Role of Hysteroscopy as a Diagnostic Tool in Women with Different Gynecological Problems - A Prospective Study

Anuradha[1], Sushil Kumar Singh[2]

ABSTRACT

Introduction: Due to advancement in technology and techniques, hysteroscopy has become a procedure of choice among gynecologists to diagnose and treat gynecological problems. Therefore aim of present study is to evaluate the role of hysteroscopy as a diagnostic tool in women with different gynecological problems.

Material and methods: Present study was carried out in the department of Obstetrics and Gynecology, GSVM Medical College, Kanpur, during a period of 18 months (December 2017 to May 2019). This study included one hundred women randomly divided into two groups A & B. Group A had 50 women who had undergone traditional hysteroscopy and group B had 50 women who had undergone vaginoscopic hysteroscopy. A thorough history including menstrual, obstetrical and medical history was recorded. General and systemic examinations including routine investigations were done. Data was collected and analyzed by using the SPSS software.

Results: The mean ages of patients in group A was 37.34±9.80 years and in group B was 39.26±9.72 years and most common diagnosis on hysteroscopy was menstrual irregularities (50%) followed by post-menopausal bleeding (18%) and infertility (16%). There was statistically no significant difference in success rate between traditional and Vaginoscopic hysteroscopy (p value=0.8403). P value is statistically significant during introduction of hysteroscope in group A and group B. (p value=0.0479).

Conclusions: Hysteroscopy is very useful in the diagnosis of intra-uterine pathologies like irregular menstrual bleeding, dysfunctional uterine bleeding, recurrent pregnancy loss etc. Vaginoscopic hysteroscopy is less painful and better tolerated therefore it should be preferred over traditional technique.

Keywords: Hysteroscopy, Vaginoscopic, Traditional, Diagnostic.

INTRODUCTION

Before introduction of hysteroscopy, gynecologist's uses abdominal/vaginal sonography and fractional dilatation and curettage for evaluation of uterine cavity. Hysteroscopy is an endoscopic method of visualization of the uterine cavity[1]. Now a day, hysteroscopy is considered as a 'gold standard' in diagnosis and treatment of intra-uterine and endo-cervical pathology. It is used in cases of irregular menstrual bleeding, dysfunctional uterine bleeding, infertility, recurrent pregnancy loss etc to evaluate uterine cavity.

There are two techniques of diagnostic hysteroscopy. One is traditional technique in which Sims speculum is inserted into vagina to visualize the cervix and vulsellum is applied to the anterior lip of uterine cervix to create counter traction so that insertion of hysteroscope could be easily done. Other is Vaginoscopic technique in which hysteroscope is first introduced into the introitus of the vagina and vagina is then distended with the saline distension medium. After that hysteroscope is directed into cervix, cervical canal and uterine cavity and this technique does not use Sims speculum and tenaculum. Aim of present study is to evaluate the role of hysteroscopy as a diagnostic tool in women with different gynecological problems.

MATERIAL AND METHODS

Present study was carried out in the department of Obstetrics and Gynecology, GSVM Medical College, Kanpur, during a period of 18 months (December 2017 to May 2019). Prior consent from Institutional Ethics Committee and informed consent from all patients were taken prior to study. This study included one hundred women randomly divided into two groups A & B. Group A had 50 women who had undergone traditional hysteroscopy and group B had 50 women who had undergone vaginoscopic hysteroscopy. All patients of dysfunctional uterine bleeding (DUB), infertility, post-menopausal bleeding etc were included in present study while pregnant women, patients having cervical cancer, active infection of genital tract, acute generalized peritonitis etc were excluded from the study.

