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Original Research

Comparison of normal saline versus normal saline warmed to 37.5°C in reducing pain in patients undergoing ambulatory hysteroscopy

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ABSTRACT:
Background: The present study was conducted to compare pain in patients undergoing office hysteroscopy using normal saline versus normal saline warmed to 37.5°C. **Materials & Methods:** 58 women with complaints of AUB, infertility, recurrent abortions undergoing ambulatory hysteroscopy (AH)using the vaginoscopic technique. Patients were divided into 2 groups of 29 each. Group I used room temperature normal saline as a distension medium, while group II used normal saline warmed to 37.5°C. After 15 minutes of the procedure, patients from both groups were asked to rate their level of discomfort throughout the procedure on a 10-cm Visual Analogue Scale (VAS). **Results:** The mean age was 42.6±5.2 years and BMI was 26.3±3.5 Kg/m^2. Indications were AUB in 24, infertility in 5, recurrent pregnancy loss in 16, postmenopausal bleeding in 4, and misplaced IUCD in 9 patients. The difference was significant (P< 0.05). Pain was mild in 15 in group I and 23 in group II, moderate in 9 in group I and 6 in group II and severe in 5 in group I. The difference was significant (P< 0.05). **Conclusion:** Warm saline is a straightforward treatment that, when combined with vaginoscopic procedures and small-calibre tools, helps minimize pain and improve therapeutic results inambulatory hysteroscopy.
Keywords: ambulatory hysteroscopy, menopause, normal saline

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INTRODUCTION

For over ten years, gynecologists have used modern hysteroscopy as the perfect diagnostic technique to evaluate, identify, and treat benign intrauterine disorders in the same location. The operating room was the location for hysteroscopy in the past.[1]

Hysteroscopy has, however, been moved to an office or ambulatory setting due to technological advancements. The development of this futuristic AH technique is mostly due to the development of small-diameter hysteroscopes with continuous flow characteristics and an operating sheath that permits the introduction of mechanical devices.[2]

Prof. Bettocchi developed a vaginoscopic method in 1995 that did not require a vulsellum or speculum.[3] It was simple to pass the hysteroscope through the cervical canal, external os, and into the uterus with its Bettocchi sheath. The biggest barriers to office hysteroscopy's broad use are still patient pain and discomfort during the surgery, despite the fact that it has become a conventional treatment.[4] Because of the pain involved, many gynecologists may be discouraged from performing this outpatient surgery, which could hinder a successful procedure while the patient is awake.[5]Over the years, several methods and strategies have been employed to lessen hysteroscopy pain. These consist of the use of liquid distension media, tiny devices, and the vaginoscopic technique.[6] Prof. Stefano Bettocchi, regarded as the father of contemporary hysteroscopy, made significant contributions to the reduction of AH pain with his groundbreaking work. It has been hypothesized that a normal saline's temperature can significantly reduce discomfort.[7]The present study was conducted to comparepain in patients undergoing office hysteroscopy using normal saline versus normal saline warmed to 37.5°C.

MATERIALS & METHODS

The study was carried out on 58 women with complaints of AUB, infertility, recurrent abortions undergoing ambulatory hysteroscopy (AH). All gave their written consent to participate in the study.

Data such as name, age, etc. was recorded. Ambulatory hysteroscopy was performed using the vaginoscopic technique. Patients were divided into 2 groups of 29 each. Group I used room temperature normal saline as a distension medium, while group II used normal saline warmed to 37.5°C. After 15 minutes of the procedure, patients from both groups were asked to rate their level of discomfort throughout the procedure on a 10-cm Visual Analogue Scale (VAS), as 0-3 cm=mild discomfort, 4-7 cm=moderate pain, and 8-10 cm=severe or unbearable pain and the pain scores were compared. Results thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Demographic data

Parameters	Mean	SD
Age (years)	42.6	5.2
BMI (Kg/m^2)	26.3	3.5

Table I shows that mean age was 42.6±5.2 years and BMI was 26.3±3.5 Kg/m^2.

Table II Indications for Ambulatory Hysteroscopy (AH)

Indications	Number	P value
AUB	24	0.05
Infertility	5	
Recurrent pregnancy loss	16	
Postmenopausal bleeding	4	
Misplaced IUCD	9	

Table II, graph I shows that indications were AUB in 24, infertility in 5, recurrent pregnancy loss in 16, postmenopausal bleeding in 4, and misplaced IUCD in 9 patients. The difference was significant (P< 0.05).

Graph I Indications for Ambulatory Hysteroscopy (AH)

