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Original Research Article

Investigating the tolerance of usage of lidocaine/tetracaine plastic ointment during outpatient hysteroscopy amongst Australian population, aged 23-77 years: A retrospective study

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ABSTRACT

Aims and Objectives: To investigate the tolerance of lidocaine/tetracaine plastic ointment usage during outpatient hysteroscopy.
Background: Hysteroscopy is done to visualise the complete endometrial cavity and is the gold standard technique for ruling out and managing intrauterine pathology. The purpose of this study was to investigate the tolerance of the usage of lidocaine/tetracaine plastic ointment during outpatient hysteroscopy.
Materials and Methods: This is a retrospective study about the tolerance of usage of lidocaine/tetracaine plastic ointment during outpatient hysteroscopy amongst Australian population. The study was performed with a sample size of 77 women between 23 and 77 years who attended the clinic and underwent outpatient hysteroscopy.
Results: The study included a sample size of 77 women between 23 and 77 years who attended the clinic to undergo outpatient hysteroscopy. Among that, the number of people who tolerated the procedure (97.40%) and the number of patients with no side effects (100%).
Conclusion: Analysis of data from this population indicates that the use of LTP ointment during office hysteroscopy was tolerated in 75 patients out of 77. This study helps GPs to expedite early diagnosis and treatment.

1. Introduction

The purpose of this study was to investigate the tolerance of usage of lidocaine/tetracaine plastic (LTP) ointment during outpatient hysteroscopy. Lidocaine/tetracaine cream has been used as local dermal anaesthetic for dermatological procedures and was shown to be safe and effective.[1] This study helps to identify if patients are generally tolerant of outpatient hysteroscopy while using LTP ointment.

Hysteroscopy is done to visualise the complete endometrial cavity. Hysteroscopy is the gold standard technique for ruling out and managing intrauterine pathology. This procedure is done by directly inserting a hysteroscope (rigid or flexible) into the uterus through the cervical canal to rule out any possible intracavitary lesion, removal of foreign bodies, any bleeding that occurs after menopause, abnormal bleeding in the uterus, abnormal thickening in the endometrium, infertility, congenital anomalies.[2]

Performing hysteroscopy comfortably is very important for doctors and patients to avoid pain, any possible harm and discomfort. Hysteroscopy is done on an

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inpatient and outpatient basis. When compared to surgical inpatient hysteroscopy, outpatient hysteroscopy has many advantages. This includes patient and physician convenience, higher patient satisfaction, and avoidance of general anaesthesia. It helps with faster recovery and is highly cost-effective.[3]

Lidocaine and Tetracaine are numbing agents that act as local anaesthetics that block nerve signals temporarily.[4] The more time vasoconstriction occurs, the better anaesthetic effect can be achieved.[5] Lidocaine/tetracaine cream has been used as a local dermal anaesthetic for dermatological procedures and was shown to be safe and effective.[1] This works within several minutes and lasts for half an hour to three hours.[6] There were other studies in the past where lidocaine/tetracaine patch or peel was also shown to be safe and effective in producing local dermal anaesthesia with minimal side effects during dermatological procedures.[4] Previously, LTP ointment hadn't been investigated for outpatient hysteroscopy.

Hysteroscopy is done by directly inserting a hysteroscope into the uterus for visualising endometrial cavity to rule out and manage intrauterine pathology. This study aims to determine how well outpatient hysteroscopy is tolerated by the usage of LTP ointment amongst the Australian population aged 23-77 years. A retrospective cohort study has been conducted where a sample size of 77 patients was taken from 01/04/2020 to 31/04/2022, which includes women from age 23–77 who underwent outpatient hysteroscopy using LTP ointment in Rockingham Women's Health Centre. The relevant data collected included age, indication for the procedure, diagnosis, pain tolerance, side effects and biopsy done or not. This data was collected from the previous documentations when the procedures were undertaken. Whether or not the patient tolerated the procedure was documented according to the response from the patients. A sample size of 77 patients was taken, and their documentation was reviewed to monitor the tolerance of the procedure with LTP ointment. The study found that the majority of the patients tolerated the procedure with LTP ointment. Analysis of data from past documentation indicates great tolerance of the procedure by the patients who underwent hysteroscopy. This helps clinicians to implement early intervention and treatment of any uterine pathology where hysteroscopy is indicated without being on the long waitlist for the procedure to be done under general anaesthesia.

