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**Original Research Article**

# Cross-sectional study comparing paracervical and combined paracervical-fundal block for outpatient Novasure

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## ABSTRACT

**Background:** This retrospective cross-sectional study aimed to evaluate whether the combination of paracervical and fundal block provides greater reductions in self-reported pain during NovaSure endometrial ablation compared with paracervical block alone.
**Methods:** Fifty women aged 45–60 years who underwent NovaSure endometrial ablation at hysteroscopy clinics were retrospectively analyzed.
**Results:** Participants who received the combined block reported significantly lower pain scores during the procedure (mean: 3) compared with those who received paracervical block alone (mean: 6). The overall procedural success rate was 76%. Complications occurred in 28% of cases, all of which were managed conservatively. Patient satisfaction was high, with 92% reporting satisfaction and 84% indicating they would recommend the procedure. Most participants experienced minimal pain and resumed normal activities within 1–3 days.
**Conclusions:** The combination of paracervical and fundal block provides superior pain relief compared to paracervical block alone during NovaSure endometrial ablation. This approach is associated with high patient satisfaction, rapid recovery and manageable complication rates.

**Keywords:** Combined paracervical fundal block, Endometrial ablation, NovaSure, Pain relief

## INTRODUCTION

Endometrial ablation is a widely accepted minimally invasive treatment for abnormal uterine bleeding, particularly in perimenopausal women who no longer desire fertility.[1,5,14] The NovaSure system, which uses radiofrequency energy, has gained popularity due to its efficacy, short procedure time and suitability for outpatient settings.[2,13]

Despite these advantages, pain during and immediately after NovaSure ablation remains a major challenge in office-based practice.[3,14] Multiple analgesic techniques have been studied, including oral analgesics, paracervical block, intravenous sedation and intrauterine local anaesthetic instillation.[4,11] The paracervical block is commonly used; however, it may not adequately control pain associated with uterine cavity distension and ablation.

The addition of a fundal block has been proposed to enhance analgesia by targeting nociceptive pathways within the uterine fundus. This study aimed to compare the effectiveness of paracervical block alone versus a combined paracervical-fundal block in reducing procedural pain during NovaSure ablation.

## METHODS

This retrospective cross-sectional study was conducted at the outpatient hysteroscopy clinic of Basildon and Thurrock University Hospital, Basildon, UK, between May 2024 and April 2025.

***Inclusion criteria***

A total of 50 women aged 45–60 years who underwent outpatient NovaSure endometrial ablation for abnormal uterine bleeding were included.

***Exclusion criteria***

Patients with contraindications to local anaesthetics or incomplete medical records were excluded. Data were collected through post-procedural interviews and review of electronic medical records.

***Procedure***

All participants received pre-procedural non-steroidal anti-inflammatory drugs (NSAIDs). Two anaesthetic techniques were employed. Paracervical block alone 40 ml of 2.5 mg/ml Chirocaine was injected at the 2, 4, 7 and 10 o'clock positions around the cervix.

Combined paracervical fundal block. In addition to the paracervical block, 2 ml of 2.5 mg/ml Chirocaine was injected into four fundal sites under hysteroscopic guidance using a Cook cystoscopic needle. Pain perception was assessed using a 0–10 visual analogue scale (VAS) during the procedure, immediately after and at 24 hours. Secondary outcomes included time to return to normal activity, procedure success, complications and patient satisfaction.

***Ethical considerations***

All data were anonymized prior to analysis.

***Statistical analysis***

Continuous variables such as mean pain scores were compared between groups using appropriate statistical tests, while categorical variables including complications, satisfaction and return to activity were summarized as frequencies and percentages.

## RESULTS

***Mean vas score***

During procedure combination block group had mean VAS=3, paracervical block group had mean VAS=6. Post-procedure. Combination block group had mean VAS=2; Paracervical block group had mean VAS=4. At 24 hours. Combination block group had mean VAS=1.5; paracervical block group had mean VAS=2.5 (Figure 1).

***Time to return to normal activity***

Participants receiving the combination block resumed normal activities within 1–2 days, compared to 2–3 days in the paracervical block group (Figure 2).

