International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622

www.gynaecologyjournal.com
2020; 4(6): 232-235
Received: 16-09-2020
Accepted: 23-10-2020

Rajanna SP
Department of OBGY, MVJ Medical College and Research Centre, Hoskote, Bangalore, Karnataka, India

Dharmavijay MN
Department of OBGY, MVJ Medical College and Research Centre, Hoskote, Bangalore, Karnataka, India

Corresponding Author:
Rajanna SP
Department of OBGY, MVJ Medical College and Research Centre, Hoskote, Bangalore, Karnataka, India

Continuous vs interrupted sutures for the repair of episiotomy: A comparative study

Rajanna SP and Dharmavijay MN

DOI: https://doi.org/10.33545/gynae.2020.v4.i6d.759

Abstract
Introduction: Episiotomy is a surgical increase of the perineum made to increase the vulval outlet during childbirth. 85% of women who have a spontaneous vaginal birth will have some form of perineal trauma.
Material and Methods: A randomized trial of patients who will give birth in MVJ medical college, South India. Hundred pregnant women have an Episiotomy in the second stage of labour in MVJ MCRH are randomly allocated into two groups one group with continuous Episiotomy sutures and another with interrupted sutures. The results are tabulated and analysed by chi square test.
Results: VAS score of 3 and above seen in 2% in continuous group and 32% in interrupted group on third postnatal day, highly significant.
Conclusion: Continuous suturing for the repair of Episiotomy is better than interrupted suturing for short term period, in terms of Less time required for repair, Less number of packets of suture material used, Less perineal pain on postnatal day 1, 2 and 3, Less number of analgesic tablets used to control pain, Low perineal trauma scoring.

Keywords: VAS score, continuous suturing, vulval outlet

Introduction

Episiotomy is a surgical increase of the perineum made to increase the vulval outlet during childbirth (Arulkumaran, 2004) [1]. 85% of women who have a spontaneous vaginal birth will have some form of perineal trauma, and up to 69% will need to have sutures (McCandlish *et al*., 1998) [4]. Episiotomies are known to provide the following benefits speed up the birth, prevent vaginal tears, protect against incontinence, protect against pelvic floor relaxation and heals easier than tears (Arulkumaran, 2004) [1]. First description of Episiotomy was in 1742. It was said that "it sometimes happens that the head of the child cannot however come forward by reason of the extraordinary constriction of the external orifice of the vagina, wherefore it must be dilated if possible by fingers if this cannot be accomplished, there must be an incision made towards the anus with a pair of crooked probe scissors".

Perineal trauma is conventionally repaired in three layers. First, a continuous locking stitch is inserted to close the vaginal trauma, commencing at the apex of the wound and finishing at the level of the fourchette with a loop knot. A traditional locking stitch is used to repair the vaginal trauma, as a continuous running stitch may cause shortening of the vagina if it is pulled too tight, but no controlled studies have been carried out to investigate this theory. Next, the deep and superficial perineal muscles are re-approximated with three or four interrupted sutures, or sometimes a continuous running stitch is used. Finally, the skin is closed using continuous subcutaneous or interrupted sutures (Kettle, 2002) [5]. Obstetricians increasingly face women who wish to have a caesarean section due to fear of genital tract injuries or following previous childbirth–related trauma. Short and long-term maternal morbidity associated with perineal repair can lead to major physical, psychological and social problems, affecting the woman's ability to care for her new baby and other members of the family. Complications depend on the severity of perineal trauma and on the effectiveness of treatment. The type of suturing material, the skill of the operator, and the technique of repair are the 3 main factors that influence the outcome of perineal repair.

The procedure of suturing perineal trauma following childbirth may have a significant effect on the extent and degree of morbidity experienced by women both in the short and long-term. However, there are only a small number of randomized controlled clinical trials which compare the effects of different suturing techniques on the extent of maternal morbidity associated with perineal repair (Fleming, 1990) [3].

