

THE ROLE OF DIAGNOSTIC HYSTEROSCOPY IN EVALUATION OF ABNORMAL UTERINE BLEEDING IN RELATION TO HISTOPATHOLOGY

Rubina Akhtar¹, Sanodia Afridi¹, Mushtaq Ahmad², Irshad Ahmad³

¹Department of Gynae & Obs, HMC, Peshawar.

²Department of Ophthalmology, HMC, Peshawar

³IBMS, KMU

Address for

correspondence :

Dr. Rubina Akhtar

Gynae & Obs, HMC, Peshawar.

Cell # +92 300 9339930

Email: rubinatk@hotmail.com

ABSTRACT

Introduction: In women aging above 40 years, abnormal uterine bleeding (AUB) is a common occurrence. It accounts as the reason for approximately 25% of total gynaecological surgical procedures executed by a gynaecologist. The spectrum of conditions responsible for abnormal uterine bleeding is wide and may include endocrinological complaints on one end to malignancy on the other. Abnormal uterine bleeding adversely affect the general well-being of a women and so as her efficiency. AUB is responsible for more than one-third of gynecologic consultations and nearly two-thirds of hysterectomies. It is estimated that a woman has a 1 in 20 lifetime chance of consulting her gynaecologist because of heavy menstrual bleeding. Hence it is very much essential to establish the cause of bleeding.

Objective: The intention of this study is to probe the efficacy of hysteroscopy as a tool to appraise the reasons of abnormal uterine bleeding and correlate the outcomes with those of histopathology.

Methodology: This descriptive study was carried out at the department of Obstetrics and Gynecology Unit "C" Hayatabad Medical Complex, Peshawar from January to December 2017. A total of 76 women having age range of 21 to 60 years admitted through Out Patient Department with complaints of abnormal uterine bleeding (AUB) not requiring emergency management were made part of the study. All the data was collected with the consent of all the participants. After admission to the hospital and taking detailed history followed by thorough examination and investigations, patients were sent for diagnostic hysteroscopy. Hysteroscopic findings were tabulated and analyzed using Statistical Package for Social Sciences (SPSS) Version16.

Results: In the course of study period, 76 patients satisfying the inclusion criteria were grouped in the age ranging from 21 to 60 years and the highest prevalence of abnormal uterine bleeding (38.16%) was observed in women aging from 41 to 50 years. Menorrhagia was the most common cause of AUB with noted frequency of 39.47% followed by metrorrhagia (21.05%), menometrorrhagia (13.16%) and polymenorrhea (14.47%). Both hysteroscopic and histopathological outcomes were identical for nearly all the pathologies except for slightly higher detection rate of hyperplasia, polyp and fibroid deduces through hysteroscopy.

Conclusion: Hysteroscopy assisted with endometrial biopsy is a safe and reliable diagnostic tool for evaluating patients of abnormal uterine bleeding and accurately detecting conditions such as endometrial polyps, fibroids and endometrial hyperplasia.

Key words: Hysteroscopy, abnormal uterine bleeding, histopathology, abnormal pathology, Hyperplasia

