ORIGINAL RESEARCH

Role of Diagnostic Hysteroscopy In Evaluation of Abnormal Uterine Bleeding

Yaragani Padma[1], Penagaluru Radha[1]

ABSTRACT

Introduction: Hysteroscopy has ushered a new era in the evaluation of patients with abnormal uterine bleeding The aim is to study the accuracy of hysteroscopy in evaluation of abnormal uterine bleeding and to correlate hysteroscopic findings with histopathological findings.

Materials and methods: This is a prospective cross sectional study carried out for a period of fifteen months on 100 patients were selected of age group of 20-60 years females with the history of abnormal uterine bleeding.

Results: Maximum age incidence was between 40-49 years, the youngest patient was 20 years old and the oldest was 60 years. patients (93%) were para 2 or more; 4 patients were uniparous and 3 patients were nulliparous, menorrhagia (40%) was the most frequent indication for hysteroscopy. On per vaginum examination, the most common finding was normal sized uterus (53%), followed by bulky uterus (40%) and 10-12 weeks size uterus (7%), 75% had normal pap smear report and 25% had inflammatory pap smear report. 58% patients had normal ultrasonographic(USG) findings. Endometrial hyperplasia (25%) was the most commonly detected pathology, followed by Fibroid uterus (11%), Abnormal findings on hysteroscopy were seen in 50% of the patients with hysteroscopy. Of the 100 patients, 64 had normal finding on histopathology. 20% of the patients had Endometrial hyperplasia; 4% Endometrial atrophy and Endometritis each. Over all accuracy observed is 82%

Conclusion: Hysteroscopic-guided biopsy and histopathology is reliable method for evaluation of abnormal uterine bleeding, especially in benign lesions such as endometrial polyp and submucosal fibroid and it can be used as the first line diagnostic method for these abnormalities.

Keywords: Hysteroscopy, Abnormal uterine bleeding, Histopathology, Ultrasonography.

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INTRODUCTION

Abnormal uterine bleeding (AUB) is defined as any type of bleeding in which the duration, frequency, or amount is excessive for an individual patient. Menstrual dysfunction is the cause of discomfort, inconvenience and disruption of healthy lifestyle, which affects millions of women in both developed and developing world.[1] Abnormal uterine bleeding is one of the most common gynecological disorders that prompt a patient to consult a physician and the proportion rises in peri-menopausal and postmenopausal women.[2] It is responsible for more than one-third of gynecological consultations and nearly two-thirds of hysterectomies.[3] It affects 10 to 30 percent of reproductive-aged women and up to 50% of peri-menopausal women. It is estimated that a woman has a 1 in 20 lifetime chance of consulting her primary physician because of menorrhagia (Bongers, 2004).[4]

Goals of clinical management are primarily dependent upon attaining a correct etiological diagnosis. The history, physical and pelvic examination attempt to determine the site of the bleeding and its source. Information gathered from this will suggest what direction the investigation would take. Traditionally Dilatation and Curettage (D&C) and Ultrasonography were the most common investigations employed in the evaluation of the causes of abnormal uterine bleeding. Dilatation and Curettage has long been the diagnostic gold standard for abnormal uterine bleeding. Since it is a blind procedure, it will only scrap less than 50% of the endometrial cavity in 60% of the patients[5], becomes less accurate than hysteroscopy in diagnosing structural pathology such as polyps, fibroids, intrauterine adhesions and congenital malformations. It has a cancer detection failure rate of 0.9%.[6] Ultrasonography clearly depicts the uterine contour and the status of the ovary, but fails to provide adequate information regarding the endometrium. Transvaginal scan is also less accurate than hysteroscopy in diagnosing intrauterine pathology.[7]

