International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Dhakad S et al. Int J Reprod Contracept Obstet Gynecol. 2023 May;12(5):1414-1419
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20231234

Original Research Article

Evaluation of intrauterine pathologies by hysteroscopy in abnormal uterine bleeding

Sonam Dhakad*, Sandhya Gadre, Gunjan Chaudhary

Department of Obstetrics and Gynecology, Chirayu Medical College and Hospital, Bhopal, Madhya Pradesh, India

Received: 22 March 2023
Accepted: 14 April 2023

***Correspondence:**
Dr. Sonam Dhakad,
E-mail: sonam839singh@gmail.com

ABSTRACT

Background: Hysteroscopy is the gold standard for uterine cavity evaluation because it allows direct visualization of the uterine cavity, mitigate characteristics of lesions such as nature, size, shape, location and vascular pattern.
Methods: This was a prospective observational study conducted in department of obstetrics and gynecology at Chirayu Medical College and Hospital, Bhopal (MP). Patients presenting to general gyne OPD with abnormal uterine bleeding at Chirayu Medical College and Hospital between January 2021 to May 2022 were studied. All patients selected for study had a thorough evaluation with detailed history, clinical examination, lab tests and sonography followed by hysteroscopy and endometrial biopsy.
Results: Mean age of patients in our study was 44 years with majority of patients in 41-50 years age group. Predominant complaint reported was heavy menstrual bleeding (HMB) (47.50%) followed by HMB with frequent cycle (11.25%). Hysteroscopy detected intrauterine abnormality in 42.50% cases. Most common finding on hysteroscopy in our study was hyperplastic endometrium in 17.50% patients followed by endometrial polyp in 15% of patients. Atrophic endometrium was seen in 2.5% and 2.5% had submucous fibroid.
Conclusions: Hysteroscopy allows diagnosis or exclusion of intracavitary pathologies, which are underdiagnosed on routine pelvic sonography. It also enables treatment in the same sitting with accurate tissue biopsy from the representative areas and facilitates planning of further management. When combined with endometrial biopsy and pelvic ultrasonography, it can establish an accurate diagnosis in a majority of patients thereby reducing the burden of hysterectomy.

Keywords: AUB, Hysteroscopy, Intracavitary pathology

INTRODUCTION

The term "abnormal uterine bleeding" (AUB) refers to any deviation from the typical menstrual cycle pattern. The primary characteristics that should be considered while discussing AUB are regularity, frequency, amount of flow, and duration of flow, but each of these can vary significantly.[1,2] Abnormal uterine bleeding is the most common complaint among women of reproductive age. AUB has a significant impact on patient's mental and physical health, as well as a significant burden on family and care givers.[3] AUB accounts for 35% of gynae OPD visits and 25% of gynaecological procedures, with a 69% incidence in peri and postmenopausal women.[4] The number of underlying pathologies in AUB are extensive, necessitating meticulous evaluation not only to pinpoint the aetiology but also to rule out malignancy in elderly women.[3,5] The primary goal is to determine the cause of AUB in the most efficient and least invasive manner possible.[6] A complete medical history (including hereditary disposition for uterine malignancies), vaginal and speculum examination, and transvaginal ultrasonography (TVS) are essential parts of evaluating patients complaining of AUB.[7-9] In a gynaecologic setting, the initial step is usually to identify the structural causes of the PALM component of the PALM-COIEN system, which can be evaluated and diagnosed by imaging, hysteroscopy and/or biopsy.[5,3,10,11] Uterine cavity

evaluation can be done using hysterosalpingography (HSG), trans vaginal ultrasonography (TVS), sonohysterography (SHG) and hysteroscopy.[6] Hysteroscopy is the gold standard for uterine cavity evaluation because it allows direct visualization of the uterine cavity, mitigate characteristics of lesions such as nature, size, shape, location and vascular pattern.[12] During hysteroscopy, pattern assessment of various phases of normal endometrium and endometrial pathologies has many advantages, It would serve in categorizing women with AUB, so as to be selective with biopsies and curettages.[4] Identifying normal variations or benign lesions may help pathologists by decreasing the amount of unnecessary samples. It also decreases anxiety of the patient as the information can be immediately given to them in many cases.[13] Hysteroscopy is almost completely replacing blind curettage in abnormal uterine bleeding since it sees and decides the cause.[14,15] This is because the uterine cavity can be observed and affected area can be biopsied. In fact, it is an eye in the uterus.[16,17]

This study was done to evaluate the role of hysteroscopy in diagnosing intrauterine causes of AUB.

