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Original Research Article

Role of office hysteroscopy in gynecology: retrospective observational study at a tertiary care hospital

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ABSTRACT

Background: Hysteroscopy being the gold standard for evaluation of uterine cavity can be utilized for varied gynaecological indications. Conventionally, hysteroscopy is performed under general anaesthesia but with technical advances over years, it is now possible to do the procedure in ambulatory office setting with same diagnostic accuracy. Aim of this study was to assess the role of hysteroscopy as a diagnostic tool in office setting, to evaluate various gynaecological conditions.
Methods: Study performed retrospective analysis on 1920 patients who underwent office hysteroscopy between Jan 2011 to Apr 2015, at outpatient department of a tertiary care centre at Maharashtra, India. The procedure was done in office setting without any sedation or anaesthesia. Approach used was vaginoscopic free hand technique with minimal instrumentation and the findings were documented after evaluation of uterine cavity, ostea and endocervical canal.
Results: Office hysteroscopy could be successfully performed in 1920 out of 1938 patients. Most common indications were primary infertility (38.0%), secondary infertility (11.2%), abnormal uterine bleeding (36.6%) and postmenopausal bleeding (8.3%). The procedure done in office setting was tolerated well. The procedure was also used for evaluation in patients with breast and endometrial carcinoma.
Conclusions: Office hysteroscopy by vaginoscopic approach is a simple and convenient method for evaluation of uterine cavity and cervical canal. It has the potential to come out from formal operation theatre to more patient friendly outpatient department.

Keywords: Office Hysteroscopy, Uterine Cavity evaluation, Vaginoscopic approach

INTRODUCTION

The advent of hysteroscopy in gynaecologic practice has revolutionised the approach towards management of intrauterine disease esp in patients with abnormal uterine bleeding (AUB) and infertility, which constitute a major proportion of patients attending the gynae outpatient department (OPD). Since early 1990s, hysteroscopy has developed technologically and has evolved into a procedure which is technically less painful and invasive, with more and more procedures now performed in an ambulatory setting (office hysteroscopy). Since there is no need for anesthesia or cervical dilatation in office hysteroscopy, the number of procedures performed in operation theatre has reduced.[1-3] Subsequent studies have shown that office hysteroscopy has diagnostic accuracy comparable to hysteroscopy performed under anesthesia and is better procedure in comparison to other blind techniques (D and C, Vabra, and Curette). The reduction

of risks associated with anesthesia, greater compliance with patients and cost savings are some additional advantages.[4-6]

The aim of this retrospective study was to describe hysteroscopic findings in a population of patients, who presented to gynae OPD of our institute and underwent office hysteroscopy for varied indications.

METHODS

This retrospective observational study was carried out at Obs and Gynae department of a tertiary care public sector teaching hospital of western India. The hospital records were searched for the duration of January 2011 to April 2015. Data for 1938 patients, who underwent office hysteroscopy, was collected and analyzed.

All patients being evaluated for infertility at our infertility clinic underwent office hysteroscopy as per protocol. Patients with the history of abnormal uterine bleeding where no obvious cause could be detected by clinical or ultrasound evaluation were also subjected to office hysteroscopy. However, apart from above indications, any patient where the need for evaluation of cervical canal or uterine cavity was felt, the patient was subjected to office hysteroscopy. Patients for infertility evaluation were examined on or before day 10 (early proliferative phase) of the cycle.

The procedure was not done in patients having active lower genital tract infection, suspected pregnancy/abortion or ectopic gestation, ongoing profuse vaginal bleeding, high risk medical diseases where invasive procedures were contraindicated or those with uterine size more than 8 weeks.

Office hysteroscopy was performed in minor operation theatre located in our gynaec OPD. After the procedure was explained, a written informed consent was obtained from the patient. An intravenous access was secured in all patients prior to the commencement of the procedure to attend to any unforeseen emergencies. An emergency trolley containing injection atropine, injection hydrocortisone, injection adrenaline and other emergency drugs was kept ready. Members of the team included a senior skilled gynecologist, a resident doctor, a nurse and an operating room assistant.