Hysteroscopy involves inserting an optic endoscope into the endometrial cavity and cervical canal via vaginal route and biopsy of endometrium allows histological diagnosis of intrauterine pathology.[8] It aids in the direct visualization of the uterine cavity and hitherto undiagnosed conditions such as endometrial polyps, submucous fibroids, intrauterine adhe-

sions and uterine abnormalities can be easily diagnosed.[9]
Hysteroscopic procedures are highly appreciated mainly for their minimal invasiveness, suitability for office gynecology, cost effectiveness and safety.[10] Hysteroscopy has gained popularity as a diagnostic and therapeutic alternative due to its greater accuracy in diagnosis and treatment, reduced morbidity and reduced health care cost.[11] Since hysteroscopy and its directed biopsy are more accurate than dilatation and curettage, it is considered an accurate 'gold standard' in uterine cavity evaluation.[12]
A single stop approach, especially in high-risk women as well as in women with endometrial hyperplasia, of combining the office hysteroscopy, directed biopsy in the presence of a focal lesion, and vacuum sampling of the endometrium, all without anaesthesia is the most minimally invasive and yet accurate approach in current practice.[13] Hence hysteroscopic evaluation in patients with abnormal uterine bleeding is needed.

MATERIALS & METHODS

This is a prospective cross sectional study carried out in the Department of Gynecology over a period of fifteen months from May 2012 to August 2013. One hundred patients were selected for this study.

Inclusion criteria

Age group of 20-60 years females, who were admitted with the history of abnormal uterine bleeding.

Exclusion criteria

Active profuse uterine bleeding and severe anemia, Large or Multiple fibroids, Intrauterine contraceptive device**,** Active pelvic infection, Lower Genital tract malignancy, Pregnancy/ Abortion**,** Patient on hormonal drugs like Tamoxifen or Oral contraceptives**,** Thyroid disease**,** Coagulation disorder**,** History of recent intrauterine perforation andMedical contraindications to any invasive procedures
All the patients were subjected to a thorough physical examination and routine investigations like Hb%, ABO & Rh, blood sugar, urine routine and microscopy, coagulation profile, thyroid function tests, urine pregnancy test and ultrasound abdomen followed by hysteroscopy followed by Dilatation and Curettage after obtaining post counseling informed consent and curettings were sent for histopathological analysis. The procedure was performed under general anesthesia.
The results of hysteroscopy and endometrial histopathology were studied and analyzed. Data were recorded on a predesigned proforma. A master chart dealing with all aspects has been designed and presented. The analyzed data was compared with other series of literature and discussed.
Further management of the patient was decided according to age, parity, severity of the disease, hysteroscopic and histopathological report.

Instruments required in procedure are Sim's speculum, Volsellum, Uterine sound, Dilators, Syringes, Needles, Normal saline bottles, IV Sets, Hysteroscope, Light source, Curette.Other equipment should include resuscitative drugs and instruments for use in the event of reactions, simple monitoring devices such as sphygmomanometer and intravenous solutions and sets.

THE HYSTEROSCOPIC PROCEDURE

Preparation of the patient:Hysteroscopy is most satisfactory when performed in the post menstrual period of the cycle. Thus the patient should be scheduled for this interval or withdrawal bleeding induced in order to provide a thin endometrium which is relatively free of mucous. However, in patients undergoing evaluation for the cause of bleeding this timing may not always be possible.Patient should have had a general history taken and a physical examination done within the preceding 3 months. She should undergo all routine investigations necessary to perform the procedure under general anesthesia.Consent for the procedure is always obtained. The patient is told that there may be some cramps or staining following the procedure and that she may have to rest for some time.
The patient should be on empty stomach for 6 hours before the procedure is commenced and prophylactic antibiotics should be started one day prior to the procedure. Local preparation of the external genitalia is done. Misoprostol (PGE_1) tablets in a dose of 600µg kept in the posterior vaginal fornix 3-4 hrs prior to the procedure acts as an aid in cervical dilatation and thus easy passage of the scope. Patient is asked to void urine immediately prior to hysteroscopy so that the bladder is empty during the procedure.
A systematic examination of endometrial cavity and the endometrial mucosa is performed. The tubal orifices are located by following the lateral wall of the uterus up to the base of the cornual cone. Once the cornual cone is located, close inspection will reveal the tubal ostium opening.
At completion of examination, the instruments are removed, curettage of the endometrium is done and the curettings sent for histopathological examination. The patient is allowed to return to the recovery room.

