ORIGINAL ARTICLE

INTERRUPTED VERSUS CONTINUOUS SUTURES FOR REPAIR OF EPISIOTOMY OR 2ND DEGREE PERINEAL TEARS

Rakhshanda Aslam, Shazia Amir Khan, Zain ul Amir*, Fouzia Amir**

Department of Gynaecology and Obstetrics, Yusra Medical & Dental College, Islamabad, *Department of Urology, Rawalpindi Medical College, Rawalpindi, **Shifa Institute of health sciences, Islamabad-Pakistan

Background: Performing an episiotomy is generally reserved for complicated childbirths, in cases of foetal distress, or when tearing of tissues with serious consequences are foreseen. In addition to the extent of the trauma, the surgical skill, repair after childbirth can have an important effect on the magnitude and degree of morbidity experienced by women after repair. The best technique for this repair would be that which produces less pain in the short and long term. The study was done with an objective to compare the frequency and severity of pain (slight/severe) by using interrupted and continuous methods for repair of episiotomy or second degree perineal tears. **Methods:** It is a randomized control trial. This study was carried out in a Gynaecology and Obstetrics department of Benazir Bhutto Hospital Rawalpindi which is a tertiary care hospital. The duration of study was six months. One hundred & thirty-eight primigravidas (69 in each group) were included in the study. **Results**: Majority of the patients in both groups belonged to 20–25 years age group, i.e., 48.53% (n=33) in group-A and 50% (n=34) in group-B, mean and SD, was 27.69±3.21 in group –A and 28.16±3.89 in group-B, gestation age of the patients in group-A 77.94% (n=53) and 83.82% (n=57) in group-B between 37–40 weeks of gestation. Complication of pain and its severity in both groups at 24 hours and 10th day were compared which showed no significant difference at any severity (i.e., no pain, mild moderate/severe). **Conclusion:** There is no significant difference in frequency and severity of pain (slight/severe) in using interrupted and continuous methods for repair of second degree perineal tears or episiotomy

Keywords: Perineal tears, repair of episiotomy, suturing technique, continuous and interrupted, perineal pain

J Ayub Med Coll Abbottabad 2015;27(3):680–3

INTRODUCTION

Episiotomy, the unkindest incision of all, persisting despite clinical practice guidelines recommending its limited use.[1] Worldwide statistics have revealed overall high rate of episiotomy with decreasing trend in some countries. A perineal injury is a frequent complication of vaginal delivery but 80% of primiparous women sustain it.[2] Professional opinions and practice patterns varies widely about maternal benefits and risks which are associated with routine episiotomy use.[3] Episiotomy may not be protective against severe perineal trauma.[4] Restrictive use of episiotomy has shown significant reduction in degree of perineal injury, loss of blood, time taken and material used to suture.[5]

However, the degree of perineal trauma considerably varies according to individual practices and policies of institutions and staff. Discomfort which is related to perineal trauma interferes with the daily activities of women in postpartum such as walking, sitting and lifting the baby. Millions of women worldwide undergo perineal repair after childbirth and the type of repair significantly affect the degree of morbidity both in short and long term.[6] A systematic review published in journal of the American medical association stated that by routine use of episiotomy 14.6% had experienced mild pain, 7.8% had moderate pain and only 0.2% had experienced severe pain.[3]

In addition to the surgical skill, extent of trauma and the type of material used and the technique used for perineal repair after childbirth can have an important effect on the degree and magnitude of morbidity that a woman experienced after the repair.[7]

The ideal technique for perineal repair would require less use of materials and less time to perform which produces less pain in both short and long term.[7] When compared with interrupted one a continuous suturing technique for repair of episiotomies and second degree perineal laceration has proved to be less painful for women and there is no need for removal of suture material.[8]

The current study which was conducted with an aim to compare the frequency and severity of pain (slight/severe) by using interrupted and continuous methods for repair of episiotomy or second degree perineal tears will help to establish the most appropriate suturing technique for perineal repair based on robust evidence, rather than just complying with tradition.

MATERIAL AND METHODS

This was a Randomized controlled trial, carried out at the department of obstetrics and gynaecology at Benazir Bhutto Hospital Rawalpindi which is a tertiary care hospital the duration of the study was 6 months. A total of 138 primigravidas were included in the study. The sample size was determined using the WHO sample size calculator taking level of significance 5%, power of test 90 %,Population proportion P1=14.6 %[3], Population proportion P2=36 %.[7] The patients coming to ward during the study period, fulfilling the inclusion and exclusion criteria, were included in the study. The patients were randomly allocated to one of each group. Each group comprised of 69 primigravidas

All primiparous women at least 37 weeks of gestation, who had sustained episiotomy or second degree perineal laceration having giving birth to a, neonate without major congenital defects/malformation were included in the study. While all those who have a previous perineal surgery, history of diabetes, severe mental illness underwent instrumental delivery or sustained perineal injury involving the anal sphincter and/or anal mucosa and postpartum haemorrhage were excluded from the study.

