DOI - 10.21276/obgyn.2021.7.2.24 *ISSN Print – 2454-2334; ISSN Online – 2454-2342*

**RESEARCH ARTICLE**

# Role of diagnostic hysteroscopy in abnormal uterine bleeding and its histopathological correlation

**Prashant Bhingare, Sanjaykumar Pagare, Shrinivas Gadappa, Rahul Ashok Ingle**

**Corresponding author: Dr. Rahul Ashok Ingle, Assistant Professor, Department of OBGY, Govt. Medical College & Hospital, Aurangabad, India; Email : rahulingle87@yahoo.in**



## ABSTRACT

**Objectives:** This study has been taken up to analyze the role of hysteroscopy in the evaluation of abnormal uterine bleeding (AUB) in terms of accuracy of hysteroscopic findings and contribution of the procedure to clinical diagnosis **Methods:** Prospective observational study at a tertiary care hospital in women undergoing dilatation & curettage for gynaecological complaints. **Results:** 50 Patients who presented with AUB underwent panoramic hysteroscopy and subsequent dilatation and curettage (D & C). Most common age group was 40-49yrs (52%). Most of the patients (56%) had symptoms for 6 months to 1 year and most common presenting symptom was menorrhagia (82%) and polymenorrhea (10%). Hysteroscopy reported 30 patients (60%) as negative view and 20 patients (40%) as abnormal view. The sensitivity, specificity, PPV and NPV for hysteroscopy was 95.23 %, 100 %, 100 % and 96.66 % respectively and for D&C was 61.9 %, 100 %, 100% and 78.37 % respectively. In the present study, in 82% patients; the results of hysteroscopy and curettage were in agreement. **Conclusion:** Hysteroscopy is a safe, reliable and quick procedure in the diagnosis of cases with abnormal uterine bleeding with high sensitivity, specificity and negative predictive value.

**Keywords:** Hysteroscopy, dilatation and curettage, menorrhagia.

Abnormal uterine bleeding is defined as any type of uterine bleeding in which the duration, frequency or amount is excessive for an individual patients. Almost one third of gynecological consultation and two-thirds of hysterectomies are due to abnormal uterine bleeding (AUB)[1]. The prevalence of abnormal uterine bleeding (AUB) is estimated to be 11-13% in the general population & affects 10-30% of women from reproductive age group and up to 50% of perimenopausal age groupwomen.[2] Incidence of AUB varies according to age and reproductive status of the women. Incidence increases as age of woman increased, reaching 24% in those aged 36-40 years.[3] The uterine bleeding has a wide range of diagnostic possibilities and confusion is generated when review and reports fail to outline the diagnostic evaluation of the patient who presents with abnormal uterine bleeding. In women with AUB, with normal to 12 weeks size uterus, the cause often remains obscure [3]. 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. Traditionally ultrasonography and dilatation and curettage (D & C) are most common investigations employed in the evaluation of AUB. Endometrial sampling is considered essential in AUB to confirm the benign nature of the disease and excluding malignancy by histopathological examination.

**Received: 18th June 2020. Peer review completed: 29th July 2020, Accepted: 7th August 2020.**

Bhingare P, Pagare S, Gadappa S, Ingle RA. Role of diagnostic hysteroscopy in abnormal uterine bleeding and its histopathological correlation. The New Indian Journal of OBGYN. 2021; 7(2): 233-36.

This is important to decide the treatment modality.

Hysteroscopy has ushered a new era in the evaluation of abnormal uterine bleeding. Use of hysteroscopy in abnormal uterine bleeding is almost replacing blind curettage as it " visualize" and "confirm" the cause. A proper use of hysteroscopy to manage AUB adds a new dimension in handling this often perplexing problem. This study has been taken up to analyze the role of hysteroscopy in the evaluation of abnormal uterine bleeding in terms of accuracy of hysteroscopic findings, contribution of the procedure to clinical diagnosis and to correlate hysteroscopic findings with histopathological results.

**Materials and methods**

A prospective observational study was conducted after institutional ethical committee clearance in a tertiary care centre from September 2016 - September 2018, among 50 patients of reproductive, perimenopausal and postmenopausal age group, who were fitting into the inclusion criteria and who gave their consent for participation. A written valid informed consent was taken at the start of the study. The purpose of the study was duly explained and confidentiality of the information thereby obtained was maintained

Inclusion criteria: Patient of reproductive, perimenopausal and post menopausal age group who are admitted with history of abnormal uterine bleeding.

Exclusion criteria:

1) Patients with any demonstrable pelvic pathology like sizeable fibroids,
2) Cancer of cervix, cancer of vagina, cancer of endometrium,
3) Acute pelvic infections,
4) Pregnancy,
5) Unmarried,
6) Puberty menorrhagia
7) Coagulation disorder ,
8) Patient on hormonal drugs like tamoxifen,
9) Patient with active profuse uterine bleeding were excluded from the study.