Technique

Patient was placed in dorsal lithotomy position and perineum was cleaned with antiseptic solution. A rigid hysteroscope (30 degree, 2.77 mm) was inserted in the vagina with free hand technique (without grasping or dilation of the cervix). Normal saline was used as the distension media. Images were seen on the monitor and findings were documented. Endometrial biopsy was also performed in the same sitting on case to case basis using no 4 or 5 size Karman's cannula and suction syringe. If patient complained of pain, 100 mg diclofenac suppository was given per rectally after the procedure. Thereafter, the patient was shifted to an observation room; her vital parameters were monitored for 30 minutes before she was advised to go home.

RESULTS

Out of data searched for 1938 successive patients, office hysteroscopy was performed in 1920 patients. Indications to perform office hysteroscopy were mainly primary infertility (38.0%), secondary infertility (11.2%), abnormal uterine bleeding (36.6%) and postmenopausal bleeding (8.3%). However, there were many other indications also for which we performed the procedure (Table 1).

Table 1: Indications for office hysteroscopy.

Indication for office hysteroscopy	Number of patients (N = 1920)
Primary infertility	730 (38.0%)
Secondary infertility	215 (11.2%)
Abnormal uterine bleeding	702 (36.6%)
Post-menopausal bleeding (PMB)	159 (8.3%)
Recurrent pregnancy loss (RPL)	36 (1.9%)
Carcinoma breast	24 (1.25%)
Secondary amenorrhea	13 (0.7%)
Missing intra uterine device (IUD)	16 (0.8%)
Post-menopausal thick endometrium, carcinoma endometrium, pyometra, postcoital bleeding, dysmenorrhea, etc	25 (1.3%)

As shown in Table 2, hysteroscopy was performed in 730 women of primary infertility. 1.09% patients were in youngest age group (≤20 years) and 2.7% belonged to highest age group (46-50 years). Maximum patients were in age group 26-30 years (53.69%). 215 pts of Secondary Infertility that were evaluated, 0.9% patients were in youngest age group (≤20 years) and 0.93% belonged to highest age group (41-45 years). Maximum patients were in age group 26-30 years (44.18%).

Of the 702 pts with abnormal uterine bleeding the youngest was 21 year old while maximum patients were in age group of 41 to 45 (34.1%). 159 patients presenting with post-menopausal bleeding predominantly were in the age group of 51 - 60 (54.1%).

Uterine cavity evaluation (Table 3) in patients presenting with primary infertility was normal in 87.94% while anomalies observed were submucous polyp 12 (1.64%), submucous fibroid 14 (1.91%), intracavitory adhesions 17 (2.32%), developmental anomalies like unicornuate

uterus 17 (2.32%) and subseptate uterus 11(1.50%). Patients with secondary infertility had normal cavity in 159 (73.9%), there was preponderence to intracavitory adhesions 18 (8.37%) and subseptate uterus 10 (4.65%), as compared to primary infertility. While patients with AUB had uterine cavity lesions like submucous fibroid 68 (9.7%) and submucous polyp 57 (8.1%) making these as predominant causes of AUB in 17.8% cases. In 159 patients presenting with postmenopausal bleeding, normal endometrial cavity was seen in 94 (59.11%), there was higher incidence of submucous polyp 39 (24.52%) and polypoidal hypertrophic endometrium 14(8.8%). Also seen were, submucous fibroid 5 (3.1%) and hydrometra 2 (1.2%).

Table 2: Age distribution of the patients.