Permission from hospital ethical committee was taken and informed written consent was taken from patients under study. Randomization was computer controlled. The assignment of treatment was concealed by numbered, opaque and closed envelops. Repair was performed in lithotomy position by second year postgraduate trainee on call. Standard analgesia for perineal repair was local perineal infiltration with 5–15 ml 2% lignocaine. The perineum was repaired by either continuous or interrupted suturing techniques. Standard material used for repair was vicryl 2/0. No comments were made regarding technique during delivery or during outcome assessment sessions. Selection bias for suturing technique was controlled by randomization. Postnatal women with episiotomy or second degree perineal tears were asked regarding pain and use of pain killers on the first and tenth postnatal day. Structured interviews were performed by post graduate trainee blinded to treatment allocations; hence interviewer's bias was controlled. Pain was evaluated using a visual analogous scale and results were analysed at 24 hours and 10th postpartum day. Visual analogue scale adopted from National Comprehensive Cancer Network was used to quantify pain from 0–10 at 24 hours postpartum and on 10th postpartum day which was later grouped by categories: in to No pain (0), Yes 1–10, slight pain (1–3), moderate/severe pain (4–10). In addition the same system was used to quantify the presence of pain in response with movement, while sitting and during micturition and defecation.

Patient was advised to come for follow up at tenth day of delivery the same questions were asked on telephone and by same postgraduate trainee who conducted interview before hence interviewer's bias were controlled. For this purpose telephonic contact of the patient was taken.

Data was analysed using SPSS-10. Standard deviation and mean for numerical data, i.e., age, gestational age. Categorical data, i.e., episiotomy/perineal tear, continuous/interrupted suturing technique and postpartum pain and its severity was expressed as frequency or percentage. Chi-square test was used to compare pain in both groups at 24 hours and day 10. *p*-value ≤0.05 was considered as significant.

RESULTS

The results of the study reveal that majority of the patients in both groups belong to 20–25 years age group, i.e., 48.53% (n=33) in group-A and 50% (n=34) in group- B, 30.88% (n=21) in Group-A and 33.82% (n=23 in group-B between 25–30 years while only 20.59% (n=14) in group-A and 16.18% (n=11) in group-B between 31–35 years of age, mean and SD was 27.69±3.21 in group-A and 28.16±3.89 in group-B.

Gestational age of the patients was calculated, in group A 77.94% (n=53) and 83.82% (n=57) in group B were between 37–40 weeks of gestation while 22.06% (n=15) in group A and 16.18% (n=11) in group B between 41–42 weeks of gestation.

Comparison of pain and its severity in both groups at 24 hours was compared which shows no significant difference at any severity (i.e., no pain, mild, moderate/severe), in group A 54.41 % (n=37) and in group-B 50% (n=34) were recorded with no pain, mild pain in group-A was recorded in 38.24% (n=26) and 39.71% (n=27) in group B while moderate/severe pain in group A was recorded in only 7.35% (n=5) while 10.290% (n=7) in group B, *p*-value were >0.05.

Comparison of pain and its severity in both groups at 10th day was compared which shows no significant difference at any severity (i.e., no pain, mild, moderate/severe), in group A 82.35 % (n=56) and in group B 79.41% (n=54) were recorded with no pain, mild pain in group-A was recorded in 11.18% (n=11) and 19.12% (n=13) in group B while moderate/severe pain in group-A was recorded in only 1.47% (n=1) and 1.47% (n=1) in group B, *p* value were >0.05.

Table-1: Age distribution of the patients (n=138)

Age (in years)	Continuous (n=69)		Interrupted (n=69)	
	No. of Patients	%	No. of Patients	%
20–25	34	49.28	35	50.72
25–30	21	30.88	23	33.82
31–35	14	20.59	11	16.18
Total	**69**	**100**	**69**	**100**
Mean and SD	**27.69±3.21**		**28.16±3.89**	

Table-2: Gestation age (n=136)

Gestational age (in weeks)	Continuous (n=69)		Interrupted (n=69)	
	No. of Patients	%	No. of Patients	%
37–40	54	78.26	58	84.06
41–42	15	22.06	11	16.18
Total	**69**	**100**	**69**	**100**

Table-3: Comparison of pain and its severity in both groups (at 24 hours**)**

Severity of pain	Continuous (n=69)		Interrupted (n=69)		*p*
	No. of Patients	%	No. of Patients	%	
No	38	55.07	35	50.72	>0.05
Mild	26	38.24	27	39.71	>0.05
Moderate/ severe	05	7.35	07	10.29	>0.05
Total	**69**	**100**	**69**	**100**	

Table-4: Comparison of pain and its severity in both groups (at 10th day**)**

Severity of pain	Continuous (n=69)		Interrupted (n=69)		*p*
	No. of Patients	%	No. of Patients	%	
No	57	82.61	55	79.71	>0.05
Mild	11	16.18	13	19.12	>0.05
Moderate/ severe	01	1.47	01	1.47	>0.05
Total	**69**	**100**	**69**	**100**	

DISCUSSION

The procedure of episiotomy is usually reserved for complicated deliveries or when obstetrician foresees serious consequence like tearing/damage of perineal tissue.