A thorough history including menstrual, obstetrical and medical history was recorded. General and systemic examinations including routine investigations were done. Whenever indicated, trans-abdominal and trans-vaginal sonography was done. During hysteroscopy, a simple hysteroscope with a 4 mm diameter rigid telescope was used during the proliferative phase of the menstrual cycle. In traditional hysteroscopy, the insertion of hysteroscope was done under direct vision through cervical canal and in vaginoscopic hysteroscopy, vagina is distended with the help of saline distension medium and hysteroscope is then directed towards the cervix, the cervical canal and then into

[1]Senior Resident, Department of Obstetric & Gynaecology, Uttar Pradesh University of Medical Sciences,Saifai, Etawah, UP., [2]Assistant Professor, Department of Obstetric & Gynaecology, Rani Durgavati Medical College Banda, UP.

Corresponding author: Dr. Sushil Kumar Singh, Assistant Professor, Department of Obstetric & Gynaecology, Rani Durgavati Medical College Banda UP, India

How to cite this article: Anuradha, Singh SK. Role of hysteroscopy as a diagnostic tool in women with different gynecological problems - a prospective study. International Journal of Contemporary Medical Research 2022;9(8):H1-H4.

the uterine cavity. Data was collected and analyzed by using the SPSS software. Descriptive tables were generated and the Chi square test was used. A p value of less than 0.05 was considered to be statistically significant.

RESULTS

According to the table 1, the maximum number of patients belongs to the 30-39 years age group (38% in group A and 34% in group B). The mean ages of patients in group A was 37.34±9.80 years and in group B, mean ages was 39.26±9.72 years.

Table 2 shows the distribution of patients according to chief complaints. In present study, menstrual irregularities were the most common presenting complaints with 50 cases (50%) followed by post-menopausal bleeding in 18 cases (18%) and infertility in 16 cases (16%) while recurrent pregnancy loss and post-coital bleeding accounted for 10 and 6 cases respectively.

Table 3 shows the success rate of hysteroscopy in both groups i.e. traditional and Vaginoscopic. In group A, hysteroscopy procedure was successfully done in 44 cases (88%) while in group B, hysteroscopy procedure was successfully performed in 42 cases (84%). There was statistically no difference in success rate between traditional hysteroscopy and Vaginoscopic hysteroscopy as p value was more than 0.05 (p value=0.8403)

Table 4 shows the comparison of pressure required in hysteroscopy in both groups i.e. traditional and Vaginoscopic. To introduce Hysteroscope in group A, in maximum patients (52.27%), required pressure was 80-99 mm Hg followed by 100-119 mm Hg pressure in 27.2% cases while in group B, in maximum patients (47.61%), required pressure was 100-119 mm Hg followed by 80-99 mm Hg pressure. There is no cervical dilatation prior to introduction of hysteroscope in Group B patients that's why significant high pressure is required to introduce hysteroscope in Group B as compare to Group A. There was statistically significant relation between both groups regarding required pressure to introduce hysteroscope. (p value=0.0076)

In group A, in maximum cases (52.38%), maintenance pressure required during procedure was 100-119 mm Hg while in group B, required pressure during maintenance was 80-99 mm Hg in 50% cases followed by 100-119 mm Hg in 22.72% cases. Result shows that less maintenance pressure is required in Group B because cavity is distended with distension media in vaginoscopic hysteroscopy cases. There was statistically significant difference for required maintenance pressure between traditional hysteroscopy and vaginoscopic hysteroscopy as p value was less than 0.05 (p value=0.0263)

In Group A, majority of patients (68%) perceived pain of

Age Group (In Years)	Group A (Traditional) (N=50)		Group B (Vaginoscopic) (N=50)	
	Cases no.	%	Cases no.	%
20-29 Yrs	12	24%	9	18%
30-39 Yrs	19	38%	17	34%
40-49 Yrs	10	20%	13	26%
50-59 Yrs	09	18%	11	22%
Range	20-59 Years			
Mean ± SD	37.34±9.80		39.26±9.72	