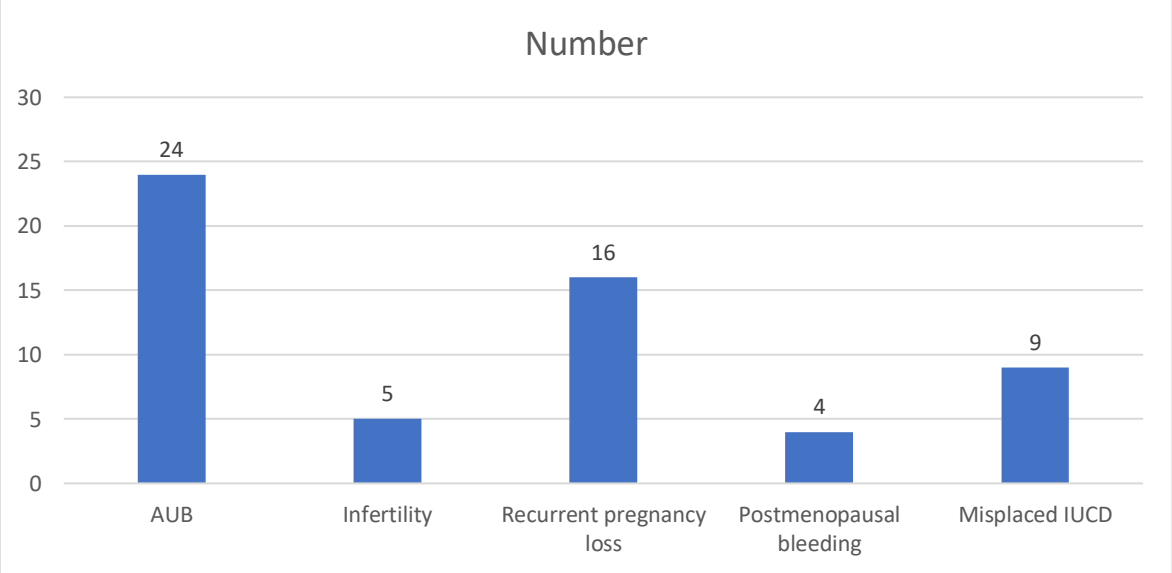

Table III Comparison of pain

VAS	Group I	Group II	P value
Mild	15	23	0.02
Moderate	9	6	
Severe	5	0	

Table III shows that pain was mild in 15 in group I and 23 in group II, moderate in 9 in group I and 6 in group II and severe in 5 in group I. The difference was significant (P< 0.05).

DISCUSSION

Office hysteroscopy is most frequently used to assess reproductive health and AUB disorders, but it can also be used to diagnose and treat other intrauterine diseases.[8] Office hysteroscopy can be done in an outpatient examination setting, produces little

discomfort, and doesn't require inpatient monitoring in a hospital.[9,10] It entails using a camera to image the vagina, endocervical canal, and uterine cavity while using distension agents. Furthermore, it is a safe and efficient technique that can enable prompt diagnosis, making it a crucial diagnostic tool.[11]Because of these characteristics, office hysteroscopy is used to assess the uterine cavity for AUB and infertility.The necessity for uncomfortable cervical dilatation was reduced when hysteroscopes with diameters as large as 3 mm were used for diagnostic purposes. The inconsistency in patient discomfort is the main drawback of hysteroscopy.[12] The main cause of failure hysteroscopic procedures is still pain. Nowadays, reducing discomfort and improving patient comfort without raising expenses or the possibility of problems is the main goal of hysteroscopic operations. Office hysteroscopy pain has been managed with a variety of medicinal interventions, including nerve stimulation.[13]The present study was conducted to comparepain in patients undergoing office hysteroscopy using normal saline versus normal saline warmed to 37.5°C.

We found that indications were AUB in 24, infertility in 5, recurrent pregnancy loss in 16, postmenopausal bleeding in 4, and misplaced IUCD in 9 patients. Bettocchi S et al[14]developed a new approach to diagnostic hysteroscopy that reduces patient discomfort and increases the possible applications of hysteroscopy. Of these, the last 680 were done using the vaginoscopic approach without preselection. Discomfort was reduced in all patients, including those with moderate stenosis of the internal cervical os. Vaginoscopy is easy to perform and incurs no additional cost for the patient. It is ideal for office hysteroscopy and in patients who otherwise might require general anesthesia, such as virgins and older women with somewhat stenotic vaginas.

We found that pain was mild in 15 in group I and 23 in group II, moderate in 9 in group I and 6 in group II and severe in 5 in group I. Evangelista Aet al[15]compared pain intensity and degree of satisfaction reported by patients undergoing hysteroscopic examinations using saline solution kept at room temperature (control group) or saline solution heated to 37.5°C (test group).In both the test and control groups, examinations were performed using the vaginoscopy technique without use of a speculum or Pozzi tenaculum forceps. Pain was assessed using a visual analog scale immediately after the examination and at 1 and 15 minutes after the procedure.Immediately after the examination, mean (SD; 95% confidence interval) pain intensity in the warmed saline solution group was 3.84 (2.71; 2.89-4.79), and in the room-temperature saline solution group was 4.31 (3.02; 3.18-5.44) (p = .51). At 1 and 15 minutes after the procedure, pain intensity in the 2 groups was, respectively, 2.41 (2.00; 1.66-3.16) and 2.43 (2.49; 1.57-3.30) (p = .96), and 1.83 (2.30; 1.02-2.64) and 1.85 (2.06; 1.08-2.62) (p = .96). Differences were not significant. Time to complete the examination was 3.80 (1.32; 3.34-4.26) minutes in the test group, and 3.75 (1.10; 3.34-4.15) minutes in the control group (p = .82). The satisfaction rate with the warmed distention medium was 84% (95% confidence interval, 72%-96%), and with the room-temperature saline solution was 85% (73%-97%) with saline at room temperature (p = .48).

The shortcoming of the study is small sample size.

CONCLUSION

Authors found that warm saline is a straightforward treatment that, when combined with vaginoscopic procedures and small-calibre tools, helps minimize pain and improve therapeutic results inambulatory hysteroscopy.

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