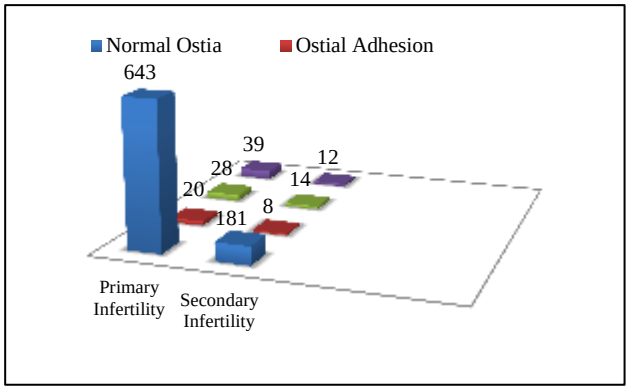
Age group (years)	Primary infertility n = 730	Secondary infertility n = 215	Abnormal uterine bleeding n = 702	Post-menopausal Bleeding n = 159
≤ 20	8 (1.09%)	2 (0.9%)	-	-
21-25	125 (17.12%)	31 (15.12%)	3 (0.4%)	-
26-30	392 (53.69%)	95 (44.18%)	26 (3.7%)	-
31-35	153 (20.95%)	57 (26.57%)	78 (11.1%)	-
36-40	44 (6.02%)	28 (13.02%)	178 (25.3%)	1 (0.62%)
41-45	6 (0.2%)	2 (0.93%)	240 (34.1%)	5 (3.1%)
46-50	2 (2.7%)	-	149 (21.2%)	20 (12.7%)
51-55	-	-	28 (4.0%)	42 (26.41%)
56-60	-	-	-	44 (27.67%)
61-65	-	-	-	30 (18.8%)
66-70	-	-	-	15 (9.4%)
71-75	-	-	-	1 (0.62%)
76-80	-	-	-	1 (0.62%)

Table 3: Uterine cavity evaluation in office hysteroscopy.

Uterine cavity findings	Primary infertility N = 730	Secondry infertility N = 215	AUB N = 702	Post-menopausal bleeding N = 159
Normal	642 (87.94%)	159 (73.9%)	487 (69.4%)	94 (59.11%)
Congested hyperaemic	3 (0.41%)	1 (0.46%)	16 (2.3%)	02 (1.2%)
Submucous polyp	12 (1.64%)	9 (4.18%)	57 (8.1%)	39 (24.52%)
Submucous fibroid	14 (1.91%)	3 (1.39%)	68 (9.7%)	05 (3.1%)
Polypoidal hypertrophic endometrium	1 (0.13%)	1 (0.46%)	2 (0.3%)	14 (8.8%)
Septum (complete division)	8 (1.09%)	7 (3.25%)	2 (0.3%)	-
Intra cavitory adhesions	17 (2.32%)	18 (8.37%)	8 (1.1%)	-
Products of conception		1 (0.46%)	1 (0.1%)	-
Unicornuate uterus	17 (2.32%)	7 (3.25%)	-	-
Atrophic endometrium	1 (0.13%)	-	-	01 (.6%)
Subseptate uterus	11 (1.50%)	10 (4.65%)	4 (0.6%)	02 (1.2%)
Hydrometra	-	-	-	02 (1.2%)
Irregular Cavity	4 (0.4%)	-	2 (0.3%)	-
Unhealthy endometrium	-	-	1 (0.1%)	-
Polypoidal endometrium + Irregular cavity	-	-	1 (0.1%)	-
Congested endometrium +Submucous fibroid	-	-	1 (0.1%)	-

On evaluation of tubal ostia (Figure 1), the patients with primary infertility showed essentially normal ostia in 643 (88.8%) while osteal adhesions were present in 20 (2.73%). Nonvisualisation of ostea was unilateral in 26 (3.56%) and bilateral in 2 (0.27%). Unilateral and bilateral deep-seated ostea were noticed in 9 (1.32%) and

30 (4.1%) respectively. Similarly those, with secondary infertility showed normal ostea in 181 (84.18%) and osteal adhesions in 8 (3.71%). Nonvisualisation of ostea was unilateral in 11 (5%) and bilateral in 3 (1.3%). Unilateral and bilateral deep seated ostea were noticed in 4 (1.86%) and 8 (3.7%) respectively.