Table-1: Distribution of patients according to Age

Complaints	Cases no.	Cases %
Infertility	16	16%
Recurrent Pregnancy loss	10	10%
Menstrual Irregularities	50	50%
Post-menopausal bleeding	18	18%
Post-coital bleeding	06	06%

Table-2: Distribution of patients according to presenting complaints

Diagnosis	Group A (Traditional) (N=50)		Group B (Vaginoscopic) (N=50)		Total (N=100)	
	Performed	Succeeded	Performed	Succeeded	Performed	Succeeded
Infertility	07	07	09	08	16	15
Recurrent Pregnancy loss	06	06	04	04	10	10
Menstrual Irregularities	25	21	25	19	50	40
Post-menopausal bleeding	10	09	08	07	18	16
Post-coital bleeding	02	01	04	04	06	05
Total	50	44	50	42	100	86
P value= 0.8403						

Table-3: Success Rate of Hysteroscopy in Both Groups

Pressure	Group A (Traditional) (N=44)		Group B (Vaginoscopic) (N=42)	
	Cases no.	%	Cases no.	%
To introduce Hysteroscope				
<60 mmHg	01	2.27%	NIL	0%
60-79 mmHg	07	15.9%	01	2.38%
80-99 mmHg	23	52.27%	13	30.95%
100-119 mmHg	12	27.2%	20	47.61%
120-139 mmHg	01	2.27%	07	16.66%
>140 mmHg	NIL	0%	01	2.38%
P value= 0.0076				
Maintenance pressure required during procedure				
60-79 mmHg	01	2.38%	05	11.3%
80-99 mmHg	14	33.33%	22	50.0%
100-119 mmHg	22	52.38%	10	22.72%
120-140 mmHg	07	16.66%	05	11.36%
P value= 0.0263				

Table-4: Comparison of Pressure required in Both Groups

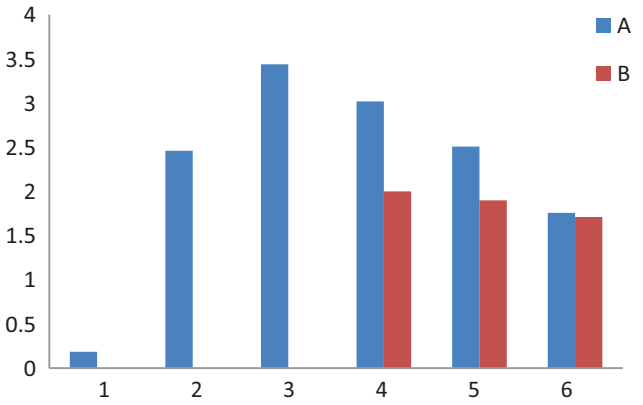

Figure-1: Comparison of Pressure required in Both Groups

grade 4 during grasping of cervix with valsellum while during cervical dilatation, 22% patients perceived pain of grade 4 followed by 4.5% patients of grade 6. Introduction of hysteroscope is not much painful because cervix is dilated with the dilator before insertion of hysteroscope and 40% patients have pain of grade 2 followed by 9% patients of grade 4.

In Vaginoscopic hysteroscopy pain was perceived during two steps only. First, during introduction of hysteroscope, 59% patients have pain of grade 2 and 9% patients have pain of grade 4 followed by 4% patients of grade 6. During hysteroscopy 77% patients have pain of grade 2 followed by 6.8% of patients have pain of grade 4. P value is statistically significant during introduction of hysteroscope in group A and group B. (p value=0.0479) P value is statistically not significant during hysteroscopy in both groups. (p value=0.6160) .