RESULTS

In the present study panoramic hysteroscopy was performed using a 4mm hysteroscope with 30 degrees fore oblique lens in 100 patients who presented with abnormal uterine bleeding followed by dilatation and curettage. The curetted endometrium was sent for histopathological analysis. The results are summarized below.
In the present study maximum age incidence was between 40-49 years, the youngest patient was 20 years old and the oldest was 60 years. Of the 100 patients, majority, 55 had symptoms for 6 months to 1 year; 25 patients had symp-

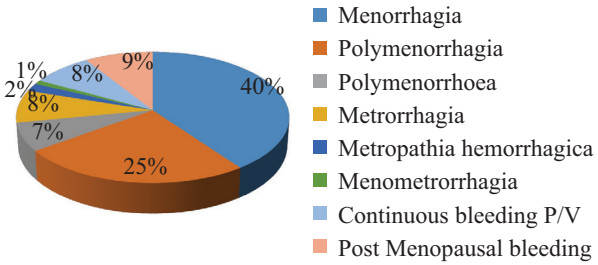

Figure-1: Distribution of patients as per Clinical presentation

	No of cases	Percentage
Age group		
20-29 years	6	6
30-39 years	37	37
40-49 years	42	42
50-60 years	15	15
Duration of symptoms		
< 6 Months	25	25
6 Month – 1 Year	55	55
> 1 Year	20	20

Table- 1: Demographic Distribution of patient'sincidence

	No. of cases	Percentage
P/V Exam finding		
Normal Size	53	53
Bulky uterus	40	40
10-12 weeks size uterus	7	7
USG Finding		
Normal	58	58
Endometrial hyperplasia	25	25
Fibroid Uterus	11	11
Endometrial polyp	4	4
IUCD in endometrial cavity	2	2
Hysteroscopic finding		
Proliferative Endometrium	38	38
Secretory Endometrium	12	12
Endometrial hyperplasia	18	18
Submucousmyoma	8	8
Endometrial polyp	12	12
Endometrial Atropy	6	6
Carcinoma Endometrium	3	3
Misplaced Cu-T	2	2
Endometritis	1	1

Table-2: Distribution of patients as per findings

toms for less than 6 months and 20 patients had symptoms for more than 1 year.

Majority of the patients (93%) were para 2 or more; 4 patients were uniparous and 3 patients were nulliparous.In the present study menorrhagia (40%) was the most frequent indication for hysteroscopy.

On per vaginum examination, the most common finding was normal sized uterus (53%). Abnormal findings on hysteroscopy were seen in 50% of the patients, while in the remaining 50%, no abnormality was detected (negative hysteroscopic view)

In the present study, 58% patients had normal ultrasonographic(USG) findings. Endometrial hyperplasia (25%) was the most commonly detected pathology.

Hysteroscopy showed 8 cases of submucousmyoma; On hysteroscopy, 6 cases showed atrophic endometrium, out of which 4 cases were confirmed on histopathology.

After confirming the diagnosis, treatment was given to the patients. Hysterectomy was done in 38 patients. In two patients, myomectomy was done. 3 submucosal fibroids and 2 endometrial polyps were removed by operative hysteroscopy. In 2 cases, misplaced Cu-T removed under hysteroscopic guidance. So, radical treatment was avoided in 9 patients. 53 patients were put on hormonal treatment according to histopathology report

DISCUSSION

Abnormal uterine bleeding is an extremely common indication for referral to a gynecologist.[14] As quoted by Devi and Menon, the incidence is 30–40% of all gynaecological cases.[15] Hysteroscopy combined with guided biopsy is more sensitive in disclosing the type of lesion than D&C.[16] It is considered as gold standard for determining the cause of endometrial pathologies presenting with abnormal uterine bleeding.[17] This study was undertaken to correlate the hysteroscopic findings with histopathological report.

Majority of patients in our study (42%) were in the age group of 40-49 years. These findings were similar to Chandra *et al*[18] and Jyotsana *et al.*[19] Panda *et al*[20] and Hunter *et al*[21] also reported similar findings.Of the 100 patients, majority (55%) had symptoms for duration of 6 months to 1 year. These findings were similar to Sheetal *et al*[22] who reported 55%

Hysteroscopic Finding	Histopathological report							Total
	Normal	Hyperplasia	Atrophy	Myoma	Polyp	Carcinoma	Endometritis	
Normal	48	1	0	0	0	0	1	50
Hyperplasia	1	17	0	0	0	0	0	18
Atrophy	1	0	4	0	0	0	1	6
Submucousmyoma	5	1	0	2	0	0	0	8
Endometrial polyp	7	1	0	0	4	0	0	12
Carcinoma endometrium	1	0	0	0	0	2	0	3
Endometritis	0	0	0	0	0	0	1	1
Misplaced Cu-T	1	0	0	0	0	0	1	2
Total	64	20	4	2	4	2	4	**100**