39 and 12 represent no. of patients having deep ostea; 28 and 14 represent no. of patients where ostea could not be seen.

Figure 1: Evaluation of ostia.

The endocervical canal (ECC) (Table 4) was normal in 702 (96.16%) with primary infertility. Adhesions were present in 22 (3.01%) and endocervical polyps found in 5 (0.68%). ECC of patients with secondary infertility was normal in 204 (94.88%), while adhesions were present in 8 (3.72%) and anomalies in 3 cases (bicornuate bicollis and endocervical polyp).

Patients with AUB had majority with normal ECC 665 (94.7%), abnormalities detected were adhesions 21 (3%), endocervical polyp 13 (1.8%) and one patient had an IUD displaced into endocervical canal. While ECC in PMB was not very different from other groups viz. normal 144 (90.56%), adhesions in canal 4 (2.5%), endocervical polyp 8 (5.03%) and increased vascularity 3 (1.8%).

The procedure could not be performed or completed in 18 patients. The reasons for the inability to perform the procedure were intolerable pain in 06 patients, external os could not be negotiated in 04, vasovagal episode in 03, hysteroscope could not be negotiated due to dense intra-cervical adhesions in 03 and procedure was abandoned in 02 patients due to suspected uterine perforation.

Table 4: Endocervical canal.

Findings	Primary infertility n =730	Secondary infertility n = 215	AUB n = 702	PMB n = 159
Normal	702 (96.16%)	204 (94.88%)	665 (94.7%)	144 (90.56)
Adhesion	22 (3.01%)	8 (3.72%)	21 (3.0%)	04 (2.5%)
Polyp	5 (0.68%)	1 (0.46%)	13 (1.8%)	08 (5.03%)
Bicollis	1 (0.13%)	2 (0.93%)	1 (0.1%)	-
Fibroid	-	-	1 (0.1%)	-
IUD in cervical canal	-	-	1 (0.1%)	-
Increased vascularity	-	-	-	3 (1.8%)

DISCUSSION

The age old D and C traditionally being done has limited diagnostic and therapeutic role in patients with infertility, AUB, PMB, RPL or patients with carcinoma breast on tamoxifen therapy. The limitations include the need for hospital admission and anesthesia, increased complication risks (perforation, adhesion, infections) and poor diagnostic accuracy.[7] Many focal lesions are missed by D and C and therefore it has a high number of false negative results while evaluating uterine cavities.[8] The therapeutic role of D and C is also not proven for most endometrial disorders as there is high recurrence rate of bleeding symptoms.[4]

Over the past four decades, advancement in technologies and techniques in the evaluation of distended uterine cavity has opened up new dimensions for hysteroscopic modalities, which today are considered as the gold standard of diagnostic and therapeutic options in the management of intrauterine pathologies and more recently, of those seen in the cervix and vagina.[9-11]

In this series of 1920 patients, we performed office hysteroscopy in our gynae OPD for varied indications (Table 1). In this series, the number of patients with infertility is high (primary 730 and secondary 215) as we have an assisted reproductive technique centre, where hysteroscopy is done as part of routine evaluation for patients with infertility.

In 702 patients with AUB, study found 487 (69.4%) of uterine cavities to be normal and 215 (30.6%) had abnormalities in the uterine cavity in form of submucous fibroid (9.7%), endometrial polyp (8.1%), hyperemic endometrium (2.3%) and others (Table 3). In 159 patients evaluated for postmenopausal bleeding, 94 (59.11%) had

a normal uterine cavity, 65 (40.8%) cavities showed abnormalities. The lesions detected were endometrial polyps (24.5%), polypoidal hypertrophic endometrium (8.8%), submucous fibroids (3.1%), hyperaemic cavity (1.2) and others (Table 3).

