

# Role of Hysteroscopy in Evaluation of Abnormal Uterine Bleeding

Deepa lokwani Masand<sup>1</sup>, Shivani<sup>2</sup>

## ABSTRACT

**Introduction:** Abnormal uterine bleeding is the most common complaint in gynaecology and an important source of morbidity. One third of all gynaecological consultations are because of abnormal uterine bleeding. AUB is a common clinical presentation it accounts to 35% of office visits and 25% of gynecologic surgeries. This study evaluates the role of hysteroscopy in the diagnosis of abnormal uterine bleeding and its histopathological correlation.

**Material and Methods:** 110 patients with AUB who got admitted in the department of obstetrics and gynaecology in NIMS Medical College and Hospital Jaipur were subjected to panoramic hysteroscopy and subsequent dilatation and curettage. Data were collected and analysed.

**Results:** AUB was more common in 30-39 years. Most common complaint was menorrhagia. Abnormalities were seen as endometrial hyperplasia, polyps, submucous myoma and intrauterine adhesions. Both hysteroscopy and curettage were accurate and specificity of 96% and positive predictive value of 97%. But sensitivity was more with hysteroscopy than curettage. Hysteroscopy revealed more information than curettage.

**Conclusion:** This study concludes that hysteroscopy is superior to dilatation and curettage in evaluating patients with abnormal uterine bleeding.

**Keywords:** hysteroscopy, D&C, Abnormal uterine bleeding, histopathology, Menorrhagia.

## INTRODUCTION

Menstrual dysfunction is the cause of discomfort, inconvenience and disruption of healthy lifestyle, which affects millions of women in both developed and developing world.<sup>1</sup> Abnormal uterine bleeding (AUB) is defined as any type of bleeding in which the duration, frequency, or amount is excessive for an individual patient.<sup>2</sup> AUB is a common clinical presentation it amounts to 35% of office visits and 25% of gynecologic surgeries.<sup>3</sup> The spectrum of conditions which may lead to AUB include endocrinological disorders on one side to malignancy on other hand and hence it is vital to diagnose the cause of bleeding.

The most commonly used procedure traditionally is dilatation and curettage, which is a blind procedure.<sup>4</sup> Ultrasonography clearly depicts the uterine contour and status of the ovary but fails to provide adequate information regarding the endometrium<sup>5</sup>. Whereas hysteroscopy is a newer method it permits direct visualization and assessment of endocervical and uterine cavities and hence proving a reliable method of diagnosing intrauterine abnormalities, it is a gold standard technique as it sees and decide the cause.<sup>6</sup>

### Materials and methods

A prospective study was conducted in the department of obstetrics and gynaecology at the NIMS medical college Jaipur. Ethical clearance was taken from the institutional ethical clearance board. A total 110 patients who gave informed

consent were included in the study with complaints of abnormal uterine bleeding attended obstetrics and gynaecology opd. Sample size was collected using the formula:

$$N = \frac{4pq}{L^2}$$

P = prevalence (12.5%), q = 100-p

**Inclusion criteria:** All women in reproductive age group.

**Exclusion criteria:** Pregnancy/Abortion / Ectopic pregnancy, patients with coagulation disorders, patients with severe anaemia due to menorrhagia or patients with profuse bleeding, uterine and cervical infections and PID, lower genital tract malignancy, STD's and vaginitis, medical contraindications to any invasive procedures

After detailed history and thorough examination investigations and informed consent patients were posted for office hysteroscopy. Endometrial samples were taken from abnormal sites and followed by endometrial biopsy and it is correlated with histopathology.

## STATISTICAL ANALYSIS

SPSS version 21 was used for statistical analysis. Only descriptive statistics were used to infer results.

## RESULTS

In the present study, patients ranged from 21-60 years. Study maximum age incidence is between 31-40 years (43.64%) followed by 41-50 years (37.27%). Among 110 patients majority of cases were multipara 50.91% followed by 24.55% were primipara and 22.73% were grandmultipara. 50% had abnormal uterine bleeding for 6 months to 1 year duration. 35.45% had 3 to 6 months duration, 13.64% had 12 to 18 months and 0.91% had 18 to 24 months.

We observed that 40% cases presented with heavy menstrual bleeding (HMB), 34.55% presented with heavy and prolonged menstrual bleeding, 19.09% with frequent cycles. Infrequent cycles corresponds to 5.45% and intermenstrual bleeding corresponds to 0.91% cases. We observed abnormal findings in 53.63%, while in 46.37% no abnormality was detected (negative hysteroscopic view)

Endometrial hyperplasia (39 cases, 35.45%) was the most common abnormal finding followed by polypoidal endometrium with mucosal polyp (7 case, 6.36%). There were 3 cases (2.73%) of submucous myoma, 2 cases (1.82%) each of carcinoma endometrium, cervical polyp, synechia and tubercular endometrium. 1 case (.91%) each of misplaced IUCD

<sup>1</sup>Professor and Unit Head, <sup>2</sup>PG student, Department of Obstetrics and Gynecology, NIMS Medical College, Jaipur, Rajasthan, India

**Corresponding author:** Dr Shivani, House no 38, Sector 9 Near Vinay Vatika, Hanumangarh Junction, Rajasthan 335512, India.

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and calcified endometrium.