Table-3: Correlation between hysteroscopic and histopathological findings

Endometrial pathology	Accuracy
Overall	82%
Hyperplasia	96%
Myoma	94%
Polyp	92%
Atrophy	98%
Carcinoma	99%
Misplaced Cu-T	100%

Table-4: Diagnostic accuracy of hysteroscopy in endometrial pathology

patients presenting with bleeding for 3 months to 1 year duration. Channareddy Sunitha *et al*[23] reported the duration of symptoms for majority of the patients in their study as more than one year.

In our study, majority of the patients (93%) were Para 2 or more and least affected were nulliparous (3%). Sheetal *et al*[22] reported 33% patients as multiparous and 10% of the patients in their study as Para 1.Menorrhagia (40%) was the primary indication of hysteroscopy, followed by polymenorrhagia (25%) and postmenopausal bleeding (9%) in our study. These findings were similar to Sheetal *et al*[22] who reported menorrhagia in 25% cases, polymenorrhagia in 13% and postmenopausal bleeding in 7%. Menorrhagia as the primary indication for hysteroscopy was reported in 49.6% by Sciarra and Valle[24] and 37.5% by Hamou[25] while postmenopausal bleeding (43.7%) and abnormal peri-menopausal uterine bleeding (56.3%) were the main indications in the study of Pasqualotto *et al.*[7]

On per vaginum (P/V) examination, the most common finding was normal sized uterus (53%) followed by bulky uterus (40%). These findings were similar to Sheetal *et al*[22] who also reported normal sized uterus as the most common finding (50%) on P/V examination in their study. 58% of patients had normal ultrasonographic findings. Endometrial hyperplasia (25%) was the most common pathology, followed by fibroid uterus (11%). Sheetal *et al*[22] also reported normal USG findings in 62% of the patients in their study.

Incidence of positive findings on hysteroscopy ranges from 50% in the present study to 52% in studies of Baggish and Barbot[26] and Schwarzler[27] to 66% in Bhattcharya[28] and 74% in Gita[29] to as high as 94.6% in Hamous[25], study. The more stringent the patient selection criteria and the more immaculate the procedure, the greater is the likelihood of pathological causative lesion being found.

As per our study the overall diagnostic accuracy of hysteroscopy for diagnosing intrauterine pathology was 82%.Panda *et al*[20] had reported diagnostic accuracy of the procedure as 92.5%.

Thus, most of the studies have reported the sensitivity of hysteroscopy in diagnosing intrauterine lesions as more than 90% that agrees with the result of our study. This finding proves hysteroscopy as a valid diagnostic method in abnormal uterine bleeding. Diagnostic accuracy of hysteroscopy for endometrial polyp was 92% when compared to histopathology. Anuradha Panda[20] had reported diagnostic accuracy of 100% in diagnosing polyp.

Thus hysteroscopy has a high diagnostic ability in detection of localized intracavitory uterine lesions such as POLYP and MYOMA. It is far from expectation of this procedure to ignore these lesions.

In the present study the results of hysteroscopy and dilatation and curettage were in agreement in 75% patients, hysteroscopy revealed more information in 19% patients and curettage revealed more information than hysteroscopy in 6% patients. These results are comparable to other studies performed by Channareddy Sunitha *et al*[23] and Jaiswar *et al*[30]

So hysteroscopy was more accurate (100%) in identifying intrauterine pathologies like endometrial polyp, submucous-myoma, misplaced Cu-T than endometrial biopsy or dilatation and curettage alone. The diagnosis of hyperplasia, its types and carcinoma was only possible after histopathological examination.

CONCLUSION

It is concluded that hysteroscopy offers an invaluable advantage of direct visualization of any abnormality within the uterine cavity. It does not substitute other diagnostic procedures; rather, it complements them. Hysteroscopic-guided biopsy and histopathology are considered as the "new gold standard" in evaluating a case of abnormal uterine bleeding.

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