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Original Research Article

## Comparison between paracervical and intracervical block before procedures on uterine cavity and cervical dilatation

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### ABSTRACT

**Background:** Procedures like dilatation and curettage and manual vacuum aspirations are one of the commonest procedures conducted in the outpatient Department of Obstetrics and Gynecology. Objective of present study was to find out whether intracervical block is as effective as paracervical block in patients undergoing cervical dilatation and procedures on uterine cavity.

**Methods:** Patients undergoing dilatation and curettage or manual vacuum aspiration were given either paracervical block or intracervical block. The pain during cervical dilatation and curettage or manual vacuum aspiration were assessed on a 10 cm visual analogue scale.

**Results:** Mean visual analogue score during dilatation was comparable in both groups. Mean visual analogue score were comparable during dilatation in both groups before curettage or manual vacuum aspiration. Mean visual analogue scores during manual vacuum aspiration or curettage was also comparable with both groups. One patient had a serious side effect of convulsion during paracervical block.

**Conclusions:** Intracervical block is preferable to paracervical block during procedures like cervical dilatation and on procedures on uterine cavity as intracervical block requires less technical precision than paracervical block.

**Keywords:** Dilatation and curettage, Intracervical block, Manual vacuum aspiration, Paracervical block

### INTRODUCTION

Procedures like dilatation and curettage and manual vacuum aspirations are one of the commonest procedures conducted in the outpatient Department of Obstetrics and Gynecology.<sup>1</sup> General anesthesia can be associated with complications and most clinicians perform dilatation and procedures on uterine cavity under local anesthesia rather than general anesthesia.<sup>2</sup>

Pain signals from cervix and uterus carried by the parasympathetic and sympathetic fibers. Cervical pain results from the mechanical stretching of cervix whereas uterine pain is caused by curettage or during aspiration of the uterine cavity.<sup>3</sup> The standard technique of analgesia is

done by paracervical block. Paracervical block however is associated with complications like convulsion and broad ligament haematoma.<sup>4</sup>

The study was undertaken to find out whether intracervical infiltration of lignocaine which acts as by infiltrative analgesia can be equally safe and effective as paracervical block. Intracervical infiltration of lignocaine is technically simpler compared to paracervical block.

We could not find many studies comparing paracervical anesthesia with intracervical block. Hence, we decided to do a study comparing paracervical and intracervical infiltration block before dilatation and procedures on uterine cavity.

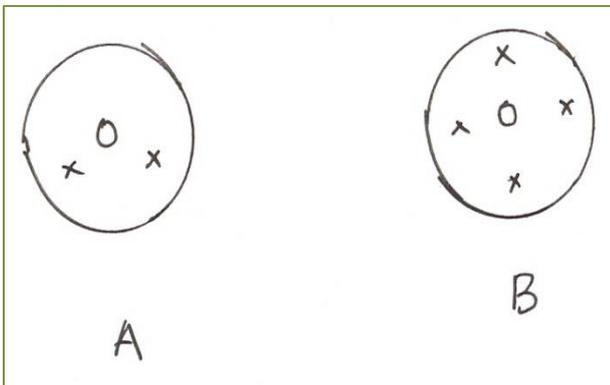
**METHODS**

The study was conducted at the Department of Obstetrics and Gynecology of a tertiary care center. The study was approved by the ethical committee of Kasturba Hospital Manipal. Patients who were undergoing dilatation and curettage or manual vacuum aspiration were selected for the study.

Patients with history of allergy to Lignocaine and inability to understand how to admit pain score on visual analogue scale were excluded from the study. Complete general and gynecological examination was done prior to the procedure.

A transvaginal sonography was done in all patients. Preoperative cervical ripening was done with 400 microgram of vaginal Misoprostol 2 hours prior to the procedure. Inj Tramdaol and Inj Atropine was given just prior to the procedure. Patients were given either paracervical block or intracervical block. Paracervical block was given using 10 ccc of 1% lignocaine.

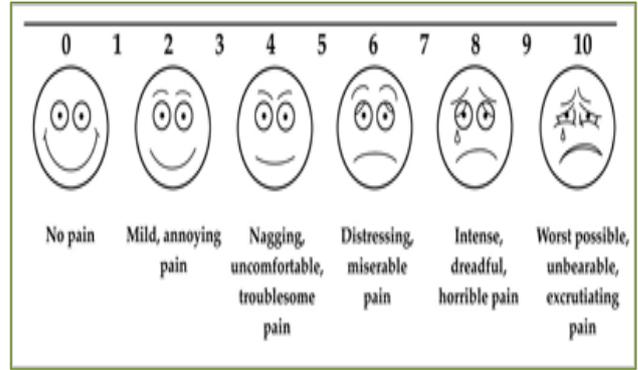
A 23-gauge needle was used.5 cc of Lignocaine was injected at the cervicovaginal junction at 4 and 8 o'clock position at a depth of 1.5 cm to 2 cm. Intracervical block was given using 10 cc of lignocaine at 12,3,6 and 9 o'clock position. 2.5 cc of 1% lignocaine was injected at these positions at a depth of 1.5 to 2 cm (Figure 1).