DISCUSSION

Due to advancement in technology and techniques, hysteroscopy has become a procedure of choice among gynecologists to diagnose and treat gynecological problems.[2] In the present study, total 100 patients were taken. 50 cases were undergone for traditional hysteroscopy (Group A) and other 50 cases were undergone for vaginoscopic hysteroscopy (Group B). Maximum number of patients belongs to the 30-39 years age group (38% in group A and 34% in group B). The mean ages of patients in group A was 37.34± 9.80 years and in group B, mean ages was 39.26± 9.72 years. Our study results coincide with the results of studies done by Mukhopadhyaya SR et al[3] and Kamra JH et al[4]

In present study, menstrual irregularities were the most common presenting complaints with 50 cases (50%) followed by post-menopausal bleeding in 18 cases (18%) and infertility in 16 cases (16%) while recurrent pregnancy loss and post-coital bleeding accounted for 10 and 6 cases respectively. Studies done by Kamra JH et al[4] and Shveiky D et al[5] also found menstrual irregularities as most common complaint which is similar to result of present study. Therefore the main indication for hysteroscopy was menstrual irregularities in the present study as well as studies done by various authors. Abnormal uterine bleeding may has both intrinsic and extrinsic causes. Extrinsic causes are hormonal disturbances which in turn by affecting endometrium can cause menstrual irregularities. With the help of hysteroscopy, local conditions of the endometrial cavity can be assessed easily and quickly. In group A, hysteroscopy procedure was successfully done in 44 cases (88%) while in group B, hysteroscopy procedure was successfully performed in 42 cases (84%). There was statistically no difference in success rate between traditional hysteroscopy and Vaginoscopic hysteroscopy as p value was more than 0.05 (p value=0.8403). Sharma M et al[6] recruited 120 patients and randomly divided them into traditional hysteroscopy and 'no-touch' hysteroscopy. The overall success rate for hysteroscopy was 99%.

In present study, Vaginoscopic hysteroscopy requires higher pressure (100-119 mm Hg) in maximum cases (47.61%) in comparison of traditional hysteroscopy (80-99 mm Hg in 52.27% cases). Reason behind this is that in vaginoscpic hysteroscopy, there is no cervical dilatation required prior to introduction of hysteroscope. There was statistically significant relation between both groups regarding required

pressure to introduce hysteroscope. (p value=0.0076)

In group A, in maximum cases (52.38%), maintenance pressure required during procedure was 100-119 mm Hg while in group B, required pressure during maintenance was 80-99 mm Hg in 50% cases. Result shows that less maintenance pressure is required in Group B because cavity is distended with distension media in vaginoscopic hysteroscopy cases. There was statistically difference for required maintenance pressure between traditional hysteroscopy and Vaginoscopic hysteroscopy as p value was less than 0.05 (p value=0.0263). In Group A, majority of patients (68%) perceived pain of grade 4 during grasping of cervix with valsellum while during cervical dilatation, 22% patients perceived pain of grade 4 followed by 4.5% patients of grade 6. Introduction of hysteroscope is not much painful because cervix is dilated with the dilator before insertion of hysteroscope and 40% patients have pain of grade 2 followed by 9% patients of grade 4.

In vaginoscopic hysteroscopy pain was perceived during two steps only. First, during introduction of hysteroscope, 59% patients have pain of grade 2 and 9% patients have pain of grade 4 followed by 4% patients of grade 6. During hysteroscopy 77% patients have pain of grade 2 followed by 6.8% of patients have pain of grade 4. P value is statistically significant during introduction of hysteroscope in group A and group B. (p value=0.0479) P value is statistically not significant during hysteroscopy in both groups. (p value=0.6160) .Studies done by various authors found similar results to present study. Campo R et al[7] evaluated various factors influencing the success rate of office diagnostic hysteroscopy observed pain as main limiting factor in large scale use of traditional hysteroscopy. Study done by Cooper N et al[8] observed that vaginoscopic approach significantly reduces pain in outpatient hysteroscopy. Studies done by Sagiv R et al[9] and Bettocchi S et al[10] found significantly lower mean pain score with the use of vaginoscopic hysteroscopy. Studies done by various authors like D Angelis C et al[11] and Nagele F et al[12] observed that in reduction of hysteroscopic caliber, rare need of anesthetic etc have improved tolerance and efficacy of hysteroscopy. In present study, only one patient (2.27%) had experienced tachycardia during traditional hysteroscopy and one patient (2.38%) had bradycardia during vaginoscopic hysteroscopy as procedural complications. Study done by Zlatkov V et al.[13] also coincides with the result of present study.