The degree of morbidity that a woman with episiotomy or 2nd degree perineal tear experienced after the repair depends on technique of repair extent of trauma and surgical skills. So the technique of repair which was consider as best is the one which produces less pain in both short and long term.[1]

Throughout the world, a great number of women are experiencing pain as a result of perineal trauma sustained during delivery, and yet this is a very under researched area. In Italy the perineal suture is considered a "surgical" act.[9]

For about 70 years, researchers have been suggesting that continuous techniques of repair are better than interrupted suture methods in terms of pain in postpartum time, but in Italy, the most common technique used is the interrupted one.[3]

In our study, we compared only pain at 1st day and 10th day of surgery, and found insignificant difference in both groups, though the number of patients with less pain at 1st day and 10th day of surgery were lesser in continuous suturing technique, but they were not significant.

We compared the results of our study with a meta-analysis[6] in which seven clinical trials were included and it involved different health professionals who are expert in the repair of episiotomy and in this trial it was concluded that continuous technique of suturing episiotomy is associated with less short term and long term pain when compared to interrupt one.

Another trial was carried out by kettle et al in which he compared the continuous and interrupted technique of episiotomy repair by using to different suture materials (standard and rapid absorption) and he also found the patient experienced less pain with continuous technique of suturing.[10]

Our result are not comparable with the above study, the reason of the disagreement may be due to evaluation of pain and the patient herself also for describing the pain, as most of the females in our society are not well educated and having the understand ability of the Visual Analogous Scale while regarding the demand of analgesia may be different due to the reason that the affordability of the pain may be different in different patients.

However, our results are in agreement with the study conducted by Valenzuela P and co-workers[7] who evaluated that the continuous and interrupted techniques used for repair of second degree perineal tears and episiotomy, the differences between two included less time to repair (I minute: p=0.017) and less suture material was used (relative risk [RR], 3.2, 95% CI:2.6-4.0). When severity of pain was compared on 2nd day, 10th day and 3 months postpartum it was found that there is no statistical difference between the two techniques (PR, 1.08, 95% CI: 0.74-1.57: RR, 0.96, 95% CI: 0.59-1.55: and RR, 0.68, 95% CI: 0.19-2.46, respectively).

The hypothesis of the study with regards to statistical analysis has not been justified as the patients with continuous technique were not statistically significantly higher, though they are higher in numbers.

The limitation of the study was that we did not included comparison of operative time of both techniques and cost effectiveness as well, but the above mentioned studies showed a significantly lesser repair time in continuous group and the cost effectiveness as well, considering these facts the continuous technique may be adopted in future.

CONCLUSION

Comparison of frequency and severity of pain (slight/severe) by using continuous and interrupted methods for repair of episiotomy or second degree perineal tears shows statistically insignificant difference in both groups.

AUTHOR'S CONTRIBUTION

SAK: Conceived the idea, SAK, RA: Data collection, data analysis and drafting of manuscript, SAK, RA, ZUA, FA: Literature search and critical review of the final article

REFERENCES

1. Graham ID, Carroli G, devies C, Medves JM. Episiotomy rates around the world; An update; Birth 2005;32(3):219–23.
2. Kindberg S, Stehouwer M, Hvidman L, Henriksen TB. Postpartum perineal repair performed by midwives; a randomized trail comparing two suture technique leaving the skin unsutured. BJOG 2008;115(4);472–9.
3. Hertrmenn K, Viswanthan M, Palmieri R, Garthehner G, Thorp J Jr, Lohr KN, Outcomes of routine episiotomy: a systematic review. JAMA 2005;293(17):2141–8.
4. Nsia M. Effects of episiotomy on perineal laceration in spontaneous vertex deliveries. Ann king Edward Med Uni 2005;11(4):422–5.
5. Javaid I, Shoaib T, Bhutta S. liberal versus restricted use if episiotomy in primigravida. J Surg Pak 2007;12(3):10–9.
6. Kettle C, Hills RK, Ismail KM, Continuous versus interrupted sutures for repair of episiotomy or second degree tears. Cochrane Database Syst Rev 2007;(4):CD000974.
7. 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 randomized controlled trail. BJOG 2009;116(3);436–41.
8. Kettle C, Johnson RB. Continuous versus interrupted sutures for perineal repair. Cochrane database syst. Rev 2000;(2):CD000947.
9. Morano S, Mistrangelo E, Pastorino D, Lijoi D, Costantini S, Ragni N. A Ranomized Comparison of suturing techniques for episitomy and laceration repair after spontaneous vaginal birth. J Minim Invasive Gynaecol 2006;5(5):457–62.
10. 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 randomizes controlled trial. Lancet 2002;359(9325):2217–23.

Address for Correspondence:

Shazia Aamir Khan, 11-D Askari-1 Apartments, Chaklala Scheme No. 3, Rawalpindi-Pakistan
Email: mahmoodayubkhan@gmail.com