Original Article

Paracervical block versus intrauterine lignocaine for Pain relief during cervical dilatation an endometrial curettage

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Introduction: The abbreviation D&C refers to the dilatation of the cervix and removal of the undesirable uterine lining. However, surgical procedures such as scraping and scooping (curettage) of the uterus's undesirable contents. Although most patients can withstand pain in order to complete necessary treatments, research reveals that scores of the pain are frequently high in the majority of situations. According to a review of the literature, the potential of intrauterine lignocaine can give pain relief more effectively than the usual paracervical block. **Materials and Methods:** Sixty individuals who came to the OPD for treatment were examined and recruited in the study. Using computer-generated random numbers, patients were divided into two groups. A parameter named visual analog scale was used by all patients to assess the degree of their pain. **Results:** In both groups, the arithmetic mean of score of the pain recorded was not statistically different between vaginal multiparous and nulliparous women. Excessive pain was defined as a pain score of higher than 6 on a scale of 10 points. When compared to the lignocaine group (16.70%), group B (33.30%) has a considerably higher number of females experiencing less pain during endometrial curettage (P = 0.001). The heart rate increment was also considerably higher in group A, indicating a more strong sympathetic reaction to the higher level of pain reported by group A. All of the patients were able to finish the surgery satisfactorily.

KEY WORDS: Intrauterine lignocaine, paracervical block, pain during during dilatation and curettage

INTRODUCTION

The abbreviation D&C stands for dilation of the cervix and removal of the uterus's undesirable lining. And surgical procedures such as scraping and scooping (curettage) of the uterus's undesirable contents. For abnormal uterine bleeding, it serves as both a diagnostic and therapeutic tool. These women were also told they needed a first-trimester abortion, which is a procedure that is rarely undertaken. This technique can be done under conscious sedation, general anesthesia (GA), or local anesthetic because it deals with pain and discomfort. Only a few practitioners employ GA because it is associated with anesthetic problems, the requirement for a hospital stay, and a significant expense.[1,2]

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Most individuals are able to withstand pain while undergoing required operations. However, it was discovered that in the majority of cases, the pain score increased dramatically. Cervical curettage and cervical biopsy are linked to visual analog scale (VAS), with range of pain scores of 4–6 on a scale having 10-point. And endometrial biopsies received a VAS score ranging from five to seven. For the installation of the intrauterine device (IUD), the pain scale ranges between 2 and 7. For insertions of laminaria with paracervical block, pain scores range from 5 to 7. Recent reviews of the literature on pain control during hysteroscopy, IUD insertion, hysterosalpingography, and first-trimester abortion have been published and the best approaches of control pain are unknown.[3]

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According to a review of the literature, lignocaine given intrauterine has the ability to give pain relief more effectively than the usual paracervical block. Our research aims to look at this pain relief method in a developing country where, due to a lack of resources, completing these procedures in an outpatient setting is a must.

MATERIALS AND METHODS

The Obstetrics and Gynecology Department at RMCH Bareilly conducted a comparative prospective and randomized study. After their signed informed consent was obtained, sixty patients in the OPD were examined and included in the study.

Exclusion Criteria

I. Not willing to give consent
II. Patients having medical disorders
III. Cerebrovascular disorders
IV. Previous surgery associated with cervix
V. Previous pelvic radiotherapy
VI. Active pelvic inflammatory disease
VII. Endometrial polyps
VIII. Submucous fibroids
IX. Uterine size >10 weeks and
X. History of allergic reaction to lignocaine.

Inclusion Criteria

I. Patients having requirements of D&C.

Patients were recruited into two different groups. It was randomized by providing computer-generated random numbers to all the recruited patients. To reduce individual bias all the pain assessment and procedures were accomplished by providing a single operator. For every patient, a standard protocol was followed for D&C. Before the procedure those patients were of 10 ml of one percent lignocaine with a 23 Gauge disposable syringe at the position of 3 o'clock and 9 o'clock of the cervicovaginal junction. Instillation of 5 ml of two percent lignocaine in the uterus using Foley's catheter was done to group B. To prevent backflow, the catheter was left in place for two minutes before being removed, giving the anesthesia enough time to act. After that, uterine sounding, cervical dilatation if necessary, and uterine curettage were carried out as usual.

A VAS was used by all patients to assess the degree of their pain (VAS). The subjects were also asked to rate their discomfort on a ten centimeter VAS, with 10 points denoting the most agonizing and terrible pain and 0 denoting no pain. The pulse rate was immediately measured after the surgery. The degree of the patient's pain was the main outcome measure in this research.

RESULTS

The patients in group A and B were compared by taking into account their BMI, age, parity, and intervention indications, shown in Table 1.

SPSS 21 was used to analyze the data, and each variable was checked for normality before the groups were compared. The data were analyzed with the student Chi-square and t-test, where needed.