CONCLUSION

In both groups, maximum numbers of patients belong to 30-39 years age group. Menstrual irregularities were the most common presenting complaints comprising half of the patients followed by post-menopausal bleeding in 18 cases (18%) and infertility in 16 cases (16%). In group A, hysteroscopy procedure was successfully done in 44 cases (88%) while in group B, hysteroscopy procedure was successfully performed in 42 cases (84%). There was statistically no difference in success rate between traditional hysteroscopy and Vaginoscopic hysteroscopy. Statistically significant relation was noted between both groups regarding required pressure to introduce hysteroscope (p value=0.0076) and required maintenance pressure (p value=0.0263). Statistically significant relation regarding pain was noted during introduction of hysteroscope in group A and group B. (p value=0.0479)

REFERENCES

1. Chang CC. Efficacy of office diagnostic hysterofibroscopy. Journal of Minimally Invasive Gynecology 2007; 14(2): 172-5.
2. Alwani CM, Ambiye VR, Merchant RM. Diagnostic hysteroscopy (Preliminary study of 60 cases). Journal of Obst & Gynaecol of India 1983; 33: 4-7
3. Mukhopadhyay SR, Ashis K. Correlation between diagnostic hysteroscopy and its histopathological examination in the evaluation of abnormal uterine bleeding. Indian J Prev Soc Med 2014;45(1–2): 62–65.
4. Kamra JH, Kaur M. "Role of Hysteroscopy in Gynaecological Problems". Journal of Evolution of Medical and Dental Sciences. 2015; 12(4):1896-1905.
5. Shveiky D, Rojansky N, Revel A, Benshushan A, Laufer N, Shushan A. Complications of hysteroscopic surgery:"Beyond the learning curve". Journal of Minimally Invasive Gynecology 2007; 14(2):218-222.
6. Sharma M, Taylor A, Di Spiezio Sardo A, et al. Outpatient hysteroscopy: traditional versus the "no touch "technique. BJOG 2005; 112(7):963– 967.
7. Campo R, Molinas CR, Rombauts L, et al. Prospective multicentre randomized controlled trial to evaluate factors influencing the success rate of office diagnostic hysteroscopy. Human Reprod 2005; 20(1):258–263.
8. Cooper N, Smith P, Khan K, et al. Vaginoscopic approach to outpatient hysteroscopy: a systematic review of the effect on pain. BJOG 2010; 117(5):532–539.
9. Sagiv R, Sadan O, Boaz M, et al. A new approach to office hysteroscopy compared with the traditional hysteroscopy: a randomized controlled trial. Obstet Gynecol 2006; 108(2):387–392.
10. Bettocchi S, Nappi L, Ceci O, et al. Office hysteroscopy. Obstret Gynecol Clin North Am 2004; 31(3):641–654.
11. De Angelis C, Santoro G, Elisa M, et al. Office hysteroscopy and compliance: mini hysteroscopy versus traditional hysteroscopy in a randomised trial. Hum Reprod 2003;18(11):2441–2445.
12. Nagele F, O'Connor H, Davies A, et al. 2500 outpatient diagnostic hysteroscopies. Obstret Gynecol 1996;88(1):87-92.
13. Zlatkov V, Kostova P, Barzakov G, Tcholakova A, Milochov V, Velinov E et al. Flexible hysteroscopy in irregular uterine bleeding. J Buon 2007; 12(1):53-6.

Source of Support: Nil; **Conflict of Interest:** None

Submitted: 01-01-2022; **Accepted:** 05-02-2022; **Published:** 30-08-2022