Review of literature revealed benign polyps in 5-10% patients of AUB and in 20-25% patients with postmenopausal bleeding.[12-14] In this series of patients, premenopausal women with AUB had submucous fibroids as predominant lesion whereas endometrial polyps were predominant lesions in patients with postmenopausal bleeding. Similar results have been reported by other authors in this age group of patients.[15] In a meta-analysis of studies done in patients with AUB involving pre and postmenopausal age group, for the diagnosis of endometrial polyps using hysteroscopy (n = 12), the pooled sensitivity was 0.94 (95% CI 0.92-0.96), and specificity was 0.92 (95% CI 0.91-0.94). For the diagnosis of submucous myomas (n = 11), the pooled sensitivity and the specificity were 0.87 (95% CI 0.81-0.92) and 0.95 (95% CI 0.93-0.97) respectively.[16]

In 3 patients with carcinoma endometrium involving the lower end of the uterus, we did office hysteroscopy to see the involvement beyond internal os into the cervix. In 02 patients, cervix was not involved but one patient did show the involvement of upper cervix. Toki et al suggested that in patients with carcinoma endometrium, MRI can be useful to assess cervical stromal extension but cervical mucosal involvement is better assessed by hysteroscopy.[17]

24 patients with carcinoma breast were evaluated by hysteroscopy. 15 cavities were normal and 9 had polyp/hyperplasia. At our institute postmenopausal women with ca breast were subjected to office hysteroscopy to rule out any polyps in the uterine cavity before starting tamoxifen therapy. Other patients with ca breast underwent office hysteroscopy and endometrial biopsy only if they had abnormal uterine bleeding while on tamoxifen therapy. Literature suggests that the presence of benign endometrial polyps in postmenopausal women before initiating tamoxifen therapy places her in high risk group for the development of atypical hyperplasia. Thus in postmenopausal women, before the tamoxifen therapy is started, there is a role of uterine cavity screening by sonohysterography or hysteroscopy. If any benign endometrial poyp is detected, it should be treated before tamoxifen is given.[18]

We did hysteroscopy in 36 patients of recurrent pregnancy losses. 03 patients had a septate uterus with one patient having associated bicollis also. There was sub-septate uterus, irregular uterine cavity and intrauterine adhesions in one patient each.

11 asymptomatic postmenopausal patients were referred to our department for evaluation of thick endometrium (more than or equal to 5 mm) detected by the ultrasound evaluation done for non-gynaecological indications. On hysteroscopy, 5 (45.4%) patients had a normal cavity, 03 (27.3%) had polypoidal endometrium and 3 (27.3%) had an endometrial polyp. Review of the literature suggests that "if the endometrial thickness is between 5 mm and 11mm, further investigation should be based on clinical opinion regarding the risk of underlying pathology and if endometrial thickness is above 11 mm, further investigation with hysteroscopy/biopsy is to be considered".[19]

Study had 16 patients reporting with the inability to feel IUD threads (both IUCD and LNG-IUS included). The Intrauterine presence of IUD was confirmed using trans-vaginal sonography. On hysteroscopy, we could find IUD in the uterine cavities of 14 patients and two patients had IUD displaced into the cervical canal. All these IUDs were removed using grasper while doing office hysteroscopy. Various tools like thread retriever, grasping forceps, hooks, suction curette, and ultrasound guided removal are various modalities in the office setting. Hysteroscopy has made the management of patients with missing IUD threads very easy. There is no requirement of cervical dilation, analgesia, and PG E1 tabs. The presence of IUD is detected in the uterine cavity and can be removed using a grasper in a single setting. If the patient is willing, a new IUD may also be inserted in the same sitting.[20]

CONCLUSION

Hysteroscopy is a simple and convenient method for evaluation of uterine cavity and cervical canal. By vaginoscopic approach, the evaluation of vagina also can be done. The procedure even if performed in the office setting, is tolerated well and is cost effective as there is no need for hospital admission or anaesthesia.

Hysteroscopy being the gold standard for evaluation of uterine cavity can be utilised for varied gynaecological indications. If required, hysteroscopy can also be combined with other diagnostic or therapeutic procedures in the same setting thereby reducing the cost of treatment.