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INTRODUCTION

In women aging above 40 years, abnormal uterine bleeding (AUB) is a common occurrence. It accounts as the reason for approximately 25% of total gynaecological surgical procedures executed by a gynaecologist.¹ The spectrum of conditions responsible for abnormal uterine bleeding is wide and may include endocrinological complaints on one end to malignancy on the other. However, Federation of International Gynecology and Obstetrics (FIGO) has classified it into 9 groups, abbreviated as PALM-COEIN5. Each of the alphabet represent one group i.e. polyp; adenomyosis; leiomyoma; malignancy & hyperplasia; coagulopathy; ovulatory dysfunction; endometrial; iatrogenic; and not classified yet. Abnormal uterine bleeding adversely affect the general well-being of a women and so as her efficiency.² AUB is responsible for more than one-third of gynecologic consultations and nearly two-thirds of hysterectomies.³ It is estimated that a woman has a 1 in 20 lifetime chance of consulting her gynaecologist because of heavy menstrual bleeding.⁴ Hence it is very much essential to establish the cause of bleeding. Several methods are available to establish the cause of AUB including Dilatation and Curettage (D & C), sono-hystero-graphy and hysteroscopy. The prime objective of the clinical assessment of AUB is to determine an unequivocal diagnosis in the most proficient and minimal disturbing way.⁶ The procedure traditionally used to evaluate AUB is Dilatation & Curettage. However since this procedure require physical intervention which causes discomfort to the patient, it is no more a preferred choice to be used as an exploratory tool. Additionally, because D & C is a blind procedure, it has the tendency of giving a diagnostic inaccuracy to the extent of 10 to 25%.⁷ Other diagnostic procedures such as trans-vaginal sonography (TVS), though being non-invasive, provide only a preliminary assessment of the conditions which needs further confirmation through use of more advanced and accurate methods.⁸⁻¹⁰ In comparison to dilatation & curettage, hysteroscopy is not a blind procedure and can be effectively used as an OPD procedure. Because Hysteroscopy allow direct visualization and appraisal of the endocervical and uterine cavity, it proves to be a dependable method of assessing intrauterine abnormalities.¹¹ It is this reason that hysteroscopy has almost replaced the blind curettage. In fact, hysteroscope can be regarded as an eye in the uterus allowing the gynecologist to “see” and decide the “cause”. Considering these benefits, hysteroscopy looks to be a handy tool in establishing the causes of abnormal uterine bleeding.⁷

Our study is an effort to probe the efficacy of hysteroscopy in appraisal of abnormal uterine bleeding and correlating the outcomes with those of histopathology.

METHODOLOGY

This descriptive study was carried out at the department of Obstetrics and Gynecology Unit “C” Hayatabad Medical Complex, Peshawar from January to December 2017.

A total of 76 women having age range of 21 to 60 years admitted through OPD with complaints of AUB not requiring emergency management were made part of the study. Pregnant women or those having history of cervicitis, vaginitis and endometritis, patients on OC pills or those contraindicated to any intrusive procedures were excluded from the scope of this study. Prior approval of institutional ethical committee was obtained to conduct this study. Data was collected with informed consent of all the participants.

After admission to the hospital and taking detailed history followed by thorough examination and investigations, patients were sent for diagnostic hysteroscopy. The hysteroscopy was carried out on all women in the OT set up. Following dilating the cervix through serial dilatation with Hegar's dilators, a rigid hysteroscope (7 mm) was used to complete the hysteroscopy. Normal saline was used as distending medium. Samples for endometrial biopsy were obtained using biopsy forceps /scissors/ which were referred for histopathological examination. All the patients were kept in the ward for a minimum of 6 hours after the surgery and then discharged.

All the information were obtained using a structured data collection proforma and then analysed through Statistical Package for Social Sciences (SPSS) Version 16.

RESULTS

In the course of study period 76 patients satisfying the inclusion criteria were grouped in the age limit of 21 to 60 years and the highest prevalence of abnormal uterine bleeding (38.16%) was observed in women aging from 41 to 50 years.

Table-1: Age grouping

| Age (years) | Nos. | %age |
|--------------|-----------|-------------|
| 21-30 | 8 | 10.53% |
| 31-40 | 18 | 23.68% |
| 41-50 | 29 | 38.16% |
| 51-60 | 21 | 27.63% |
| Total | 76 | 100% |

Table-2: Clinical Presentation

| Age (years) | Nos. | %age |
|-------------------------|-----------|-------------|
| Menorrhagia | 30 | 39.47% |
| Metrorrhagia | 16 | 21.05% |
| Menometrorrhagia | 10 | 13.16% |
| Polymenorrhea | 11 | 14.47% |
| Postmenopausal bleeding | 9 | 11.84% |
| Total | 76 | 100% |

With regard to symptoms, menorrhagia was the most common cause of AUB with noted frequency of 39.47% followed by metrorrhagia (21.05%), menometrorrhagia (13.16%) and polymenorrhea (14.47%) and postmenopausal bleeding (11.84%). (Table - 2)

| Type of AUB | Hysteroscopic findings | | | | | | No. of Abnormalities detected | Total No. of Patients | %age |
|-------------------------|------------------------|-----------|-----------|-------------|------------|----------|-------------------------------|-----------------------|-------------|
| | Normal | Polyp | Fibroid | Hyperplasia | Malignancy | Atrophy | | | |
| Menorrhagia | 4 | 8 | 6 | 12 | - | - | 26 | 30 | 39.47% |
| Metrorrhagia | 8 | 4 | 2 | 2 | - | - | 8 | 16 | 21.05% |
| Menometrorrhagia | 2 | 2 | 2 | 4 | - | - | 8 | 10 | 13.16% |
| Polymenorrhea | 11 | - | - | - | - | - | - | 11 | 14.47% |
| Postmenopausal bleeding | - | - | - | - | 4 | 3 | 9 | 9 | 11.84% |
| Total | 25 | 14 | 11 | 19 | 4 | 3 | 51 | 76 | 100% |

