



## ROLE OF DIAGNOSTIC HYSTEROSCOPY AND ULTRASONOGRAPHY IN AUB

### Gynaecology

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### ABSTRACT

Abnormal uterine bleeding (AUB) is one of the most common presenting symptom in gynecological outpatient. It affects women of all age groups. AUB has significant social and economic impacts on women. The cause of AUB are numerous and includes systemic, anatomical and hormonal disturbances. The common investigations for diagnosis of AUB are ultrasonography and dilatation and curettage which being a blind procedure may miss the focal lesion inside endometrial cavity. Diagnostic hysteroscopy has been found to be safe, highly sensitive procedure that provides useful information about the uterine cavity. The objective of present study is to evaluate the role of hysteroscopy and comparing the findings with USG in the diagnosis of abnormal uterine bleeding.

**Methods:** A prospective study of 30 cases presenting with abnormal uterine bleeding carried out from November 2019 to April 2020 in the department of Obstetrics and Gynaecology S.M.G.S hospital, GMC Jammu. Clinical diagnosis with ultrasonography and hysteroscopic findings were assessed and analysed.

**Results :** Comparing findings of hysteroscopy with that of transvaginal ultrasonography, it was found that the value of kappa was found to be 0.79 which shows that there is substantial agreement between the findings.

**Conclusion:** Hysteroscopy is an effective tool to diagnose uterine cavity lesions in abnormal uterine bleeding.

### KEYWORDS

Abnormal uterine bleeding, heavy menstrual bleeding, transvaginal ultrasonography, Diagnostic hysteroscopy.

### INTRODUCTION :

Abnormal uterine bleeding (AUB) may be defined as any variation from the normal menstrual cycle includes change in regularity or frequency of menses or in duration of flow or amount of blood loss<sup>1</sup>. AUB is one of the most common presenting symptom in gynecological outpatient. The prevalence varies in each country. In India, the reported prevalence of AUB is around 17.9%<sup>2</sup>. It accounts for about 30% patients in reproductive age group<sup>3</sup> and 70% in the perimenopausal and postmenopausal age group out of all gynecological consultations<sup>4</sup>. Abnormal uterine bleeding occurs in 9 to 14% of women between menarche and menopause thus imposing social and financial burden and affect quality of life<sup>5</sup>. The differential diagnosis of abnormal uterine bleeding is heterogeneous including systemic, anatomical and hormonal causes as well. A careful history, physical examination and pelvic examination help in making a clinical diagnosis complemented by investigations like imaging and dilatation and curettage (D&C). Ultrasonography helps in the diagnosis of fibroid, adenomyosis, polyps, uterine anomalies, and thickened endometrium<sup>6</sup>. Dilatation and curettage is the gold standard for diagnosis of pathological causes in AUB but being a blind procedure about 10% lesion may be missed by it<sup>7,8</sup>. Moreover it is an invasive procedure. D & C can be associated with adhesion formation and perforation.

Hysteroscopy is a safe, highly sensitive procedure that provides useful information about the uterine cavity. It is a good method for the evaluation of patients with AUB, due to the fact that the uterine cavity and intrauterine pathology are directly visualised. It gives an opportunity to take the biopsy of the endometrium at the same time. It is also a therapeutic instrument. Office hysteroscopy does not require admission and anaesthesia, outpatient day care procedure can be done. Ultrasonography (USG) and hysteroscopy are especially needed where history and examination of patient suggests structural causes for bleeding especially when medical treatment has failed.

### Objective :

The objective of this study was to evaluate the role of hysteroscopy in diagnosing cause of abnormal uterine bleeding and compare the findings of hysteroscopy and USG.

### Methods:

The current study was a Prospective study carried out in the postgraduate department of Obstetrics and Gynaecology at S.M.G.S hospital, Government Medical College Jammu from November 2019 to April 2020 in a total no. of 30 cases. Patients who underwent

diagnostic hysteroscopy for the complaint of AUB in Perimenopausal women and Postmenopausal women in our department were included in this study. Patients with Pregnancy test positive, Cases of unhealthy cervix, Coagulation disorders were excluded from the study. Data was collected from patient's history of menstrual abnormalities and other relevant related history, clinical examination which includes general, systemic and gynaecological examination to reach a clinical diagnosis and exclude the extrauterine cause. All these patients underwent routine investigations, transvaginal ultrasonography and hysteroscopy. All hysteroscopies were done after taking the informed consent with a hysteroscope of 5mm outer diameter and 30 degree foroblique angle, under intravenous sedation. The medical records along with ultrasonographic findings and hysteroscopic findings were taken for analysis of results.

### RESULTS :

A total of 30 cases were taken during a study period of 6 months.

**Table no 1. Age distribution (n=30)**

| Age(years) | No. of patients | %    |
|------------|-----------------|------|
| 45 to 50   | 24              | 80   |
| 50 to 55   | 2               | 6.7  |
| Above 55   | 4               | 13.3 |

Most common age group was 45 to 50 years (80%).