2. Aim

The aim of the study is to evaluate the tolerance to LTP application in patients undergoing hysteroscopy and the different types of indications for which LTP ointment could be used during hysteroscopy.

3. Materials and Methods

This is a retrospective study about the tolerance of usage of LTP ointment during outpatient hysteroscopy amongst Australian population. The study was conducted in Rockingham Women's Health Centre, Baldivis, Western Australia with a sample size of 77 women between 23 and 77 years who attended clinic to undergo outpatient hysteroscopy. The study was approved by Oceania University of Medicine Human Research Ethics Committee and approval number – OUMHREC24_028.

Data collection included factors such as age, diagnosis, procedure/ treatment, side effects, and patient responses in regard to tolerance of the procedure while using LTP ointment, which was documented in their case notes. The inclusion criteria were women aged 18 and over. The procedure was not used for patient's during their initial appointment. It was not preferred for very young patients due to non- compliance. It was not recommended for patients who were very sensitive and ticklish and unsettled and were excluded from the outpatient procedure. For those patients, the Doctor suggested performing it under general anaesthesia (GA). All the selected patients selected never had hysteroscopy done under GA in the past.

If the patient was tolerating the procedure and did not experience any pain or discomfort, then it's recorded as tolerated and if the patient experienced pain or discomfort, then the procedure was discontinued and that was recorded as not tolerated. The study also shows if a biopsy was done or not during hysteroscopy, as that could possibly impact the tolerability.

The clinic procedure for the application of the LTP ointment starts with informed consent. Then, check with the patient if they were allergic to lignocaine gel in, which most of them would have had during dental procedures. Explained the procedure and got informed consent from the patient. Positioned the patient, inserted vaginal speculum, then cleaned vagina and cervix with an antiseptic solution. Used sterile gloves and applied LTP ointment about 5 ml on fingers and spread it evenly around the area in order that when the speculum in the vagina is there for the duration of the so that it is less discomfort for the patient. Leave it for 15 to 20 minutes. Checked with the patient for any pain or discomfort before inserting a hysteroscopy device. Stopped the procedure when not tolerating and waited for some more time. The area where the ointment was applied would remain numb for 4 to 6 hours. Patients were suggested to take extra care after the procedures to make sure the area was not rubbed hard after using the toilet and observed for any bleeding.

4. Results

All the 77 female participants never had any hysteroscopy done anywhere in the past. The data collected had women

aged 23 to 77. All of them were willing to undergo hysteroscopy and signed consent for the same. The tolerance of the procedure was documented in the clinical notes. The mean age of the sample was 42.33 ± 12.33 years.

Table 1 shows variables used for the study, which includes the number of people who tolerated the procedure (97.40%), the number of biopsies done among that (75.32%) and the number of patients with no side effects (100%).

Among those 2, patients couldn't tolerate the procedure due to pain and hence discontinued the procedure. Both had a diagnosis of the stenosed cervix, and they were recommended to undergo hysteroscopy under GA.

Table 1 also shows age ranges and the percentage of patients who underwent hysteroscopy under different age group starting from 20-29 (14.29 %), 30-39 (28.57%), 40-49 (27.27%), 50-59 (20.78%), 60-69 (7.79%), 70-79 (1.30%).

The 77 patients included presented with a wide variety of presentations. Among that, the most common indication for this procedure was patients presented with vaginal bleeding. The percentage of the sample was 42.86%.

Table 2 shows the variables used for the study, which includes the indication of the procedure classified according to the presenting problems and the percentage. This is classified as patient presented with Vaginal Bleeding (42.86%), Intrauterine Pathologies (19.48%), Miscarriages (10.39%), Postprocedural follow-up examinations (7.79%), D&C (6.49%), Menopause Symptoms (2.60%), Fertility issue (3.90%), Pain (3.90%) and Others (2.60%), which included a Cystocele and a Lichen Sclerosus. There was no particular trend noted in regard to tolerance in any of the age groups.