METHODS

This is a prospective observational study conducted in department of Obstetrics and Gynaecology at Chirayu Medical College and Hospital, Bhopal (MP). Patients presenting to general gynae OPD with abnormal uterine bleeding at Chirayu Medical College and Hospital between January 2021 to May 2022 were studied.

Procedure planned

Patients fulfilling the inclusion criteria, recruited in the study. Written informed consent was obtained from the study subjects. All patients selected for study had a thorough evaluation with detailed history, clinical examination, blood investigations, and ultrasonography. After that hysteroscopy was done, procedure was performed in the operation theatre under sedation, endometrial biopsy taken and sent for histopathological examination.

Inclusion criteria

All women of age >18 years presenting to OPD with abnormal uterine bleeding not requiring emergency management.

Exclusion criteria

Hemodynamically unstable cases. Pregnant or postpartum women. Women with endocrine disorders. Women on anticoagulant drugs or with coagulopathy. Active genital tract infection. Women with diagnosed carcinoma of endometrium and cervix.

Instruments used

Diagnostic hysteroscopy, after informed consent and routine pre-operative preparation, was performed in the operation theatre under GA. Using rigid 5 mm hysteroscope with double flow sheath and 30 degree fore-oblique view (Rechard WOLF CE0124). Hysteroscopy was carried out under all aseptic precautions employing standard approach. Normal saline used as distension media. A cold light source of high intensity and fibreoptic cable was used for illumination.

All the procedure were monitored, images projected on monitor visible to the operator, systemic inspection of endocervical canal, internal os and uterine cavity carried out and findings recorded.

RESULTS

A total of 82 women who fulfilled the inclusion criteria were recruited for the study. Two women in whom hysteroscope could not be negotiated were excluded out of the study. Finally, data collected from 80 women.

Table 1: Age distribution of women with abnormal uterine bleeding (n=80).

Age (years)	Frequency	Percent
≤30	6	7.50
31-40	30	37.50
41-50	36	45
51-60	6	7.5
>60	2	2.5
Total	80	100.0

Women of abnormal uterine bleeding were included and evaluated in this study with the mean age 44 years (range: 20 to 68 years).

Maximum (45%) women were in the age group of 41-50 years. 6 (7.5%) cases presenting in postmenopausal age group as post-menopausal bleeding.

Table 2: Distribution of patients according to menstrual abnormalities (n=80).

Menstrual history	Frequency	Percent
HMB	38	47.50
HMB with frequent cycles	9	11.25
Frequent cycle	8	10.00
Post menopausal bleeding	6	7.50
HMB with intermenstrual spotting	5	6.25
Prolonged cycles and HMB	5	6.25
Intermenstrual spotting	4	5.00
Infrequent cycle	3	3.75
Light bleeding	2	2.50
Total	80	100.0

Heavy menstrual bleeding (HMB), 47.5% was the most common presentation followed by HMB with frequent cycle (11.25%).

8 (10%) women presented with history of frequent cycle and 6 (7.49%) had postmenopausal bleeding.

Table 3: Distribution of study participants based on presence of different findings on hysteroscopy (n=80).

	Endometrial findings	Frequency	Percent
Physiological endometrial findings	Proliferative endometrium	21	26.25
	Secretory phase	25	31.25
Pathological endometrial findings	Hyperplastic endometrium	14	17.50
	Endometrial polyp	12	15.00
	Cervical polyp	3	3.75
	Submucosal leiomyoma	2	2.50
	Atrophic	2	2.50
	Focal areas of necrosis	1	1.25
	Total	80	100.0

Table 4: Menstrual pattern with hysteroscopic findings in patients of AUB.

