Randomized Controlled Trial of Mefenamic Acid vs Paracervical Block for Relief of Pain for Outpatient Uterine Curettage

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Objective: *To compare the efficacy of mefenamic acid vs paracervical block for pain relief during and after fractional curettage.*
Material and Method: *Between January 1 and July 31, 2002, the authors enrolled 87 patients with abnormal uterine bleeding, who requested fractional curettage at the Outpatient Gynecologic Clinic, Srinagarind Hospital, Khon Kaen University. A simple randomization procedure was used to distribute the patients into a control group comprising 44 patients given a paracervical block and a treatment group comprising 43 patients given mefenamic acid (500 mg) 2 hours before starting the procedure.*
Outcome measures: *Pain was scored using a visual analogue scale (VAS range, 0 to 10).*
Results*: The median pain scores of the treatment types during endocervical, endometrial, immediately after, and 30 minutes after, fractional curettage were 2.5 vs 3.0 (p = 0.42), 6.5 vs 7.5 (p = 0.19), 4.0 vs 3.5 (p = 0.20) and 1.5 vs 1.0 (p = 0.17), respectively. The rate of complications was 6.8% (3 in 44) in the paracervical lignocaine injection group.*
Conclusion: *The efficacy of pain relief for fractional curettage using oral mefenamic acid (500 mg) two hours before the procedure was not statistically different from the paracervical block, but there were fewer side effects. Mefenamic acid should be considered an alternate pain relief during fractional curettage.*

Keywords: *Abnormal uterine bleeding, Fractional curettage, Paracervical block, Mefenamic acid*

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Fractional curettage is an investigative tool for removal of abnormal tissue from the endocervix and endometrium for pathological study. It is normally carried out in women over 40 suffering from abnormal uterine bleeding. Although direct hysteroscopic visualization of the uterine cavity and removal abnormal pathology is suggested for better collection of abnormal tissue, blinded fractional curettage is necessary in areas lacking sophisticated equipment and experienced hysteroscopists. Pain during curettage is the main problem for patients. Currently, paracervical injection of lignocaine is common for pain relief during dilatation of the cervix[1]; however, the value of a paracervical block is moot[2], because the most painful stage occurs during the intracervical injection itself[2]. Some studies show that although a paracervical block was carried out during dilatation and curettage, severe pain was reported in between 21.3 and 50%[4,5] of cases.

Non-steroidal, anti-inflammatory drugs (i.e. naproxyn sodium, mefenamic acid) have been proposed as alternative pain relief during hysteroscopy for endometrial biopsy[6-8]. The analgesic effect of the medication is fair, especially after the procedure was completed[6,7]. In order to assess the role and efficacy of mefenamic acid in pain relief, during uterine curettage, a randomized, controlled trial was performed with paracervical lignocaine injection.

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Material and Method

The local medical ethics committee pre-approved the study protocols. So, between January 1 and July 31, 2002, the authors included 87 women, 40 and over, undergoing outpatient fractional curettage, for abnormal uterine bleeding. The authors excluded patients with peptic ulcer, those with a known sensitivity to non-steroidal anti-inflammatory drugs, those taking medications with known interactions with non-steroidal inflammatories, those sensitive to lignocaine, and those unable to provide informed consent.

Each patient was randomly allocated to receive either a 2% lignocaine paracervical injection or oral mefenamic acid (500 mg) (Parke-Davis Medical, East Leigh, UK). The women were instructed to take their tablet two hours before fractional curettage (Fig. 1). Before the uterine curettage, the vital signs were recorded, the level of abdominal pain assessed by an assistant nurse using a 10-cm visual analogue scale, and a bimanual examination performed (by the senior resident with the patient in the dorsal lithotomy position).

In the control group, the paracervical injection was performed using a French 24-guage needle through which 5 mL of 2% lignocaine (without adrenaline) was injected into the lateral fornix at 3 and 9 o'clock at a depth of between 3 and 5 mm. Fractional curettage was performed 5 min after the paracervical injection.

