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Original Research Article

Comparative evaluation of no touch vaginoscopy and conventional hysteroscopy in a tertiary care hospital of North India

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ABSTRACT

Background: Optimal management of endometrial disease requires accurate and timely diagnosis followed by effective treatment. Modern outpatient hysteroscopy can be utilized as a first line method for diagnostic procedure. No touch technique (vaginoscopy) has been introduced in an attempt to make the procedure less painful as it includes reduced anesthetic risks and is cost effective. This study aimed to compare the vaginoscopic hysteroscopy and conventional hysteroscopy in context of pain and patient satisfaction. Also, to compare the procedure time, complications and use of anaesthesia associated with both the techniques
Methods: This is a hospital based prospective study which will be conducted on 100 women in department of obstetrics and gynaecology, DMC&H, Ludhiana. After taking informed consent patients will be randomised into 2 groups. Group A (n= 50) patients who will be undergoing vaginoscopic hysteroscopy and Group B (n= 50) who will be undergoing standard hysteroscopy. Both groups were compared based on demographic parameters, pain score, time required for procedure completion and need of anesthesia.
Results: The mean pain score, duration required for procedure completion and need of anesthesia was less in vaginoscopy group compared to standard hysteroscopy group.
Conclusions: The vaginoscopic approach is less painful, better tolerated, quicker to perform therefore, more successful than standard hysteroscopy technique.

Keywords: Abnormal uterine bleeding, Standard hysteroscopy, Vaginoscopy

INTRODUCTION

Hysteroscopy is a technique in which endometrial cavity is visualised and operated through a transcervical approach, which offers the advantage of direct visualisation of the uterine cavity and taking endometrial samples at the same time for diagnosing endometrial pathologies. It has become an essential part of the gynaecologic surgeon's armamentarium. Hysteroscopy is now considered as the gold standard method for evaluating the vagina, cervix, cervical canal and the uterine cavity.[1]

It is performed using two techniques: Standard hysteroscopy and Vaginoscopic hysteroscopy.

Standard hysteroscopy

In this technique, 5 mm hysteroscope is used which has 4 mm inner diameter telescope and 5 mm outer single flow diagnostic sheath. A Sim's speculum and vulselum was used to visualise the uterine cervix and to steady the uterus. Cervical dilatation and local anesthesia are required therefore hysteroscopy is considered invasive and painful procedure.

Vaginoscopic hysteroscopy

The vaginoscopic approach also known as "no touch technique" uses a small diameter irrigating endoscope which smoothly traverses the vaginal canal and cervix and avoids the use of speculum and tenaculum and minimizes the patient pain and discomfort. It uses 1-2 mm lower in caliber telescopes compared to hysteroscopy.[3]

This study aimed to compare the vaginoscopic hysteroscopy and standard hysteroscopy in context of pain and patient satisfaction. Also, to compare the procedure time, complications and used of anaesthesia associated with both the techniques.

METHODS

Source of data

It was a hospital based prospective randomised control study conducted on total 100 patients with complain of abnormal uterine bleeding, infertility, chronic pelvic pain and postmenopausal bleeding in the department of Obstetrics and Gynaecology at DMC&H, Ludhiana (Punjab), a tertiary care hospital from Jan 2023 to Jan 2024.

After taking informed consent, patients were randomised into 2 groups: Group A included 50 patients who underwent vaginoscopic hysteroscopy and Group B included 50 patients who underwent standard hysteroscopy.

Inclusion criteria

Women aged 21 to 75 years with Infertility, Abnormal uterine bleeding, chronic pelvic pain, Postmenopausal bleeding and other gynaecological complaints where hysteroscopy is indicated.

Exclusion criteria

Pregnant women, cervical polyp and cervical stenosis, Active infection of the genital tract, cardiovascular, liver, kidney disease, other serious medical diseases, Blood dyscrasias and coagulopathy.

This study was approved by ethical committee of Dayanand Medical College and Hospital, Ludhiana. The demographic data of both the groups was analysed. Pain score was evaluated using VAS score. Patient satisfaction was evaluated using Likert five-point scale method.

Statistical method

Statistical analysis was done by Chi square test and fisher exact test. Statistical significance was defined as p value less than 0.05.

RESULTS

A total of 100 patients were included in the study. The mean age of patients in Group A and Group B was 47.66 and 43.8 years respectively. The mean BMI of patients in Group A and Group B were 26.79kg/m^2 and 27.28 kg/m^2 respectively. There was no statistical significant difference between age and BMI of both the groups (Table 1).

Table 1: Mean age and BMI of the patients in both the groups.

	Group A		Group B		Z	P value
	Mean	SD	Mean	SD		
Age (yrs)	47.66	12.29	43.88	11.52	-1.587	0.116
BMI	26.79	2.22	27.28	2.59	1.019	0.311

Table 2: Demographic data of the patients.