Menstrual history	Hysteroscopy findings						
	Hyperplasia	Cervical polyp	Endometrial polyp	Submucosal leiomyoma	Atrophic	Focal areas of necrosis	Normal
HMB	5	2	3	0	0	0	28
HMB with FS	2	0	2	1	0	0	4
FS	3	0	1	0	0	0	4
PMB	2	1	0	0	0	1	2
Pr. and HMB	1	0	1	1	0	0	3
HMB with IMS	0	0	3	0	0	0	1
IMS	0	0	2	0	0	0	2
Infrequent cycle	1	0	0	0	1	0	1
Light bleeding	0	0	0	0	1	0	1
Total	14	3	12	2	2	1	46

Abbreviation: HMB- heavy menstrual bleeding, FS- frequent cycle, PMB- post menopausal bleeding, Pr.- prolong, IMS – intermenstrual spotting

Hysteroscopy detected intrauterine abnormality in 42.50%, Most common finding on hysteroscopy in our study was hyperplastic endometrium in 18.75% patients followed by endometrial polyp in 15% of patients. Atrophic endometrium was seen in 2.5%.

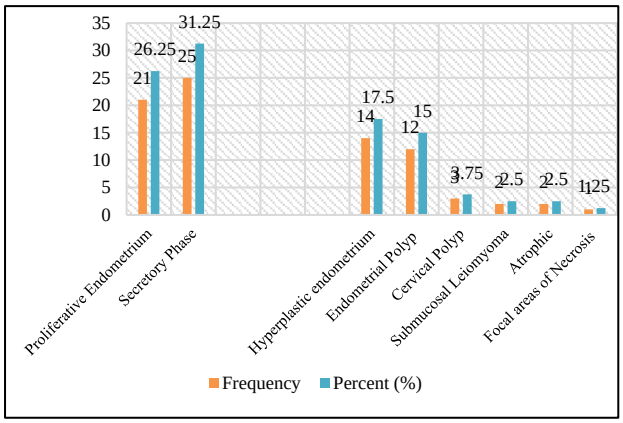

Figure 1: Distribution of study participants based on presence of different findings on hysteroscopy.

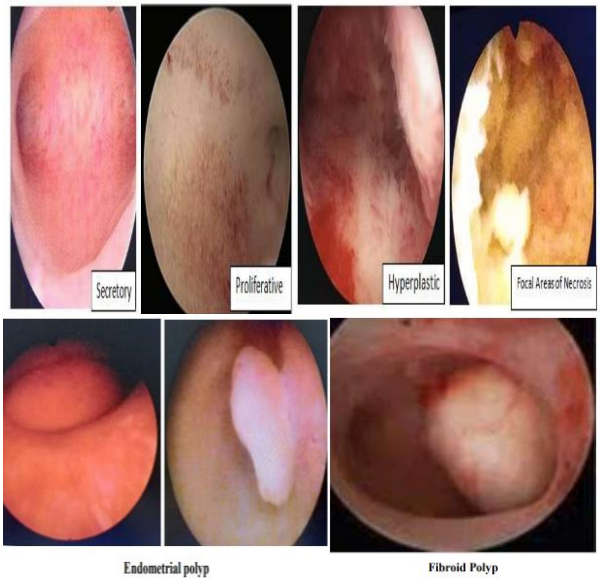

Figure 2: Different findings on diagnostic hysteroscopy.

