

Rectal Versus Oral Analgesia for Perineal Pain Relief After Childbirth

Faiza Shafi, Shazia Syed, Naheed Bano, Rizwana Chaudhri

Department of Gynae/Obstetrics, Unit 1, Holy Family Hospital, Rawalpindi

Abstract

Background: To compare the efficacy of rectally administered diclofenac sodium with orally administered mefenamic acid for relief of perineal pain associated with childbirth.

Methods: In this randomized control trial, 324 women were randomly allocated in two groups (Group A and B) of 162 each. Group A patients received diclofenac rectal suppositories and group B patients received oral mefenamic acid. Treatment packs contained either two 50mg diclofenac suppositories or mefenamic acid tablets 500mg. First suppository being inserted when suturing was complete, and second was offered 12-24 hours after birth. Women in group B were given oral mefenamic acid tablets 08 hourly. Women were asked to complete questionnaire at 24 and 48 hours, after birth, relating to their pain relief using validated short form of McGill pain questionnaire

Results: There was statistically significant difference between the two groups for sensory, affective and total pain scores at rest or with movement at 24 hours after childbirth. Pain scores were significantly lower in diclofenac group (p value $\leq .0001$) when compared to mefenamic acid group. The difference was not sustained 48 hours after birth.

Conclusion: The use of rectal non-steroidal anti-inflammatory drug suppositories is simple, effective and safe method of reducing the pain experienced by women following perineal trauma within 24 hours after childbirth.

Key Words: Perineal Pain, Childbirth, Diclofenac suppositories, Mefenamic acid.

Introduction

Perineal pain by tear or episiotomy is a common problem after vaginal delivery. Perineal trauma affects at least 65% of women during childbirth in resource-rich countries and scarce data from under resourced countries suggests 35-45% of women who give birth in hospital setting experience an episiotomy. Factors that may influence the severity of pain include mode of delivery, degree of perineal trauma, type of suture material and perineal repair technique.^{1,2} The provision of safe and effective pain relief for perineal

trauma using rectal analgesia is one of several therapies used in clinical practice. Other options are oral analgesics, local anaesthetics, parenteral analgesics and ice packs. Evidence of the efficacy and safety of rectal analgesia is limited. The rectal route of analgesic administration has been favoured when oral preparations cause gastric irritation, nausea or vomiting.^{3,4}

Patients and Methods

Study was conducted in Gynae/Obstetrics unit-I, Holy Family Hospital Rawalpindi, from 1st Feb. 2008 to 31st July 2008. Total of 324 women with episiotomy or second degree perineal tears were recruited from delivery suite. Women who had history of sensitivity to non steroidal anti-inflammatory drugs, severe asthma, severe pre-eclampsia, gastric or duodenal ulcers or major post-partum haemorrhage were not included in the study.

Eligible women were randomly allocated to either group A or B by double blind technique to receive either diclofenac suppositories (50 mg) or oral mefenamic acid (500mg x 8 hourly). In women included in group A, the first suppository was inserted per rectally as suturing was completed and the second was offered 12-24 hrs after childbirth. The women in group B were given oral mefenamic acid 500mg 8 hourly for 24-48 hrs after childbirth. All women were asked to complete questionnaires prior to their discharge from hospital after 24-48 hrs of childbirth. The questionnaire used the validated short form McGill pain questionnaire made up of 15 descriptions of pain qualities; description 1-11 being sensory dimensions and 12-15 being affective dimensions. Each descriptor was then graded according to severity as "0 = No; 1 = Mild; 2 = Moderate; 3 = Severe pain, and total pain scores were calculated by adding these points. By help of SF-MPQ pain can be quantified.⁵ The primary outcome was pain score at 24 & 48 hours after birth with rest and on movements. Secondary outcome measures were the need of additional analgesia and maternal satisfaction with relief of pain.

Results

162 women were randomized to receive diclofenac suppositories in group A, and equal number of women were included in group B who received tablet mefenamic acid orally (Table 1).

Table 1: Maternal demographics and labour outcomes at trial entry.