An assistant nurse not apprised of the intervention received by the patient, administered the assessment of pain using a 10-cm visual analogue scale: 1) prior to the procedure, 2) during endocervical and 3) endometrial curettage, 4) immediately and 5) 30 minutes after completing the procedure. If patients could not tolerate the pain, pethidine (1 mg/kg) was given intravenously.

The data were analyzed using the unpaired t-test and a result of $p < 0.05$ was required for statistical significance.

Results

Eighty-seven women with severe bleeding were recruited for the present study: 43 received mefenamic acid (500 mg) two hours before curettage and 44 a paracervical injection of 2% lignocaine (without adrenaline). There was no significant difference in the baseline characteristics of the two groups of women.

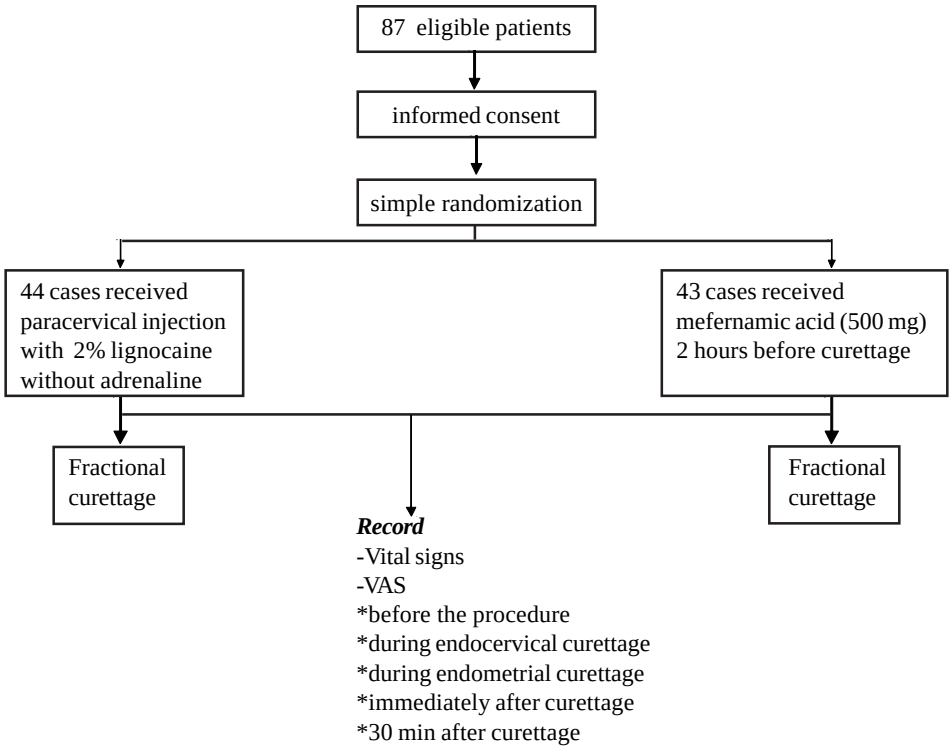

Fig. 1 Flow chart of participants

The average time needed to perform the fractional curettage was 32.5 ± 10.4 and 31.9 ± 11.0 min in the oral mefenamic acid vs the paracervical lignocaine injection groups, respectively.

The maximum pain perception occurred during endometrial curettage (7.5 vs 6.5). Three patients in each group could not tolerate the pain and needed intravenous pethidine. The median of pain was not statistically different at any stage of the fractional curettage in either group (Fig. 2).

Dizziness occurred in three of the patients who received the paracervical injection and one felt whole body numbness. There were no immediate side effects in the women put on oral mefenamic acid.

Discussion

Approximately 10-30% of gynecologic patients sought diagnosis and treatment for abnormal uterine bleeding [9,10]. In most Thai hospitals, fractional curettage is still the investigative tool of choice for abnormal uterine bleeding.