Table 1: Demographic profile and procedure indications

Variables	Group A (Paracervical block) (*n*=30)	Group B (Intrauterine lignocaine) (*n*=30)	*P*-value
Mean age (years)	44.81±6.46	41.07±8.01	0.021
Mean BMI	24.3±3.8	25±5.5	0.78
Parity			
0–1	1	5	0.22
2–3	23	20	
4 or more	6	5	
Previous vaginal birth			
0	5	4	0.71
1 or more	25	26	
Menopausal status			
Premenopausal	27	28	0.64
Postmenopausal	3	2	
Indication			
Menorrhagia	7	8	0.39
Irregular bleed	10	15	
Polymenorrhea	5	3	
Postmenopausal bleed	5	2	
Simple hyperplasia	1	2	
Others (secondary amenorrhea and suspected genital Tuberculosis)	2	0	

Patients for cervical dilation were chosen based on their cervical status, which was determined at the time of surgery. No statistically significant variations in menopausal state, age, previous vaginal birth, parity, or BMI between groups A and B. The VAS was used to assess the patient's pain during the surgery. Tables 2 show that pain in the paracervical block group was considerably higher than pain in the intrauterine lignocaine group. The degree of pain experienced was unaffected by the patients' parity. By comparing the arithmetic mean of recorded score pain of vaginal nulliparous and multiparous women in both groups, with no significant statistical difference. Excessive pain was defined as a pain score of higher than 6 on a scale of 10 points. When compared to the lignocaine group (16.70%), the number of females in group B (33.30%) experiencing less discomfort during endometrial curettage is significantly higher (P = 0.001) [Table 3]. It was also discovered that group A had a much higher heart rate increase. This demonstrates a stronger sympathetic response to the higher level of pain in group A. All of the patients were able to complete the surgery satisfactorily.

DISCUSSION

This study evaluated different types of methods to perform uterine anesthesia. Uterine anesthesia has been attempted in different gynecologic procedures by some investigators and various data on its effectiveness, which have been reported. Trolice *et al*. were the first to evaluate the of IUT (intrauterine topical) anesthesia efficacy for endometrial biopsy in premenopausal and postmenopausal women, regardless of parity, and found good results. The intrauterine administration of lignocaine had shown a considerable reduction in pain scores, with median pain scores of 4.7 compared to 9.9 in the experiment.[5,6]

Rattanachaiyamont *et al*.[7] conducted a randomized, double-blind, 66 women participated in a placebo-controlled experiment. Who had Fractional Curettage (F/C) with help of Sims Curette and had abnormal uterine hemorrhage. A paracervical block was used on all of the patients, along with either saline or intrauterine lignocaine. Between groups A and B, there was a statistically significant difference in pain levels of pain score 2.3 versus 4.7. The arterial blood pressure and heart rate profiles were identical. The paracervical block (A) group showed a much larger increase in heart rate, which could imply a stronger sympathetic reaction to the higher level of discomfort they were experiencing. Because two percent lidocaine has a faster onset and shorter duration of action than bupivacaine, which had previously been used in trials, and because 2% lidocaine theoretically had better efficacy than 1 percent lidocaine,[8] it was chosen for intrauterine anesthesia. The time it requires for the local anesthetic to take effect is also crucial. Within 10 minutes of topical lidocaine administration, the anesthetic effect peaks.[9] This research is also in line with Cicinelli *et al*.[8] Before an office hysteroscopy and/or endometrial biopsy, 80 women were randomly randomized to receive 2 ml of 2% mepivacaine or normal saline with a 5-min delay. The women who received the mepivacaine infusion demonstrated a statistically significant reduction in discomfort. In their placebo group, they reported a much greater (32.5%) incidence of vasovagal response.

Hui *et al*.[10] discovered that intrauterine lignocaine reduced discomfort during suction curettage in the endometrial sample of pain score 2.1 versus 4.2 in a randomized, double-blind controlled experiment including 200 participants. This study, however, differed from ours in that it did not include postmenopausal women, employed a vacuum aspirator for endometrial collection, and did not include any additional pain management method, such as paracervical block and NSAID.

This could also explain why there was no variation in blood pressure and pulse between group A and B, according to these researchers. The importance of NSAIDs cannot be overstated, since their systemic action of suppressing prostaglandin synthesis works in tandem with a local anesthetic to give the patient with the right possible analgesia. In a double-blind, placebo-controlled randomized study of 120 individuals having endometrial biopsy utilizing the Pipelle device,[11] Dogan *et al*. confirmed this. When compared to placebo groups, the arithmetic mean of pain scores in NSAID and lignocaine groups were no noticeable differences. The recorded score of pain in the lignocaine with NSAID group, on the other hand, was comparatively lower (4.6 vs. 7.1). The adequacy of the histology sample was one of the study's significant secondary outcomes. This reflects the patient's level of comfort throughout the process, which translates to improved cooperation.

The pain score in the lignocaine with NSAID group was much lower (4.6 vs. 7.1). One of the important secondary outcomes of our study was the adequacy of the histopathology sample, which reflects the patient's level of comfort throughout the process,

Table 2: Clinical assessment in both groups

Variables	Paracervical block (Group A)	Intrauterine lignocaine (Group B)	*P*-value
Mean arterial blood pressure	110±9.82	106±7.82	0.217
Heart rate	81.54±12.32	74.69±5.71	0.017

Table 3: Pain score between two groups

Variables	Paracervical block (Group A) (n=30) Percentage	Intrauterine lignocaine (Group B) (n=30) Percentage	*P*-value
Not satisfactorily poor	5 (16.70)	1 (3.30)	0.098
	10 (33.30)	3 (10)	
Good	10 (33.33)	16 (53.30)	
Excellent	5 (16.70)	10 (33.30)	

which translates to improved cooperation. In the intrauterine lignocaine group, only four patients had an insufficient sample, compared to seven in the paracervical block group. Although this outcome was not considerable, it could be a reflection of the lignocaine group's reduced pain perception.

There were four patients in the intrauterine lignocaine group had an inadequate sample if compared to the paracervical block group it was found only seven. And this result was not considerable, it could have additional reflection of less perception of pain in the lignocaine group. The results of this study and also a review of the literature on this title shown intrauterine lignocaine for endometrial biopsy and curettage is safe and effective.

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