(Represented as mean, median and percentages)

Variables	Diclofenac (Group A) n=162	Mefenamic acid (Group B) n=162
Maternal age (years)	27	26
Maternal weight (kgs)	74	71
Maternal height (cm)	164	165
Primigravida	80%	83%
Spontaneous vaginal delivery	93%	91%
Instrumental delivery	07%	09%
Episiotomy	82%	85%
2 nd degree perineal tear	18%	15%
Gestational age at birth (wks)	39(38-41)	38(37-40)
Length of labour (hrs)	7(5-9)	8(6-10)
Local anesthetic for perineal repair	91%	93%
Continuous suture to muscles	74%	80%
Vicryl rapide for perineal repair	55%	49%
Subcuticular suture	89%	92%
Perineal repair	56%	59%
Birth weight (kgs)	3.5(2.8-4.2)	3.4(2.7-4)

There was statistically significant difference (p value $\leq .0001$) between the two groups for sensory, affective and total pain scores at rest or with movement, at 24 hours after delivery of the baby (Table 2). Significantly fewer women in diclofenac group described their pain as discomforting or worse. Women in Group A significantly experienced less pain at 24 hrs while walking, sitting, passing urine and opening their bowels when compared to those women who received oral mefenamic acid in Group B. This difference was not sustained at 48 hours after the delivery.

There were, statistically, insignificant differences between the two groups in the need for additional analgesia prior to discharge from the hospital, time from birth to first use of analgesia and

the need for and frequency of analgesia use after discharge from hospital. Women in the diclofenac group significantly reported moderate or extreme satisfaction with their level of perineal pain relief (Table 3).

Table 2: Primary outcome measures.

(Represented as mean)

Variables	Diclofenac (Group A)	Mefenamic acid (Group B)	p value
Pain scores, 24hrs after birth at rest	12	24	.0001
Pain scores, 24hrs after birth with movements	14	36	.0001
Pain scores, 48hrs after birth at rest	9	12	1
Pain scores, 48hrs after birth with movements	14	20	1

Table 3: Secondary outcome measures.

(Represented as percentages; %)

Variables	Diclofenac (Group A) n=162	Mefenamic acid (Group B) n=162	RR* (95% CI)**
Use of additional analgesia	72%	79%	0.9
Time from birth to first analgesia	06hrs	4.2hrs	0.6
Additional analgesia after discharge	86%	90%	0.9
Patient satisfaction with treatment	89%	75%	0.9

RR: Relative Risk, CI: Confidence Interval

Discussion

Episiotomy is the most commonly performed obstetric procedure. Episiotomy or perineal tears during childbirth are associated with significant pain in the postpartum period.^{5,6} The reduction in pain experienced by women with rectal diclofenac suppositories was reflected in the need for less additional analgesia requirement prior to discharge from hospital but it was not reflected in request for additional analgesia after discharge from hospital and greater time from birth to first use of analgesia.⁷

The use of suppositories for the long term relief of pain and women acceptance of a rectal route of analgesia are less well addressed and reported. Our study addressed both these questions. There were no differences between the two groups in pain scores when enquired 10 days after the delivery. While rectal suppositories may be effective in reducing pain experienced after childbirth, drug effectiveness becomes a secondary consideration if women are not prepared to use rectal route of administration. To find out acceptance of rectal analgesic suppositories, interviewed surgical patients (both male and female) who were asked to choose between an intramuscular route of pain relief and rectal suppositories, only 18% of patients surveyed choose rectal suppositories as an acceptable method of pain relief.⁴ In contrast women receiving diclofenac suppositories in our study were more satisfied with their pain relief, and overall there was high degree of acceptance for the rectal route of administering analgesia.

There appears to be a clear advantage in using rectal non-steroidal anti-inflammatory drug suppositories to provide short term pain relief at rest with movements, and minor side effects when compared to oral mefenamic acid. There does not appear to be significant long term benefits of reduced perineal pain or reduced need for additional analgesia. According to Jayne A Searle, the mean pain scores assessed at 12, 24, 48 and 72 hrs after delivery using six point numerical scoring system were significantly reduced in diclofenac suppositories group as compared to control group. In addition there was less supplementary analgesia required in diclofenac group and this was limited to paracetamol or topical treatment to the perineum.⁸

The terminal half life of oral diclofenac in plasma is 1 to 2 hrs. After rectal administration, absorption is complete in less than 40 minutes. While the half life is longer after rectal administration; the total area under the curve is similar for both preparations. Diclofenac is almost completely protein bound, and as a result, minimal amount of drug is excreted in breast milk, an important consideration for women who are breast feeding.⁷

In our study women, who were taking oral mefenamic acid as analgesic for relief of perineal pain reported with high rates of minor gastrointestinal side effects predominantly nausea, vomiting and epigastric pain, while diclofenac was associated with significantly less composite minor adverse effects.

Conclusion

Rectal diclofenac suppositories should be further promoted, for pain relief, in women following episiotomy.

References

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