Table 1: Tolerance of usage of LTP ointment during outpatient hysteroscopy

	n	**Percentage%**
Tolerated the procedure	75	97.40
Biopsy done	58	75.32
No side effects	77	100
Age of the patients (years)	***n***	**Percentage%**
20-29	11	14.29
30-39	22	28.57
40-49	21	27.27
50-59	16	20.78
60-69	6	7.79
70-79	1	1.30

This study shows applying LTP ointment before hysteroscopy is well tolerated by most of the patients. Among 77 patients, 75 showed tolerance and was able to avoid procedures done under GA and avoid the associated complications. This was cost-effective and helps to perform procedure in an ambulatory setting which is very convenient to the patients.

Table 2: Tolerance of usage of LTP ointment during outpatient hysteroscopy

Indications	***n***	**Percentage%**
Vaginal bleeding	33	42.86
Intrauterine pathologies	15	19.48
Miscarriages	8	10.39
Postprocedural follow-up	6	7.79
D&C	5	6.49
Fertility issue	3	3.90
Pain	3	3.90
Menopause symptoms	2	2.60
Other	2	2.60

There was a study done in the past about performing office hysteroscopy using lidocaine mixed with the gel used for gel infusion sonohysterography and the perception of pain among the patients. The conclusion was the combination didn't reduce procedure related pain.[7]

There were studies in the past where Lidocaine/tetracaine patch or peel was also shown to be safe and effective in producing local dermal anaesthesia with minimal side effects during dermatological procedures.[4] The absorption rate of this ointment is based on the duration and surface area.[1]

In a previous study 5 gm of lidocaine-prilocaine (EMLA cream) anaesthetic cream was trialled during outpatient hysteroscopy for minor gynaecologic procedures. The cream was applied up the endocervical canal and ectocervix using the bivalve speculum and the patient was left for l0 minutes before doing a hysteroscopy. Following that, a significant reduction in pain was reported by the patient with the use of EMLA cream.[8]

The injection of lidocaine into the cervix is a painful procedure. But the addition of lidocaine to the distension medium is easy, safe, and does not add any time and the patients seems to be more comfortable. Another study failed to find significant reduction in pain especially from the use of a speculum and a tenaculum. Intrauterine lidocaine was not helpful in that instance.[9]

Currently, Rockingham Women's Health Centre, Western Australia uses LTP ointment during ambulatory hysteroscopy to provide stronger pain relief and increase comfort.

If the GPs are made aware of this, they could easily educate the patients about this and encourage them to discuss these topics with them. This study may help women gain confidence to undergo gynaecological procedures in an ambulatory setting, which would help in the early diagnosis and prevention of gynaecological disorders. It helps to avoid procedures done under GA and the associated complications.[10] It helps GPs to gain more confidence in doing gynaecological procedures with less pain and

discomfort.[11]

As discussed above, previous studies indicate that the injection of lidocaine into the cervix is a painful procedure. In this study, it was found that LTP gel was found to be a cost-effective alternative to hysteroscopy under GA and helps to investigate and facilitate early treatment of intrauterine pathologies like abnormal uterine bleeding, to remove polyps or to spot and remove a coil with missing threads, etc.

This is a retrospective study where there were limitations in data collection directly from patients. The data are collected from past documentation, and details about the procedures and products were obtained from the clinic through discussions with the doctors who performed the procedures. In this study, only the tolerance of the procedure was able to be measured; due to the limitation of some data since it was a retrospective study, no patient questionnaires were available, and hence, all the data were collected from the previous documentation. There was no comparison group involved. All the samples were collected from the same clinic, limiting the generalisability of the findings.

5. Conclusion

The study indicates that the use of LTP ointment during office hysteroscopy was tolerated in 75 patients out of 77. This study helps expedite the referral from GPs to specialists, which helps with early diagnosis and treatment. Moreover, it is cost-effective and helps patients undergo gynaecological procedures in an ambulatory setting by avoiding long waiting times to perform under GA.

6. Source of Funding

None.

7. Conflict of Interest

None.

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