		Group A		Group B		Total	Chi-square value	P value
		No. of cases	% Age	No. of cases	% Age			
Occupation	Employed	21	42.0	25	50.0	46	0.644	0.422
	Housewife	29	58.0	25	50.0	54		
Parity	Multiparous	43	86.0	45	90.0	88	0.379	0.538
	Nulliparous	7	14.0	5	10.0	12		
Menopausal status	Postmenopausal	21	42.0	11	22.0	32	4.596	0.032
	Premenopausal	29	58.0	39	78.0	68		

Demographic data from both the groups were compared in context of parity, occupation and menopausal status. Out of which there was no statistically significant difference in parity and occupation while majority of population belong to premenopausal age group (Table 2).

In this study, overall mean of pain score in Group A was 1.60 and 3.70 in Group B which is statistically significant with p-value of 0.001.

In our study, the mean pain score during the procedure in Group A was 2.20 vs 3.70 in Group B (maximum of 10) with p-value of 0.001 which is statistically significant.

However, the mean VAS score after the procedure in Group A was 1.16 vs 2.20 in Group B which is also statistically significant with p-value of 0.001. This all implies that vaginoscopy is less painful due to "no touch technique" without the use of instruments as compared to standard hysteroscopy technique (Table 3).

Table 3: Evaluation of pain and patient satisfaction.

	Group A		Group B		Z	P value
	Mean	SD	Mean	SD		
Introduction of hysteroscope	1.60	0.64	3.70	0.58	17.205	0.001
During procedure (VAS)	2.20	1.37	3.70	1.39	5.437	0.001
After procedure (VAS)	1.16	0.55	2.20	0.61	8.999	0.001
Satisfaction	8.70	0.65	8.62	0.67	-0.609	0.544

Table 4: Comparison of procedures time.

	Group A		Group B		Z	P value
	Mean	SD	Mean	SD		
Duration	9.18	4.69	14.22	4.55	5.449	0.001

In our study, the satisfaction rate of both the groups was comparable. The mean of satisfaction in Group A was 8.70 vs 8.62 in Group B (maximum of 10) (Table 3).

The mean duration required for procedure in our study, was 9.18 vs 14.22 minutes in vaginoscopy and standard hysteroscopy group respectively with p value of 0.001 which was statistically significant (Table 4).

Table 5: Comparison of need of anaesthesia and complications.

		Group A		Group B		Total	Chi-square value	P value
		No. of cases	% Age	No. of cases	% Age			
Anesthesia	LA	13	26.0%	18	36.0%	31	30.365	0.001
	NO	31	62.0%	6	12.0%	37		
	Regional	2	4.0%	6	12.0%	8		
	SGA	4	8.0%	20	40.0%	24		
Total		50	100.0%	50	100.0%	100		

In this study, Group A required no anesthesia where as in Group B majority of patients required some sort of anaesthesia (local, regional or general anaesthesia). There were no complications reported during the procedure in any of the groups (Table 5).

DISCUSSION

Standard hysteroscopy is considered as preferred modality for uterine cavity evaluation but vaginoscopy is now an emerging hysteroscopic diagnostic technique in the field of minimally invasive gynaecological endoscopy.

In our study, mean age of patients was 47 years and 43 years in group A and B respectively while mean BMI was 26 and 27.2 kg/m^2 in group A and B. The results were comparable with the study done by Chin-tzu et al.[5] In our study, majority of women were in perimenopausal age group and most common age affected with AUB was 40-47 years which was also comparable with the study done by Mukhopadhyay et al.[6]

In our study, majority of the patients belonged to multiparous group which was comparable with the study done by Lotha et al.[7]

In our study, patients were asked to assess overall pain score and pain score during and after the procedure was higher in group B compared to group A. Similar findings were found in a study done by Biela et al.[8] Due to lesser diameter telescope and no touch technique used in vaginoscopic approach, patients experienced less pain during and after the procedure.

In this study, satisfaction rate of both the groups were comparable which was in contrast to study done by Livyan Lio et al. In our study, time required for procedure in group A was shorter compared to group B. Sharma et al. also revealed shorter examination time in vaginoscopy.[10] It signifies less need of instrumentation, anaesthesia saves time in vaginoscopic approach.

In this study, group A required no anaesthesia but group B majority of patients required some sort of anaesthesia. Hence with use of vaginoscopic technique there are

chances of no complications related to anaesthesia and it also reduces time of the procedure. This was comparable with the study done by Murat et al.

This study has few limitations. Sample size in our study was less. Multiparous womens were more compared to nulliparous women.

CONCLUSION

Vaginoscopic hysteroscopy is nowadays widely used for visualising uterine cavity abnormalities and lesions. It can be performed in outpatient setting rather than operating room which simplifies treatment and also reduces cost burden. It is less painful, required no anaesthesia, less instrumentation and hence less time consuming than standard hysteroscopy. Vaginoscopy and office hysteroscopy techniques are continually evolving with advancements in technology with miniaturisation of hysteroscopes without comprising optimal performance, making it an increasingly valuable tool in gynaecological conditions and improving patient care and outcome.

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

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