After applying inclusion and exclusion criteria, participants were evaluated with a proforma designed for the study was used . The routine investigations performed were blood routine, urine routine, blood grouping and Rh typing, BT, CT, HBsAg and pelvic ultra sonography. Other investigations (wherever necessary) LFT, KFT, RBS, ECG. All the patients in the study underwent diagnostic hysteroscopy followed by dilatation and curettage and curetting's were send for histopathological analysis.

Statistical analysis was done by using SPSS (version 19) for windows and data was presented as percentages. P value of $< 0.05$ was considered significant. P value calculated using F test .

**Results and observations**

In present study, panoramic hysteroscopy was performed using 4mm hysteroscope with 30 degree fore oblique lens in 50 patients who presented with abnormal uterine bleeding followed by dilatation and curettage. The curetted endometrium was send for histopathological analysis.

**Table 1: Distribution of patients according to age ( N = 50)**

| Age group | No. of patients | Percentage |
|---|---|---|
| 20-29 | 03 | 06 |
| 30-39 | 17 | 34 |
| 40-49 | 26 | 52 |
| 50-60 | 4 | 08 |

In present study, maximum age incidence was between 40 – 49 yrs, 26 cases (52 %) (table 1). Majority of patients 41 ( 82 % ) presented with menorrhagia (table 2).

**Table 2: Distribution of patients according to clinical presentation and age (N=50)**

| Conditions \ Age group | 20-29 yrs | 30 – 39 yrs | 40 – 49 yrs | 50 – 60 yrs | Total |
|---|---|---|---|---|---|
| Menorrhagia | 2 | 15 | 23 | 1 | 41 |
| Polymenorrhea | 1 | 2 | 2 | 0 | 5 |
| Post-menopausal bleeding | 0 | 0 | 1 | 3 | 4 |
| Total | 3 | 17 | 26 | 4 | 50 |

Among the 50 patients majority: 28 patients (56 % ) had symptoms for 6 months to 1 years, 15 patients (30%) had symptom for less than 6 months and 7 patients (14% ) had symptom for more than 1 years (table 3).

**Table 3: Distribution of patients according to duration of symptoms (N=50)**

| Duration of symptoms | No. of patients (N=50) | Percentage |
|---|---|---|
| < 6 months | 15 | 30% |
| 6 Months - 1 year | 28 | 56% |
| >1 year | 7 | 14% |

Abnormal findings were seen in 20 patient (40%) while in remaining 30 patients (60%) no abnormality was detected (negative hysteroscopic view) (table 4).

**Table 4: Distribution of patients according to findings at hysteroscopy**

| Hysteroscopic findings | No. of patients (N=50) | Percentage |
|---|---|---|
| Normal endometrium | 30 | 60% |
| Endometrial hyperplasia | 7 | 14% |
| Endometrial polyps | 9 | 18% |
| Submucous myoma | 3 | 6% |
| Endometrial atrophy | 1 | 2% |

Of 37 normal cases (74%) reported on histopathology 13 cases had abnormal findings, most common was endometrial hyperplasia in 8 cases (16 % ) (table 5).

In all patients vomiting subside by its own. No medication was required. Also bleeding per vaginum, subside by its own. No medication was required.

**Table 5: Distribution of patients according to findings at endometrial histopathology (N=50)**

| Histopathology findings | No. of patients (N=50) | Percentage |
|---|---|---|
| Normal | 37 | 74% |
| Endometrial hyperplasia | 8 | 16% |
| 1. Cystic | 5 | |
| 2. Simple | 1 | |
| 3. Atypical | 1 | |
| 4. Adenomatous | 1 | |
| Endometrial polyps | 3 | 6% |
| Submucous myoma | 1 | 2% |
| Atrophic endometrium | 1 | 2% |

Both hysteroscopy and curettage were accurate when an abnormality was diagnosed, giving a specificity 100 and positive predictive value (PPV) of 100 (for both) (table 7).

**Table 6: Complications among patients noted postoperatively**

| Complications | No. of cases (N=50) | Percentage |
|---|---|---|
| Vomiting | 10 | 20% |
| Bleeding PV | 1 | 2% |

**Table 7: Comparison of Validities**

| Categories | Hysteroscopy in % | Dilatation and curettage in % |
|---|---|---|
| Sensitivity | 95.23 | 61.9 |
| Specificity | 100 | 100 |
| PPV | 100 | 100 |
| NPV | 96.66 | 78.37 |
| Accuracy | 98 | 84 |

## Discussion

Abnormal uterine bleeding is one of the most frequently encounter condition among patients visiting gynecology OPD. The youngest patient in this study was 24 yrs old and oldest was 60 yrs. Maximum age incidence was between 40 – 49 yrs, 26 cases (52 %). Swati Singh et al [4] found that maximum age incidence was between 31- 40 years in range between 22 - 70 years. V Radha Lakshmi et al [5] reported maximum age incidence between 46-50 years. In Gazal Garg et al [6] series among 60 patient commonest age incidence was between 46-55 years. Parul Sinha et al [7] reported that mean age of patients was 36.4 ± 7.6 years.