Perineal pain a common sequel of vaginal delivery affecting up to 42% of women at 10 days postpartum and persisting in 10% at 18 months (Carroli, 1998) [2]. The present study was planned to compare between continuous suture and interrupted sutures as method of repair Episiotomy. To compare the efficacy of one type of repair of Episiotomy over the other in terms.

Materials and Methods

A randomized trial of patients who will give birth in KIMS Hospital, Trivandrun, Kerala, South India.

A. Inclusion criteria

1. Normal vaginal delivery.
2. At term (37 wks – 40 wks).
3. Vertex presentation.
4. Live baby.

B. Exclusion criteria

1. Third and fourth degree perineal tear.
2. Instrumental vaginal delivery.
3. Previous perineal surgery.
4. Anaemia with hemoglobin level < 9 g/dl.
5. Diabetes mellitus.
6. Coagulation abnormalities.
7. Postpartum hemorrhage.
8. Delivery conducted outside the MVJ hospital.
9. Breech delivery.

Hundred pregnant women with the above selection criteria who will have an Episiotomy in the second stage of labour in MVJ Hospital will be chosen to participate in the study after obtaining consent. They will be randomly allocated into two groups one group with continuous Episiotomy sutures and another with interrupted sutures. Period of study is 1 year, from June 2019 to June 2020.

All patients in both groups will sign consent of approval to participate in this research. Women will be placed in the lithotomy position for repair: The standard analgesia for perineal repair will be infiltration analgesia in the wound area using 5-20 ml lignocaine 10 mg/ml. Continuous suture technique: The continuous suturing technique isn't tightly taken, ontinuous non-locking suture to close the vaginal mucosa and the muscular layer of the perineum. The perineal skin is approximated with the subcuticular suture in the subcutaneous tissue a few millimeters under the perineal skin edges, finishing with a terminal knot in the vaginal mucosa in front of the hymenal ring. Interrupted suture technique: The interrupted suture involved placing 3 layers of sutures: a continuous locking stitch to close the vaginal mucosa, commencing above the apex of the wound by ½ cm and finishing at the level of the fourchette; 3 or interrupted sutures to re-approximate the deep and superficial muscles; and interrupted transcutaneous techniques to close the skin. The standard suture material in the study will be absorbable polyglactin 910.

The blood loss of intervention will be estimated by Gravimetric method- this method involves weighing sponges before and after use, the difference in weight provides a rough estimate of blood during repair of Episiotomy (Buchman 1953). Blood loss from the Episiotomy site measured by soaked gauze in which one gauze = 50cc blood and non-soaked gauze = 25cc blood. The time required for Episiotomy suturing in minutes. All women will be followed up postnatal day 1, 2, 3. The incidence of postpartum perineal pain will be assessed through a 4-point Verbal Rating Score (VRS 0-4), the verbal rating score consists of a scale from 0 to 4 (0 = no pain and 4 = very severe pain). Visual analogue scale, (Score 1-10).

This score will be used on postnatal day 1, 2 and 3

REEDA score parameters

Parameter	Findings	Points
Redness	None	0
	Within 0.25 cm of the incision bilaterally	1
	Within 0.50 cm of the incision bilaterally	2
	Beyond 0.50 cm of the incision bilaterally	3
Edema	None	0
	Perineal. < 1 cm from the incision	1
	Perineal and/or vulvar, 1-2 cm from the incision	2
	Perineal and/or vulvar, > 2 cm from the incision	3
Ecchymosis	None	0
	Within 0.25 cm bilaterally or 0.5 cm unilaterally	1
	Within 1.0 cm bilaterally or 0.5-2.0 cm unilaterally	2
	> 1 cm bilaterally or > 2 cm unilaterally	3
Discharge	None	0
	Serum	1
	Serosanguinous	2
	Bloody, purulent	3
Approximation	Closed	0
	Skin separation <=3 mm	1
	Skin and subcutaneous fat separated	2
	Skin, subcutaneous fat and fascial layer separation	3

Interpretation: (Minimum score: 0/Maximum score: 15)

