

# Comparison of Perineal Pain In Continuous Versus Interrupted Suturing Technique

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## Abstract

**Objective:** To compare the outcome of continuous versus interrupted suturing technique in association with postpartum perineal pain.

**Study Design:** Randomized clinical Trial.

**Place & Duration of study:** The Department of Obstetrics and Gynaecology, DHQH, Rwp. over a period of two months, from Aug. 2011 to Sept. 2011.

**Methodology:** All the patients with singleton Term pregnancy in occipito anterior position and delivered by spontaneous vertex delivery, who had been subjected to an episiotomy or perineal tearing affecting skin and muscles, were included in this study. Chromic catgut was used to stitch episiotomy. The postpartum pain was quantified from 0 to 10, using Joan Barron's comparative pain scale, 2002. The patients were grouped into four categories, no pain (0), mild pain (1–3), moderate pain (4–6) and severe pain (7–10). The patients were assessed for pain on 1<sup>st</sup> and then on 3<sup>rd</sup> postnatal day by the Barron's comparative verbal pain scale.

**Results:** One hundred and sixteen patients were included in the study. The patients were divided into two groups A and B. Group A (n=58) had continuous suturing by non locking sutures in the vagina, perineal muscles and subcutaneous tissue and group B (n=58) had interrupted perineal repair. On the first postnatal day 59% (n=34) had no pain in group A compared with group B where only 38% (n=22) had no pain. Moderate pain was experienced by 21% cases (n=12) in group B, while no patient experienced moderate pain in group A. On 3<sup>rd</sup> postnatal day no patient experienced any perineal pain in group A while 22% (n=13) had mild pain and 10.3% (n=6) experienced moderate perineal pain in group B. On third postnatal day pain was significantly less

among the patients with continuous suturing ( $p<0.001$ ) as compared to interrupted suturing technique ( $p<0.06$ ).

**Conclusion:** The continuous suture technique is found to be more effective suturing technique because patients experience less postnatal perineal pain as compared to interrupted technique.

**Key words:** Perineal repair, suturing technique, postnatal perineal pain.

## Introduction

Management of the perineum is an important component of vaginal birth. In current obstetric practice, incision of the perineal body and vagina to enlarge the vaginal outlet and to facilitate delivery is referred to as an episiotomy.<sup>1</sup> Persistent perineal pain is one of the most common health problems associated with child birth. It is a symptom highly associated with perineal trauma.<sup>1</sup> Eighty five percent of women having spontaneous vertex delivery have some form of perineal trauma, most of which need repair.<sup>2</sup> Episiotomy is performed in 32-33% of vaginal births.<sup>2</sup> Once it was the commonly performed procedure in obstetrics. Now a days, performing an episiotomy is generally reserved for complicated childbirth, in cases of fetal distress, or when tearing of perineal tissues with serious consequences is expected.<sup>3</sup> Although the current tendency is to reduce the incidence of episiotomy,<sup>4,5</sup> the practice varies considerably depending upon geography.<sup>6</sup> The majority of women experience pain of short duration as a result of perineal repair after childbirth and some continue with long-term problems, such as sexual discomfort.<sup>7</sup> In addition to the extent of the trauma, the surgical skill, the type of material used,<sup>7</sup> and the suturing technique for perineal 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 is less time consuming and which produces less pain in the short and long term, requiring less need to remove the sutures, lower frequency of re-suturing and permitting the resumption of intercourse with less pain sooner. The traditional technique for repair of perineal wound includes, first a continuous 'locking' stitch inserted to close the vaginal wound, commencing above the apex of the wound and finishing at the level of the fourchette with a loop knot. Next the deep and superficial muscles are re-approximated with three or four interrupted sutures and finally, the perineal skin is closed by inserting continuous subcutaneous or interrupted transcutaneous stitches.

In our study, we have attempted to evaluate an optimal technique for repair of episiotomy and perineal tear with less complication and the objective was to compare the outcome of continuous versus interrupted suturing technique in association with postpartum perineal pain.

## Methodology

This Randomized Clinical Trial (RCT) was carried out in the department of Obstetrics and Gynaecology, at DHQH, Rwp. for a period of two months. It was non probability random sampling. All the women with singleton term pregnancy and vertex in Occipito anterior position, delivered by spontaneous vertex delivery, who had been subjected to an episiotomy

multiple pregnancy, preterm delivery, those with instrumental delivery, prolonged second stage of labour, malposition, malpresentation and congenital malformation, were excluded from the study.

A written informed consent from the patients or their attendants and approval from hospital ethical committee were taken. Total patients fulfilling the inclusion criteria were 116. They were divided into two equal groups, Group A and Group B. Through lottery method randomization was done. In order to decrease patient's bias, single blind technique was used so that no patient knew to which group she will belong. Initial evaluation was done by taking complete history, performing general physical examination and systemic examination. Group A included women in whom continuous technique with non-locking sutures in the vagina, perineal muscles, and subcutaneous tissue, was used and Group B included women in whom interrupted suture technique was used, with continuous locking suture of the vagina, interrupted sutures in the perineal muscles and transcutaneous tissue. Episiotomy was performed in medio-lateral position at the crowning and was stitched with chromic catgut after the delivery of the baby and the placenta. The stitching was performed by second, third or fourth year residents. The postpartum pain was quantified from 0 to 10, using Joan Barron's comparative pain scale 2002.<sup>8</sup> The patients were grouped into four categories: no pain (0), slight pain (1–3), moderate pain (4–6) and severe pain (7–10). The patients were assessed for pain on 1<sup>st</sup> postnatal day by the Barron's comparative verbal pain scale. Then they were called on 3<sup>rd</sup> postnatal day and again asked for pain and assessed. Results

were collected and all the information was stored on a specially designed proforma for each case.