DISCUSSION

Hysteroscopy is considered the gold standard technique for diagnosing and managing pathological conditions affecting the uterine cavity.[18,19] In turn, AUB is the most common indication to perform hysteroscopy in perimenopausal women.[20] The hysteroscopic "see-and-treat" approach allows exploration of the uterine cavity, targeted endometrial and endocervical biopsies, and if indicated immediate treatment of endocervical, endometrial, or submucosal pathologies polyps and myomas.[21-26]

As has been suggested the use of blind endometrial sampling to evaluate the uterine cavity, is an inaccurate technique for diagnosing pathologies commonly associated with AUB, such as endometrial polyps, submucous myomas, and focal endometrial abnormalities including adenocarcinoma and its precursors.[16] The use of hysteroscopy with directed biopsy ensures the recognition of these lesions. Furthermore, assigning a specific pattern to a diagnosis will help triage the patterns which will need to be sampled from those which can be left alone decreasing the burden on the pathologist and the unnecessary anxiety for the patient waiting for the biopsy report.[27]

This was a prospective observational study carried out in the department of obstetrics and gynaecology, Chirayu Medical College and Hospital, Bhopal (MP). 80 women with AUB, without any contraindication to hysteroscopy, were subjected to the procedure.

Age group of patients in our study ranged from 20-68 years with a mean age of 44 years. Majority of patients 45% were in 41-50 years age group similar to study conducted by Naik et al.[28] 37.5% in 31-40 years age group and 7.5% in 30-40 years and 51-60 years age group. 2.5% patients were in >60 years age group.

In present study, most common symptom reported was HMB (47.50%) followed by HMB with frequent cycles (11.25%), frequent cycles (10%). 7.50% patients had postmenopausal bleeding and 3% patients presented with infrequent cycles. Menorrhagia (HMB) was also the most common symptom in studies conducted by Naik et al and Guin et al.[28,29]

Hysteroscopy detected intrauterine abnormality in 42.50%. Positive findings on hysteroscopy were 52% in study conducted by Schwarzler et al and Baggish et al 74% had positive findings in study conducted by Guin et al.[29]

Most common finding on hysteroscopy in our study was hyperplastic endometrium in 17.50% patients which is similar to study conducted by Guin et al.[29] hyperplastic endometrium was seen in 30% patients.

As the age of the patient advances, there is likely to be a greater number of patients with malignant conditions as is seen in Gianninotos series,[30] (16.4% with carcinoma) where age ranged from 38 to 80 years. All our patients were subjected to hysteroscopic directed biopsy and further treatment planned according to the histological type of hyperplasia. It reduced the need for conventional curettage, lowered cost and improved patient's and clinician's satisfaction. In our study there was one patient in which focal areas of necrosis seen on hysteroscopy, which was found adenocarcinoma on histopathology.

The incidence of endometrial polyp ranged from 15% in our study to 28% in Guin et al study.[29] All of our patients could be treated by simple polypectomy, further reducing the number of hysterectomy.

Atrophic endometrium was seen in 2.5% of patients in our study. It was reported as 18% by Guin et al, 6% by Sciarra et al, 14.6%, by Hamou et al.[29-31] Finding of atrophic endometrium in patients with post-menopausal bleeding reassures the patient. As most of these patients otherwise are unnecessary subjected to hysterectomy for no pathology.

AUB is the presenting symptom in >90% of postmenopausal women with endometrial carcinoma.[32] In turn, the prevalence of endometrial carcinoma or atypical hyperplasia in postmenopausal women with AUB was 21%, rising to 29% when AUB is accompanied by an endometrial thickness of ≥4 mm on TVS.[32] The systematic review by Clark et al confirmed high diagnostic accuracy of hysteroscopy with regard to endometrial carcinoma, but only moderate for other types of endometrial disease.[33]

CONCLUSION

Hysteroscopy allows diagnosis or exclusion of intracavitary pathologies, which are underdiagnosed on routine pelvic sonography. It also enables treatment in the same sitting with accurate tissue biopsy from the representative areas and facilitates planning of further management. When combined with endometrial biopsy and pelvic ultrasonography, it can establish an accurate diagnosis in a majority of patients thereby reducing the burden of hysterectomy.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Dhakad S, Gadre S, Chaudhary G. Evaluation of intrauterine pathologies by hysteroscopy in abnormal uterine bleeding. Int J Reprod Contracept Obstet Gynecol 2023;12:1414-9.