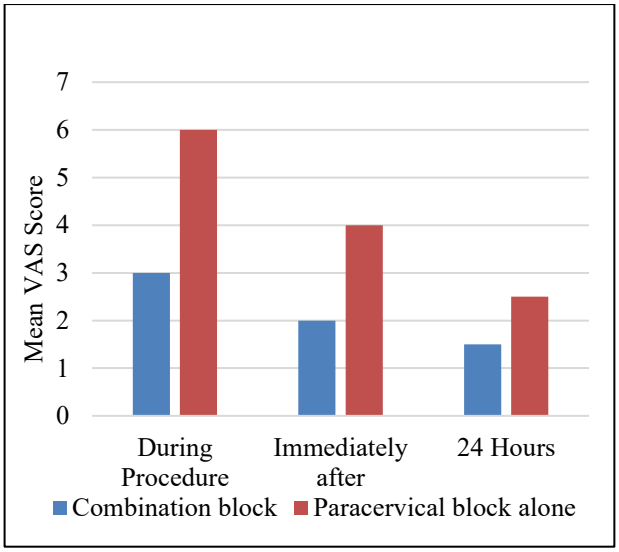


**Figure 1: Pain score at different time points.**

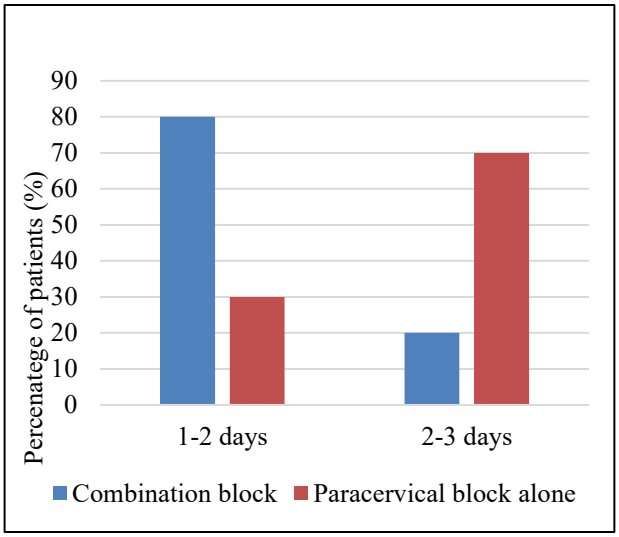


**Figure 2: Time to return to Normal Activity.**

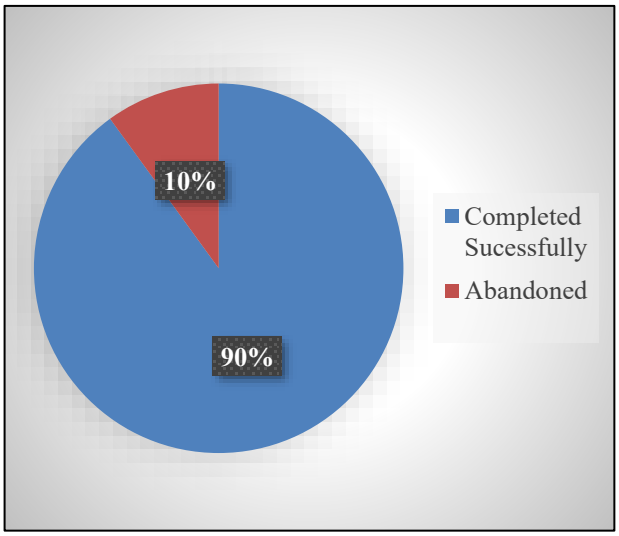


**Figure 3: Procedure outcome.**

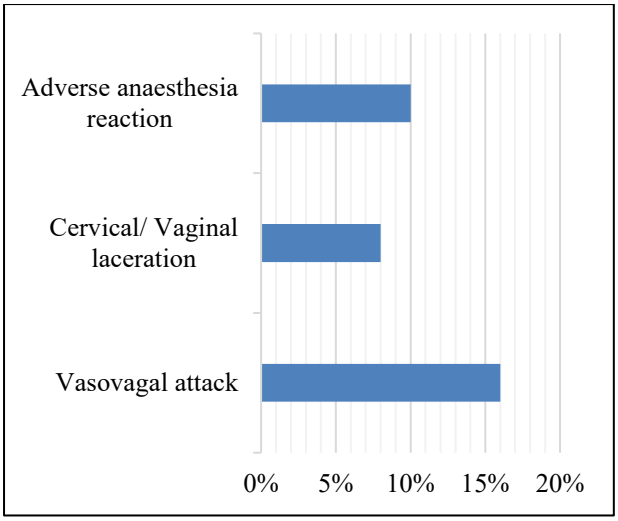


**Figure 4: Complications.**

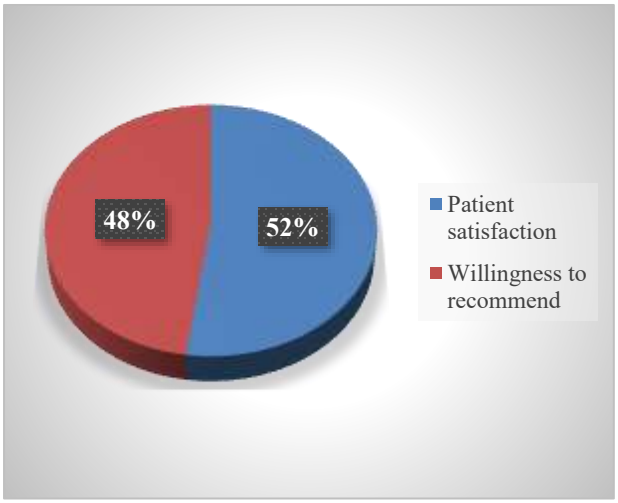


**Figure 5: Patient response to combined block.**

***Procedure outcome***

In 45 out of 50 patients, procedure was completed successfully. Howsoever, the procedure was abandoned in five participants due to pain intolerance (4 in the paracervical-only group, 1 in the combination group) (Figure 3).

***Complications***

Vasovagal attacks occurred in 16% of cases, cervical or vaginal lacerations in 8% and adverse reactions to anesthesia in 10%. All complications were minor and resolved spontaneously without further intervention (Figure 4).

***Patient's response to combined block***

92% of participants expressed overall satisfaction and 84% reported that they were happy to recommend the procedure to others (Figure 5).

## DISCUSSION

This study demonstrates that adding a fundal block to the standard paracervical block significantly improves pain control during NovaSure endometrial ablation.[4] The mean intra-procedural pain score was reduced by half compared to paracervical block alone. These findings support the hypothesis that fundal nociceptive pathways play a critical role in pain perception during uterine ablation.[5,6,13]

The quicker return to daily activities in the combination group further underscores the clinical benefit of improved pain management. The combination of paracervical and fundal block provides superior analgesia compared to paracervical block alone during outpatient NovaSure ablation. Patients receiving the combination block experienced lower pain scores, faster recovery and high satisfaction rates, with only minor, self-limiting complications. This approach appears safe, effective and feasible for improving patient outcomes in office-based endometrial ablation.

***Limitations***

While patient satisfaction rates were high overall, pain intolerance still led to procedural abandonment in a small number of patients, highlighting the ongoing need to refine analgesic strategies. The study was conducted at a single center with a relatively small sample size, which may limit the generalizability of the findings. Pain assessment relied on subjective patient-reported scores, which could be influenced by individual perception or expectation.[4,7,12] Alternative adjuncts, such as intrauterine local anaesthetic instillation or conscious sedation, may warrant further investigation.[8,9] Prospective randomized trials are needed to confirm these findings and establish standardized pain management protocols.[7,10]

## CONCLUSION

The addition of a fundal block to the standard paracervical block during outpatient NovaSure endometrial ablation provides significantly improved pain control, faster recovery and high patient satisfaction compared to paracervical block alone. This combination appears safe, effective and feasible for office-based procedures, with only minor, self-limiting complications.

Despite these encouraging results, limitations such as the single-center design, small sample size and reliance on subjective pain scores highlight the need for further research. Prospective, randomized trials are warranted to confirm these findings, refine analgesic strategies and establish standardized pain management protocols for endometrial ablation.

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*Ethical approval: The study was approved by the Institutional Ethics Committee*

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