As shown in table number 2, majority of patients 41 ( 82 % ) presented with menorrhagia. Second commonest group had polymenorrhea 5 patients ( 10 % ). There were 4 cases ( 8 % ) with postmenopausal bleeding. Swati Singh et al [4] series had 32 % cases of menorrhagia followed by polymenorrhagia and oligomenorrhoea; in V Radha Lakshmi et al [5] series menorrhagia was the most common bleeding pattern observed in 55%, followed by polymenorrhagia in 13% of cases; in Gazal Garg et al [6] series menorrhagia was seen in 43% of cases followed by polymenorrhagia. Parul Sinha et al [7] reported that 66.1 % cases of menorrhagia, 30.4 % polymenorrhoea and 3.6 % intermenstrual bleeding.

Of the 20 cases with abnormal findings on hysteroscopy, commonest seen was endometrial polyp ( 9 cases, 18 % ) followed by endometrial hyperplasia ( 7 cases, 16 % ), followed by and submucous myoma (3 cases, 6%) and one case (2%) of endometrial atrophy. Swati Singh et al [4] found endometrial hyperplasia in 26%, endometrial polyp in 8 % and submucous myoma in 7% of cases. V Radha Lakshmi et al [5] found endometrial hyperplasia in 20%, endometrial polyp in 13% and submucosal myoma in 11% of cases; Gazal Garg et al [6] found that endometrial polyps were most common cause of AUB, comprising 26.67% of total cases, followed by submucous myoma attributing to 23.33% of cases, fuctional endometrium with normal appearance was seen in 18.33% of the cases, followed by endometrial hyperplasia in 11.66%; Parul Sinha et al [7] found endometrial polyp in 16.1% and submucous myoma in 10% of cases.

As shown in table 7, the ability to diagnose a lesion (sensitivity) was more with hysteroscopy in comparison to dilatation and curettage (95.23 v/s 61.9), while a negative diagnosis was less wrongly made with hysteroscopy (NPV 96.66 v/s 78.37). In present study hysteroscopy missed the diagnosis of 1 case of endometrial hyperplasia. The accuracy of hysteroscopy in this study was 98% and that of endometrial histopathology was 84%.

## Conclusion

Hysteroscopy is a safe, reliable and quick procedure in the diagnosis of cases with abnormal uterine bleeding with high sensitivity, specificity and negative predictive value. This study confirms that hysteroscopy is superior to curettage in evaluating patients with abnormal uterine bleeding.

**Conflict of interest:** None. **Disclaimer:** Nil.

## References


1. Van Dongen H, de Kroon C, Jacobi C, TRimbos B, Jansen F. Diagnostic hysteroscopy in abnormal uterine bleeding: a systematic review and meta-analysis. BJOG 2007; 114: 664-75.
2. Hatasaka H. The evaluation of Abnormal Uterine Bleeding. Clinical Obstet Gynaecol. 2005; 48(2): 258-73.
3. Erik Qvigstad I. Current treatment options for abnormal uterine bleeding:an evidence – based approach. Best Practice & Research Clinical Obstetrics and Gynecology. 2007; 21(6): 905-13.
4. Singh S, Taneja BK, Singh P, Ahlawat R. Int J Reprod Contracept Obstet Gynecol. 2014; 3(3): 544-51.

5. Radha Laxmi V, Sunitha C, Sofia Sowjanya M. Role of Diagnostic Hysteroscopy in Abnormal Uterine Bleeding and its Histopaathological correlation. Indian Journal of Applied Reserch. 2015; 5(3): 2249-555X .
6. Garg G, Agrawal K, Sanghi S. A study of the Role of Hysteroscopy in Abnormal Uterine Bleeding. Journal of Gynecologic surgery. 2017; 33(6): 226-30.
7. Sinha P, Yadav N, Gupta U. Use of Hysteroscopy in Abnormal Uterine Bleeding: An Edge Over Histopathological Examination. J Obstet Gynaecol India. 2018 Feb; 68(1): 45-50.

**Prashant Bhingare[1], Sanjaykumar Pagare[2], Shrinivas Gadappa[3], Rahul Ashok Ingle[4]**

[1] Associate Professor, Department of OBGY, Govt. Medical College & Hospital, Aurangabad, India;
[2] Assistant Professor, Department of OBGY, Govt. Medical College & Hospital, Aurangabad, India;
[3] Professor and Head, Department of OBGY, Govt. Medical College & Hospital, Aurangabad, India;
[4] Assistant Professor, Department of OBGY, Govt. Medical College & Hospital, Aurangabad, India.