From an anatomical perspective, the sensory nerve supply to the uterus derives from two sources. The Frankenhauer's plexus (parasympathetic S_{2-4}) supplies the cervix and the longer portion of the uterus, while the uterine fundus receives its sympathetic nerve supply from the infundibulo-pelvic ligament through the ovarian plexus[11]. It, therefore, makes anatomical sense that a paracervical anesthesia block would counteract pain arising from the cervix but not the uterine fundus.

Pain during dilatation and distention of the uterine cavity may be related to the local release of prostaglandins which induce uterine cramps. A prostaglandin synthesis inhibitor may have a role in reducing pain symptoms. In a previous study, orally intake of 500 mg mefenamic acid one hour before hysteroscopy had no significant benefit in discomfort experienced during the procedure but did significantly reduce pain after hysteroscopy[7]. Normally, the peak plasma level of mefenamic acid is two hours after oral administration hence in the present study, drug was prescribed two hours before starting the uterine curettage.

The present study showed that pain assessment using the 10-cm visual analogue scale was not statistically significant for either the oral mefenamic acid (500 mg) or paracervical lignocaine injection group at any stage of the procedure.

Maximum pain perception occurred during endometrial curettage at 7.5 vs 6.5 in the mefenamic acid vs paracervical block groups, respectively. However, after the procedure was completed, pain sensation persisted in both groups albeit with less severity. The present study failed to show any post curettage analgesic benefit of the prostaglandin synthesis inhibitor. There were more side effects (i.e. vertigo and numbness) in the paracervical block group; immediate

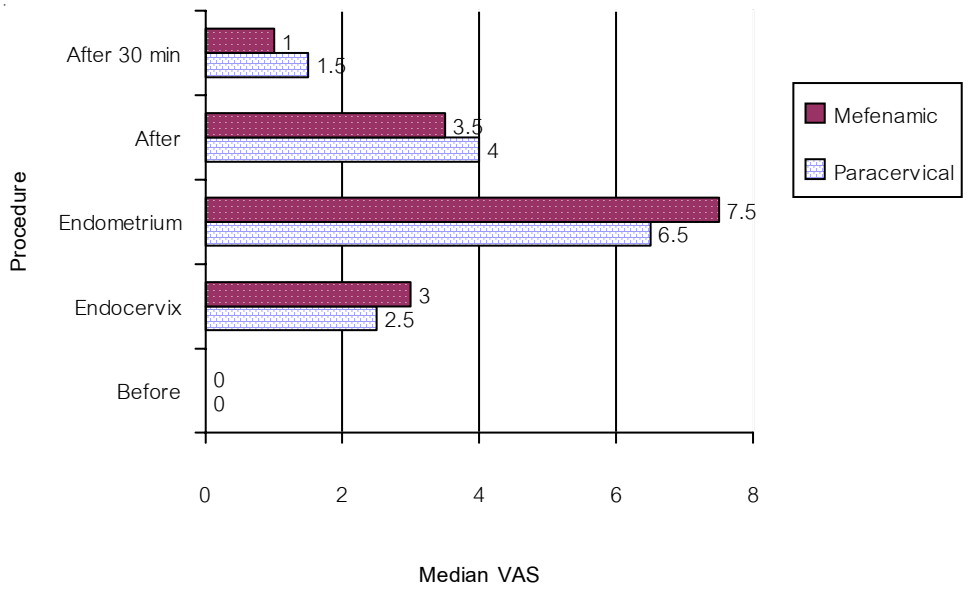

Fig. 2 Pain score during fractional curettage

side effects were not reported in the mefenamic acid group.

This was the first randomized, controlled trial in Thailand comparing the efficacy of paracervical block and orally intake non-steroidal anti-inflammatory drug for relief of pain during uterine curettage. The analgesic effect for uterine curettage from oral mefenamic acid (500 mg) was no different from a paracervical block. However, mefenamic acid was easier to administer, cost less, had fewer side effects, than the paracervical block, which was itself a painful procedure. Mefenamic acid (500 mg) is viable alternative for pain relief during fractional curettage.

