in both groups, which shows that 21(42%) in continuous and 38(76%) in interrupted group were suffering with pain while 29(58%) in continuous and 12(24%) in interrupted group had no pain, p value was recorded as 0.000 which shows a significant difference in both groups.

The findings of the study are in agreement with Kettle C and colleagues¹² who recorded that by using two suture materials (quick absorption and standard) and found that less pain was experienced with the continuous suture technique and similarly another study in 2007¹³ the continuous suture technique was found to be associated with less pain in the short term compared with the discontinuous technique.

Another study conducted by Morano and co-workers¹⁴ to compare the continuous knotless technique of perineal repair with the interrupted method after spontaneous vaginal birth showed that the primary outcomes of the study were perineal pain (evaluated by visual analogue scale) at 48 hours and day 10 after delivery. Significantly fewer women reported pain at 10 days with the CKT than with the IT (32.3% vs 60.4%; p .001). Analgesia use up to 48 hours postpartum was less in the CKT group than in the IT group (33.6% vs 54.2%; p .05).

However, the results of the current study and other studies are in favour of continuous technique.

CONCLUSION

Comparison of efficacy of continuous versus interrupted suturing technique in episiotomy after vaginal delivery in terms of perineal pain recorded less pain in continuous suturing technique as compared to interrupted suturing technique.

REFERENCES

1. Weber AM, Meyn L. Episiotomy use in the United States, 1979-1997. *Obstet Gynecol.* 2002;100:1177-82.
2. Kozak LJ, Owings MF, Hall MJ. National Hospital Discharge Survey: 2001 annual summary with detailed diagnosis and procedure data. *Vital Health Stat* 13. June 2004;1-198.
3. Declercq ED, Sakala C, Corry MP, Applebaum S, Risher P. *Listening to Mothers: Report of the First National US Survey of Women's Childbearing Experiences.* New York, NY: Maternity Center Association; 2002.
4. Hartmenn k , Viswanthan m, Palmieri R, Gartlehner G, Thorp J Jr , Lohr KN, Outcomes of routine episiotomy; a systematic review. *JAMA* 2005;293:2141-8.
5. Scott JR. Episiotomy and vaginal trauma. *Obstet Gynecol Clin North Am* 2005;32:307-21.
6. Karacam Z, Eroglu K. Effects of episiotomy on bonding and mothers' health. *J Adv Nurs* 2003;43:384-94.
7. Valenzuela P, Saiz Puente M, Valero J, 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;116:436-441.
8. Graham ID, Carroli G, Davies C, Medves JM. Episiotomy rates around the world; An update; *Birth* 2005;32:219-23.
9. Kindberg, M Stehouwer, I Hvidman, TB Henriksen. Postpartum perineal repair performed by midwives; a randomized trial comparing two suture techniques leaving the skin unsutured. *BJOG* 2008;115:472-9.
10. Hartmenn k , Viswanthan m, Palmieri R, Gartlehner G, Thorp J Jr , Lohr KN, Outcomes of routine episiotomy; a systematic review. *JAMA* 2005;293:2141-8.
11. Mehrunnisa. Effect of episiotomy on perineal lacerations in spontaneous vertex deliveries. *Ann King Edward Med Coll* 2005;11:442-5.
12. 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;359:2217-23.
13. Kettle C, Hills R, Ismail K. Continuous versus interrupted sutures for repair of episiotomy or second degree tears. *Cochrane Database Syst Rev* 2007;CD000974.
14. 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. *Journal of Minimally Invasive Gynecology* 2006;13:457-62.