Results

The short term variables to be studied are:

1. The time required for Episiotomy suturing in minutes approximately
2. The number of suture material packets that will be used
3. The amount of blood loss in ml. approximately
4. Wound infection or the need for wound resuturing for first three days
5. Postpartum perineal pain on postnatal day 1, 2 and 3
6. Number of analgesic tablets required
7. Perineal trauma scoring

Statistical analysis will be done by IBM computer using SPSS (statistical program for social science version 12)

- Description of quantitative variables as mean, SD and range.
- Description of qualitative variables as number and percentage.
- Chi-square test was used to compare qualitative variables between groups.

Unpaired t-test was used to compare two groups as regard quantitative variable in parametric data (SD <50% mean).

- *p* value>0.05 insignificant.
- *p* value<0.05 significant
- *p* value<0.01 highly significant.

1.

Table 1: Comparison of time required for repair (in minutes) based on type of episiotomy repair

Time required for repair in	Continuous		Interrupted		X^2	p
	Count	Percent	Count	Percent		
20-22	29	58.0	7	14.0	21.1**	0.000
23-25	15	30.0	29	58.0		
>25	6	12.0	14	28.0		
Mean ± SD	22.5 ± 2		24.4 ± 1.9			

Table 2: Comparison of packets of suture material required based on type of episiotomy repair

Packets of suture material	Continuous		Interrupted		X^2	p
	Count	Percent	Count	Percent		
1	49	98.0	42	84.0	5.98*	0.014
2	1	2.0	8	16.0		

Table 4: Comparison of amount of blood loss in ml based on type of Episiotomy repair

Amount of blood loss	Continuous		Continuous		X^2	p
	Count	Percent	Count	Percent		
200 – 250	23	46.0	24	48.0	0.04	0.841
>250	27	54.0	26	52.0		
Mean ± SD	260.6 ± 18.5		259 18.1			

Table 5: Comparison of simple pain score based on type of Episiotomy repair

		Continuous		Interrupted		X^2	p
		Count	Percent	Count	Percent		
Day l	Mild	15	30.0	6	12.0	6.8*	0.033
	Moderate	30	60.0	32	64.0		
	Severe	5	10.0	12	24.0		
	Mean ± SD	3.4 ± 1.4		4.2 ± 1.7			
Day 2	Nil	3	6.0	0	0.0	24.57**	0.000
	Mild	41	82.0	21	42.0		
	Moderate	6	12.0	29	58.0		
	Mean ± SD	2.2 ± 1.1		3.2 ± 1.2			
Day 3	Nil	31	62.0	10	20.0	26.57**	0.000
	Mild	19	38.0	25	50.0		
	Moderate	0	0.0	15	30.0		
	Mean ± SD	0.8±1		2.1 ± 1.3			

Table 6: Comparison of visual analogue score for pain based on type of Episiotomy repair

	Pain score	Continuous		Interrupted		t	p
		Count	Percent	Count	Percent		
Day l	2	14	28.0	6	12.0	2.45*	0.016
	3	17	34.0	15	30.0		
	4	13	26.0	16	32.0		
	5	1	2.0	1	2.0		
	7	5	10.0	12	24.0		
Day 2	0	3	6.0	0	0	4.32**	0.000
	1	3	6.0	0	0		
	2	37	74.0	21	42.0		
	3	1	2.0	12	24.0		
	4	2	4.0	5	10.0		
	5	4	8.0	12	24.0		
Day 3	0	31	62.0	10	20.0	5.72**	0.000
	1	2	4.0	0	0		
	2	16	32.0	24	48.0		
	3	0	0.0	6	12.0		
	4	1	2.0	10	20.0		

Table 7: Comparison of total number of analgesic tablets required based on type of episiotomy repair

Total number of analgesic tablets	Continuous		Interrupted		X^2	p
	Count	Percent	Count	Percent		
2-3	42	84.0	17	34.0	27.85**	0.000
4-5	8	16.0	23	46.0		
6-7	0	0.0	10	20.0		
Mean ± SD	2.9 ± 0.9		4.2 ± 1.4			