To identify the real risk-benefit of a paracervical block, a systematic review is needed; probably a larger sample would show a clearer picture, and increasing the dosage of mefenamic acid (to 1000 mg), could be considered in further research.

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การศึกษาโดยวิธีสุ่มของการให้ยาเมเฟนามิค แอซิด เปรียบเทียบกับการฉีดยาชาข้างปากมดลูกเพื่อระงับปวดในการขูดมดลูกที่แผนกผู้ป่วยนอก

ประนอม บุพศิริ, เสาวนีย์ ตั้งมโนวุฒิกุล, วิไลวรรณ อยู่สุข

วัตถุประสงค์*: เพื่อศึกษาประสิทธิภาพการลดปวดของยาเมเฟนามิค แอซิด ที่ใช้เป็นยาเบื้องต้นก่อนขูดมดลูก 2 ชั่วโมง เปรียบเทียบกับการฉีดยาชาข้างปากมดลูก*

วัสดุและวิธีการ*: ได้ทำการศึกษาสตรีที่มีปัญหาเลือดออกผิดปกติจากโพรงมดลูกที่มีอายุ > 40 ปี ที่มาพบแพทย์ที่แผนกผู้ป่วยนอกนรีเวชกรรม โรงพยาบาลศรีนครินทร์ มหาวิทยาลัยขอนแก่น ตั้งแต่วันที่ 1 มกราคม พ.ศ. 2545 ถึง 31 กรกฎาคม พ.ศ. 2545 โดยที่แพทย์เห็นสมควรที่จะได้รับการวินิจฉัย หรือการรักษาด้วยการขูดมดลูก จำนวน 87 ราย ทำการแบ่งกลุ่มตัวอย่างโดยวิธี simple randomization เป็น 2 กลุ่ม ผู้ที่ได้รับการฉีดยาชาระงับปวดข้างปากมดลูกตามปกติมีจำนวน 44 ราย และกลุ่มที่รับประทาน ยาเมเฟนามิค แอซิด 500 มิลลิกรัมก่อนขูดมดลูก 2 ชั่วโมง จำนวน 43 ราย*

ตัววัด*: ระดับความเจ็บปวดโดยใช้ visual analogue scale (VAS) ช่วงคะแนน 0-10*

ผลการศึกษา*: จากการศึกษาพบว่า สตรีที่ได้รับการขูดมดลูกมีค่ามัธยฐานความเจ็บปวด ขณะขูดเยื่อบุปากมดลูกเท่ากับ 2.5 และ 3.0 (P = 0.42) ขณะขูดเยื่อบุโพรงมดลูกเท่ากับ 6.5 และ 7.5 (P = 0.19) หลังขูดมดลูกเสร็จทันทีเท่ากับ 4.0 และ 3.5 (P = 0.20) หลังขูดมดลูกเสร็จ 30 นาทีเท่ากับ 1.5 และ 1.0 (P = 0.17) ในกลุ่มที่ฉีดยาชาระงับปวดข้างปากมดลูกและกลุ่มที่รับประทานยาเมเฟนามิค แอซิด 500 มิลลิกรัมก่อนขูดมดลูก ตามลำดับ มีภาวะแทรกซ้อน เกิดขึ้น 6.8% (3 ใน 44 ราย) ในกลุ่มที่ได้รับการฉีดยาชาระงับปวดข้างปากมดลูก*

สรุป*: วิธีระงับปวดโดยการรับประทานยาเมเฟนามิค แอซิด 500 มิลลิกรัมก่อนขูดมดลูก 2 ชั่วโมง มีประสิทธิภาพในการลดความปวดขณะขูดมดลูกไม่แตกต่างจากการฉีดยาชาระงับปวดข้างปากมดลูก แต่มีผลข้างเคียงน้อยกว่า ดังนั้นการใช้ยาเมเฟนามิค แอซิด จึงอาจเป็นทางเลือกหนึ่งสำหรับวิธีระงับปวดก่อนการขูดมดลูก*