**Table no 2. Parity distribution (n=30)**

| Parity           | No. of patients | %    |
|------------------|-----------------|------|
| Nulliparous      | 3               | 10   |
| Multiparous      | 20              | 66.7 |
| Grandmultiparous | 7               | 23.3 |

Multiparous women were the main group (66.7%). Most of the patients presented with duration of symptoms less than 6 months (70%).

**Table 3 Clinical presentation (n=30)**

| Symptoms                               | No. of patients | percentage |
|----------------------------------------|-----------------|------------|
| Heavy menstrual bleeding               | 11              | 36.7%      |
| Intermenstrual bleeding                | 3               | 10%        |
| Irregular and Heavy menstrual bleeding | 7               | 23.3%      |
| Frequent cycles                        | 3               | 10%        |
| Postmenopausal bleeding                | 6               | 20%        |

Heavy menstrual bleeding was the main complaint (36.7%) with which patients presented to hospital.

**Table 4 Hysteroscopic findings (n=30)**

| Hysteroscopy            | Number | %     |
|-------------------------|--------|-------|
| Proliferative           | 10     | 33.3% |
| Secretory               | 5      | 16.7% |
| Endometrial hyperplasia | 9      | 30%   |
| Endometrial polyp       | 4      | 13.3% |
| Submucosal myoma        | 2      | 6.7%  |

Most common finding on hysteroscopy was proliferative endometrium (33%). Most common pathological lesion was endometrial hyperplasia (16.7%) where as other lesions were endometrial polyp and submucosal myoma which was seen in 13.3% and 6.7% patients respectively.

**Table 5 Comparison of clinical presentation with findings on ultrasonography and hysteroscopy (n=30)**

| Symptoms                | Ultrasonography |          | Hysteroscopy |          |
|-------------------------|-----------------|----------|--------------|----------|
|                         | Normal          | Abnormal | Normal       | Abnormal |
| Menorrhagia             | 5               | 6        | 6            | 5        |
| Metorrhagia             | 2               | 1        | 2            | 1        |
| Menometorrhagia         | 6               | 1        | 6            | 1        |
| Polymenorrhea           | 3               | 0        | 3            | 0        |
| Postmenopausal bleeding | 2               | 4        | 0            | 6        |

**Table 6 Comparison of findings on ultrasonography and hysteroscopy (n=30)**

|              | Hysteroscopy abnormal | Hysteroscopy normal | Total |
|--------------|-----------------------|---------------------|-------|
| USG abnormal | 11                    | 1                   | 12    |
| USG normal   | 2                     | 16                  | 18    |
| Total        | 13                    | 17                  | 30    |

Ultrasonography could detect pathological lesion in 12/30 (40%) and hysteroscopy could detect pathological lesion in 13/30 (43.3%). There was only 1 patients in which ultrasonography showed abnormal finding but hysteroscopy showed normal finding. There were 2 patients in which ultrasonography was normal but hysteroscopy showed abnormal findings.

To study the agreement between USG based findings and hysteroscopy based findings we calculated the kappa statistics. The value Kappa was found to be 0.79 which shows that there is substantial agreement between the findings from ultrasonography and hysteroscopy.

## DISCUSSION

It was observed that the most common indication of hysteroscopy in our study was heavy menstrual bleeding (36.7%) which was similar to the study conducted by Aisha Razzaq et al.<sup>9</sup>, in which 39% women presented with menorrhagia and 7.5% had postmenopausal bleeding.

In our study the abnormal hysteroscopic finding was seen 43.3% where as abnormal hysteroscopic findings were 80% in the study of Lasmar et al.<sup>8</sup>, 80%, and 69% in study of Sunitha et al.<sup>10,11</sup> In this study, most common hysteroscopic finding was proliferative endometrium which was seen in 33.3% of patients. Where as the most common finding in AUB patients who underwent hysteroscopy was endometrial polyp (20.5%) in the study of Sonja PTD et al.<sup>1</sup> In the study of Lasmar et al.<sup>10</sup> Endometrial polyps were reported in the hysteroscopic impression in 13.3% of the examinations. In other studies also most common abnormality detected was endometrial polyp as the abnormal hysteroscopic finding like 32.5% Raquel et al. and 37.6% Cordeiro et al.<sup>12,13</sup> where as most common abnormal hysteroscopic finding in our study was endometrial hyperplasia (30%). Comparing findings of hysteroscopy with that of transvaginal ultrasonography the value of Kappa was found to be 0.79 which shows that there is substantial agreement between the findings from USG and Hysteroscopy. Some studies have found kappa value to be 0.898 comparing TVS and hysteroscopy findings, indicating very good strength of agreement between TVS and hysteroscopy for assessment of the uterine cavity in patients with AUB<sup>14</sup>.

## CONCLUSION:

The most common type of presenting symptom was heavy menstrual bleeding and most common hysteroscopic finding was proliferative

(AUB-0). Since there is a substantial agreement between the findings of USG and Hysteroscopy, both of the modalities should be used to evaluate the causes of abnormal uterine bleeding. Diagnostic hysteroscopy is an effective tool to diagnose intrauterine lesions in AUB.

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