Table 8: Comparison of REEDA scoring based on type of episiotomy repair

REEDA scoring	Continuous		Interrupted		X^2	p
	Count	Percent	Count	Percent		
2-3	24	48.0	9	18.0	15.65**	0.000
4-5	26	52.0	33	66.0		
6-7	0	0.0	8	16.0		
Mean ± SD	3.6 ± 0.7		45 ± 1			

Table 9: Comparison of wound dehiscence based on type of episiotomy repair

Wound dehiscenc	Continuous		Interrupted		X^2	p
	Count	Percent	Count	Percent		
No	50	100.0	50	100.0	-	-
Yes	0	0.0	0	0.0		

Discussion

The mean time required for repair of Episiotomy following continuous suturing was found to have 22.5 minutes and that of interrupted sutures was 24.4 minutes with a highly significant p value of 0.000.98% of patients required one packet of suture material and 2% with 2 packets in continuous group, while 86% required one packet and 14% with two packets of sutures in interrupted group, P value was 0.014 and which was significant. There was not much statistical difference in terms of amount of blood loss in both groups the average blood loss for continuous group was 260.6 ml and for other group it was 259 ml approximately. In terms of perineal pain scoring, patient with continuous group had average pain score 3.4, 2.2 and 0.8 on postnatal day 1, 2 and 3 respectively, while the other group had average pain score of 4.2, 3.2 and 2.1 on day 1, 2 and 3 respectively with significant statistical *p* value 0.03 on day 1, and *p* value 0.000 on day 2 and 3 which is highly significant.

VAS score of 3 and above seen in 2% in continuous group and 32% in interrupted group on third postnatal day, highly significant p value 0.000. Number of analgesic tablets required for perineal pain for continuous group was 2.9 and that of interrupted group was 4.2 with highly significant p value 0.000. Perineal trauma scoring by REEDA score showing mean value of 3.6 with continuous group and 4.5 with interrupted group at the end of third postnatal day with a p value 0.000 which is highly significant. No patient was found to have wound dehiscence in both groups at the end of the third postnatal day and no patients required resuturing. Suture technique and type of suture material has got effect on short term perineal pain, time required for Episiotomy repair, packets of suture material required for repair, and extent of perineal trauma. Our study results is showing a difference in pain between continuous and interrupted suturing method, which is comparable with similar studies, of Kettle *et al.*, Johanson, 2002 [5].

Conclusion

The conclusions that can be drawn from the study are: Continuous suturing for the repair of Episiotomy is better than interrupted suturing for short term period, in terms of Less time required for repair, Less number of packets of suture material used, Less perineal pain on postnatal day 1, 2 and 3, Less number of analgesic tablets used to control pain, Low perineal trauma scoring.

References

1. Arulkumaran S, George E. Margan, Onnig Tamizian Oxford Hand Book of Obstetrics and Gynecology 2004;31(3):22-324.
2. Carroli G, Belizan J, Stamp G. Episiotomy policies in vaginal births (Cochrane review). Cochrane Library Oxford; Update Software, 1998, 2.
3. Fleming N. Can the suturing method make a difference postpartum, perineal Pain. J nurse Midwifery 1990;35(1):19-25.
4. McCandlish R, Bowler U, Van Asten H, Berridge G, Winter C, Sames L *et al*. A randomized controlled trial of care of the perineum during second stage of normal labor. Br J Obstet Gynaecol 1998;105:1262-1272.
5. Kettle C, Hills R, Jones P, Darby L, Gray R, Johanson R. Continuous versus interrupted perineal repair with standard or rapidly absorbed sutures after spontaneous vaginal birth: a randomized controlled trial. The Lancet 2002;359.
6. Fleming EM, Hagen S, Niven C. Does perineal suturing make a difference? The SUNS trial. An International Journal of Obstetrics and Gynaecology 2003;110:684-689.