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REFERENCES

1. Bettocchi S, Selvaggi L. A vaginoscopic approach to reduce the pain of office hysteroscopy. J Am Assoc Gynecol Laparosc. 1997;4:255-8.
2. Paschopoulos M, Paraskevaidis E, Stefanidis K, Kofinas G, Lolis D. Vaginoscopic approach to outpatient hysteroscopy. J Am Assoc Gynecol Laparosc. 1997;4:465-7.

3. Cicinelli E. Diagnostic mini-hysteroscopy with vaginoscopic approach: rationale and advantages. J Minim Invasive Gynecol. 2005;12:396-400.
4. Bettocchi S, Ceci O, Vicino M, Marello F, Impedovo L, Selvaggi L. Diagnostic inadequacy of dilatation and curettage. Fertil Steril. 2001;75:803-5.
5. Committee on practice bulletins - gynecology. Practice bulletin no.136: management of abnormal uterine bleeding associated with ovulatory dysfunction. Obstet Gynecol. 2013;122:176-85.
6. Marsh F, Kremer C, Duffy S. Delivering an effective outpatient service in gynaecology. A randomised controlled trial analysing the cost of outpatient versus day-case hysteroscopy. BJOG. 2004;111:243-8.
7. Di Spiezio A, Calagna SG, Di Carlo C. Tips and tricks in office hysteroscopy. Gynecol Minimal Invas Ther. 2015;4(1):3-7.
8. Goldstein SR. Modern evaluation of the endometrium. Obstet Gynecol. 2010;116:168-76.
9. Di Spiezio S, Bettocchi A, Bramante S, Guida S, Bifulco M, Nappi C. Office vaginoscopic treatment of an isolated longitudinal vaginal septum: a case report. J Minim Invasive Gynecolm 2007;14:512-5.
10. Pontrelli G, Landi S, Siristatidis CH, Di Spiezio Sardo A, Ceci O, Bettocchi S. Endometrial vaporization of the cervical stump employing an office hysteroscope and bipolar technology. J Minim Invasive Gynecol. 2007;14:767-9.
11. Di Spiezio Sardo A, Bettocchi S, Spinelli M. Review of new office-based hysteroscopic procedures 2003-2009. J Minim Invasive Gynecol. 2010;17:436-48.
12. Hill MCW, Broadbent JAM, Baumann R. Local anesthesia and cervical dilatation for out-patient diagnostic hysteroscopy. Obstet Gynecol. 1992;12:33-7.
13. Cronje MS. Diagnostic hysteroscopy after postmenopausal uterine bleeding. S Afr M J. 1984;66:773-4.
14. Walton SM, Macphail S. The value of hysteroscopy in postmenopausal and perimenopausal bleeding. J Obstet Gynecol. 1988;8:332-6.
15. Dinić SPT, Kopitović V, Antić V, Stamenović S. Role of hysteroscopy in evaluation of patients with abnormal uterine bleeding. Acta Facultatis Medicae Naissensis. 2011;28:3.
16. Dongen HV, De Kroon CD, Jacobi CE, Trimbos JB, Jansen FW. Diagnostic hysteroscopy in abnormal uterine bleeding: a systematic review and meta-analysis. BJOG. 2007;111:664-75.
17. Toki T, Oka K, Nakayama K, Oguchi O, Fujii S. A comparative study of pre-operative procedures to assess cervical invasion by endometrial carcinoma. BJOG. 1998;105(5):512-6.
18. American College of Obstetricians and Gynecologists Committee on Gynecologic Practice: Tamoxifen and endometrial Cancer. Committee opinion 601. ACOG 2014; Washington, DC.
19. Royal College of Obstetricians and Gynaecologists. Guidelines on Postmenopausal thick endometrium (Query Bank). RCOG 2014; London UK.
20. Prabhakaran S, Chuang A. In office retrieval of intrauterine contraceptive devices with missing strings. Contraception. 2011;83(2):102-6.

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