**Figure 1: Paracervical block (A) and intracervical block (B).**

Visual analogue score was shown to patients during dilatation of cervix and during curettage /manual vacuum aspiration. A score of 0 meant no pain at all, 10 suggested a worst unbearable pain. Score of 1 to 9 suggested increasing degree of severity (Figure 2).

Dilatation was avoided in patients who had sufficient cervical dilatation after Misoprostol (dilated up to No. 9 Hegars dilator). The pain scores were noted. Complications during the procedures if any were noted. Post procedure patients were monitored for 2 hours before discharge from the Hospital.



**Figure 2: Visual analogue score.**

**Statistical analysis**

Statistical package for the social science (SPSS-16) was used for statistical compilation and analysis. For statistical analysis of difference between the two groups, Independent T test, Chi-square test were used. Statistical significance was accepted at p value <0.05.

**RESULTS**

A total of 134 subjects entered the study. 89 subjects underwent dilatation and curettage. 42 cases of dilatation and curettage was done under intracervical block and 47 were done under Paracervical block. There were 46 cases of manual vacuum aspiration. 21 were done under paracervical block and 24 were done under intracervical block (Table 1).

**Table 1: Number of patients in paracervical and intracervical block group.**

Procedure	Intracervical block	Paracervical block
Dilatation and curettage	42	47
Manual vacuum aspiration	24	21

**Table 2: Comparison of visual analogue scores during dilatation and curettage in patients who underwent dilatation and curettage.**

Groups	Visual analogue score during dilatation -Mean (SD)(n=76)	Visual analogue score during curettage -Mean (SD)(n=89)
Intraervical block (n=36)	3.38 (2.41)	4.9 (2.63)
Paracervical block (n=40)	2.82 (2.62)	4.38 (2.29)
P Value	0.193	0.253

Mean visual analogue score during dilatation and curettage in patients undergoing dilatation and curettage was comparable between the intracervical and

paracervical group (p value 0.193 for dilatation and 0.253 for curettage). It may note that only 76 underwent dilatation as rest had sufficient cervical dilatation up to No 9 Hegars (Table 2). The visual analogue score during dilatation and aspiration were similar in the group undergoing manual vacuum aspiration (p value 0.42 for dilatation and 0.338 for aspiration). It may be noted that only 32 patients had to undergo dilatation of cervix before aspiration and as rest had sufficient cervical dilatation with Misoprostol (Table 3).

**Table 3: Comparison of visual analogue scores during dilatation and aspiration in patients who underwent manual vacuum aspiration.**

Groups	Visual analogue score during dilatation -Mean (SD)(n=32)	Visual analogue score during aspiration -Mean (SD)(n=45)
Intra-cervical block (n=13)	1.88 (1.41)	4.12 (2.19)
Paracervical block (n=17)	2.53 (2.17)	3.29 (1.74)
P Value	0.425	0.338

Out of 46 patients who underwent manual vacuum aspiration one patient developed convulsion with paracervical block and the procedure was abandoned. One patient in intra-cervical group who underwent manual vacuum aspiration experienced vomiting. One patient developed generalized tonic clonic convulsions during paracervical block during manual vacuum aspiration.

## DISCUSSION

Traditionally paracervical block is given for pain relief during procedures like cervical dilatation and any procedure on uterine cavity like curettage or manual vacuum aspiration. Paracervical block however is associated with complications. Because paracervical block is given at the cervicofacial junction close to venous plexus complications like convulsion or respiratory depression can occur with inadvertent intravascular injection.<sup>5,6</sup>

In present study, it was preferred to give paracervical block at 4 and 8 O'clock position to decrease the incidence of inadvertent injection into veins. However, one patient developed convulsion in present study.

Intra-cervical block is easy and needs less precision than paracervical block.<sup>7</sup> Intra-cervical block is technically much easier as the drug is injected directly into the cervical stroma.

Lignocaine was used in present study. There is no evidence that other local anesthetic like Bupivacaine is superior to Lignocaine in cervical blocks.<sup>8</sup> Though some people may argue that procedures on uterine cavity may be done with anesthetic blocks many studies have shown

decrease in pain scores with local anesthesia and it's a standard practice now to give anesthetic blocks before procedures on uterine cavity.<sup>9</sup>

We found the pain relief obtained with both paracervical block and intra-cervical block is similar. No patient in intra-cervical block experienced any serious side effects, however one patient in paracervical block suffered from convulsions. Kan et al also found that the pain relief obtained with paracervical block and intra-cervical block were similar.<sup>10</sup> Mankowski JL et al in a randomized control study observed no difference pain scores with paracervical and intra-cervical block.<sup>7</sup>

## CONCLUSION

To conclude intra-cervical block is an effective method of regional anesthesia during cervical dilatation and minor procedures on uterine cavity. Intra-cervical block is technically easier and simpler than a Paracervical block.

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