## Results

One hundred and sixteen patients were included in the study. The patients were divided into two groups A and B. Group A (n=58) had continuous suturing and group B (n=58) had interrupted perineal repair. Table I shows that on the first postnatal day 59% (n=34) had no pain in group A compared with group B in which 38% (n=22) had no pain. Moderate pain was experienced by 21% cases (n=12) in group B while no patient experienced moderate pain in group A. Table II demonstrates that on 3<sup>rd</sup> postnatal day no patient experienced any perineal pain in group A but pain was there in group B.

**Table I. Perineal pain on 1<sup>st</sup> postnatal day(n=116)**

	No pain (0)	Mild pain (1-3)	Moderate pain (4-6)	Severe pain (7-10)
Group A (n=58)	34(59%)	24(41%)	0	0
Group B (n=58)	22(38%)	24(41%)	12(21%)	0
Total	56(48%)	48(42%)	12(10%)	0

**Table II. Perineal pain on 3<sup>rd</sup> postnatal day (n=116)**

	No pain (0)	Mild pain (1-3)	Moderate pain (4-6)	Severe pain (7-10)
Group A (n=58)	58(100%)	0	0	0
Group B (n=58)	38(66%)	13(22%)	06(10.3%)	1(1.7%)
Total	96(83%)	13(11.2%)	06(5%)	1(0.8%)

Pain on third postnatal day was significantly less among the patients with continuous suturing technique as compared to interrupted suturing technique ( $p < 0.001$  vs.  $p < 0.06$ ), Table III.

**Table III. Comparison of means of pain scoring in the two groups**

		Mean	Standard Deviation	P-value
Perineal pain on 1 <sup>st</sup> postnatal day	Continuous suturing	1.41	.50	<0.001
	Interrupted suturing	1.83	.75	<0.06
Perineal pain on 3 <sup>rd</sup> postnatal day	Continuous suturing	1.00	.50	<0.001
	Interrupted suturing	1.48	.75	<0.06

## Discussion

Episiotomy, the incision of the perineum during the last part of the second stage of labour or delivery is still considered a controversial procedure. Millions of women throughout the world experience pain and suffering as a result of perineal trauma sustained during delivery,<sup>9</sup> and yet this is a very under researched area.

For nearly 70 years, researchers have been suggesting that continuous repair techniques are better than interrupted suturing methods in terms of reported postpartum pain. Kettle, et al<sup>10</sup> in their randomized study concluded that the continuous subcuticular technique of perineal repair was associated with less pain in the immediate postpartum period when compared with the interrupted suture technique. The results of our study are in accordance with results of Kettle, et al. The difference in pain

between the suturing methods is believed to be due to increasing suture tension caused by oedema. With continuous repair, tension is transferred through the whole length of the single suture.<sup>9</sup> Another important factor, which could contribute to this reduction in pain, is that skin sutures are inserted into the subcutaneous tissue, thus avoiding nerve endings in the skin surface. For this reason, Gordon, et al<sup>9</sup> suggested leaving the skin unsutured in postpartum perineal repair. Concern about perineal injury sustained during childbirth is a contributing factor to the increasing interest in elective caesarean section as an alternative mode of delivery.<sup>11</sup> In Italy in the past 10 years, some regions reported that 60% deliveries were by caesarean section.<sup>11</sup> In Italy, another study contrary to ours was carried out where the most frequent technique used was the interrupted one.<sup>12</sup> All approaches which reduce postpartum pain and increase postpartum patient satisfaction are to be welcomed. Long-term complications after episiotomy repair are common. A large proportion of women suffer short-term perineal pain and up to 20% have longer-term problems (e.g. dyspareunia).<sup>1</sup> Ejegard, et al also found that episiotomy during the first birth was a risk factor for dyspareunia 12–18 months postpartum.<sup>13</sup> Robson and Kumar noted soreness and dyspareunia at the episiotomy site in British women, the incidence at 3, 6, and 12 months was 40%, 18%, and 8%, respectively.<sup>14</sup> Other complications involve the removal of suture material, extensive dehiscence and the need for re-suturing.<sup>2</sup> The Perineal Assessment and Repair Longitudinal Study (PEARLS)<sup>15</sup> is a clinical quality improvement initiative designed to improve the assessment and management of perineal trauma. It suggests that continuous suturing techniques com-

pared with traditional interrupted methods are more effective in reducing pain and postnatal morbidity, further potentiating results of our study. RCOG guidelines 2004,<sup>16</sup> also gives level A gradation to the use of continuous subcuticular technique for perineal skin closure and a loose continuous non locking suturing technique to oppose vaginal tissue and perineal muscle as it is associated with less short term pain compared with the interrupted method.

## Conclusion

Perineal suturing skills and postnatal management of trauma remain highly variable within and between maternity units worldwide. Implementation of a standardized training programme to support effective perineal management practices could reduce perineal pain and other related postnatal morbidity for a substantial number of women.

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