**DISCUSSION**

Abnormal uterine bleeding is a common problem observed in women of reproductive age group. In present study, the maximum incidence of AUB was 43.64% in 31-40 years of age group. Parous women have greater menstrual blood loss than nulliparous women. The most common complaint in present study Table 2 was HMB which was seen in 40% of study population, followed by heavy and prolonged menstrual bleeding in 34.55% of patients. Duration of ailments was table 1 6 months to 12 months in around 50% of patients and it was 3 months to 6 months duration for 35.46% patient. Proliferative endometrium appears on hysteroscopy as pink, smooth and thin endometrium. The diagnostic accuracy of hysteroscopy for proliferative endometrium was 80.00%.

Duration	No.	%
3-6 Month	39	35.45
6-12 Month	55	50
12-18 Month	15	13.64
18-24 Mont	1	0.91
Total	110	100

**Table-1:** Duration of complaints

Complaints	No. of patients	Percentage
HMB	44	40%
HPMB	38	34.55%
Frequent	21	19.09%
Infrequent	6	5.45%
Inter menstrual bleeding	1	0.91%
Total	110	100.00

**Table-2:** Complaints of patients

In Endometrial hyperplasia the endometrium appeared to be thickened, edematous and undulating, irregular glandular opening. So in table 4 diagnostic accuracy of hysteroscopy for hyperplasia was 86.36%, sensitivity (90%), specificity (85%), PPV (69.23%), NPV (95.77%) of hysteroscopy for hyperplasia, similar results were noted in study by Ioverro et al<sup>7</sup> sensitivity of hysteroscopy for endometrial hyperplasia was 98% and PPV was 63%. Endometrial polyps are diagnosed as small growths in the uterine cavity, which are soft, oval, pedunculated with a smooth surface. So diagnostic accuracy of hysteroscopy for polyp was 97.27% similarly sensitivity for endometrial polyp was 100% in a study by Razzaq et al.<sup>8</sup> Diagnostic accuracy of hysteroscopy for myoma was 99.09%. Submucosal myomas are white-coloured bulge, round in shape with a smooth surface.

The diagnostic accuracy of hysteroscopy for endometrial carcinoma was 99.09%. Al Adami MS<sup>9</sup> has noted the sensitivity of hysteroscopy for endometrial carcinoma is 100%. The sensitivity (100%), specificity (99.08%), PPV(50%), NPV(100%) of hysteroscopy for endometrial carcinoma. Endometrial carcinoma appears as polypoid growth, with areas of ulceration, hemorrhage and increased vascularity. Hysteroscopy had 100% sensitivity, specificity, PPV, NPV and diagnostic accuracy 98.18% for tubercular endometrium. Tubercular endometrium appears as presence of tubercles and caseous material in uterine cavity, Singh S et al<sup>10</sup> the diagnostic accuracy of hysteroscopy was 100%

For benign and localized endometrial lesions like polyps, hysteroscopic resection should be the first choice in the treatment of such lesions. It not only avoids unnecessary major surgeries but also improves the Quality of life of the patients. With experienced hands, diagnostic accuracy of hysteroscopy is increased and the rate of complications is very low.

Hysteroscopy	HPE								Total
	Ca Endometri-um	Irrg Shedd	Myoma	Polyp	Prolif-ferative	Secre-tory	Tuber-cular	Hyper-plasia	
Ca Endo	1							1	2
Calcified					1				1
Hyperplasia		1			7	4		27	39
Misplaced IUCD						1			1
Polyp				6	2	1			9
Proliferative					32	1		2	35
Secretory					6	10			16
Synechaie					2				2
Tubercular							2		2
Myoma			2		1				3
Total	1	1	2	6	51	17	2	30	110

**Table-3:** Hysteroscopic finding and histopathological diagnosis

Hysteroscopy	Sensitivity	Specificity	PPV	NPV	Diagnostic Accuracy
Ca Endo	100.00	99.08	50.00	100.00	99.09
Hyperplasia	90.00	85.00	69.23	95.77	86.36
Polyp	100.00	97.12	66.67	100.00	97.27
Proliferative	62.75	94.92	91.43	61.33	80.00
Secretory	58.82	93.55	62.50	92.55	88.18
Tubercular	100.00	100.00	100.00	100.00	100.00
Myoma	100.00	107/108	66.67	100.00	99.09

**Table-4:** Diagnostic accuracy of hysteroscopy

Since Hysteroscopy is certainly the most accurate, cost effective diagnostic and treatment modality of choice for many intrauterine conditions, it should be the essential skill of all Gynecologists.

This study highlights “Hysteroscopy and its directed biopsy with Histopathological examination” will be the “new gold standard technique” for evaluation of abnormal uterine bleeding.

## CONCLUSION

Diagnostic hysteroscopy is currently a widely accepted, simple, feasible and highly sensitive diagnostic tool for the visualization of endometrial cavity with excellent image quality and magnification in patients with abnormal uterine bleeding. It is a valuable and minimally invasive technique which helps in identifying areas with most suspicious appearance where targeted biopsy can be taken.

This is a far more accurate form of diagnosing any intrauterine pathology than blind D and C which often may miss small lesions. Adequate diagnosis is mandatory for selection of appropriate treatment of any women with abnormal uterine bleeding.

It allows more rapid diagnosis of abnormal uterine bleeding and early detection of endometrial abnormalities such as hyperplasia or even carcinoma. Since the diagnostic accuracy of endometrial hyperplasia by hysteroscopy is not uniform and satisfactory, it has to be confirmed with histopathological examination.

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