On hysteroscopy, 25 (32.89%) of the women had normal hysteroscopic findings. Amongst the remaining 50 (67.11%) women reported with abnormal findings, 19 (25%) women were diagnosed for hyperplasia, 14 (18.42%) for polyps, 11 (14.47%) for fibroids, 4 (5.26%) for malignancy and 3 (3.95%) for atrophy. (Table-3)

Table-4: HysteroscopicVs Histopathological findings

| Findings | Hysteroscopy | Histopathology |
|--------------|--------------|----------------|
| Normal | 25 | 29 |
| Polyp | 14 | 13 |
| Fibroid | 11 | 10 |
| Hyperplasia | 19 | 17 |
| Malignancy | 4 | 4 |
| Atrophic | 3 | 3 |
| Total | 25+51 | 29+47 |

On the other hand, on histopathology, 29 (38.16%) had normal findings and amongst the remaining 47 (61.84%) with abnormal findings 13 (17.11%) patients had polyp, 10 (13.16%) patients has fibroids, 17 (22.37%) had hyperplasia, 4 (5.26%) had malignancy and 3 (3.95%) had atrophy. Both hysteroscopic and histopathology conclusions associate well in the cases of polyp, fibroid, atrophy and malignancy, however, hysteroscopy diagnosed marginally higher proportion of patients with hyperplasia. (Table - 4)

Table-5: Precision of hysteroscopy in identification of intrauterine pathology

| Hysteroscopy | Histopathology Abnormal | Histopathology Normal | Total | %age |
|--------------|-------------------------|-----------------------|-------|--------|
| Abnormal | 46 | 5 | 51 | 67.11% |
| Normal | 1 | 24 | 25 | 32.89% |
| Total | 47 | 29 | 76 | |

Out of 51 (67.11%) abnormal hysteroscopic findings, histopathology confirmed abnormal findings for 47 patients. (Table-5)

Table-6: Statistical conclusions of hysteroscopy in diagnosis of AUB

| Statistical Analysis | %age |
|----------------------|--------|
| Sensitivity | 97.87% |
| Specificity | 82.76% |
| PPV | 90.20% |
| NPV | 96.00% |
| Accuracy | 92.11% |

For pathological abnormalities in overall, hysteroscopy had sensitivity, specificity, PPV, NPV and accuracy values of 97.87%, 82.76%, 90.20%, 96.00% and 92.11% respectively. (Table - 6)

DISCUSSION

AUB is a significant problem faced in gynecological practice. Endometrial and uterine abnormalities for instance polyps, fibroids and hyperplasia are more common than previously thought and accurate diagnosis is the key to effectively manage patients suffering from these indications. Historically diagnostic curettage has remained the preferred choice to analyze endometrial abnormalities¹² however hysteroscopy combined with histologic examination have practically replaced curettage and has become the “gold standard” for the assessment of AUB.¹³

In this study, hysteroscopy showed normal pathology in 32.89% patients. In a study, Mukhopadhyay and Ashis¹⁴ testified it to be 32.6% which is identical to our study although different studies have shown that rates of hysteroscopically diagnosed abnormal pathology vary substantially.

This study revealed that from the 76 cases with AUB, 29 (38.16%) patients were in the age limits of 41-50 years with mean age of 43.29 ± 7.78 years. This is in harmony with findings in other studies conducted by Trajkovic's¹⁵ and Paulo Vercillini et al,¹⁶ of Luigi Mangiuzulli University, Italy who found that mean age of women with AUB was 41.5 ± 7.8 years. Similar findings were also reported by Aisha Razzaq et al.¹¹ where the reported mean age was 41.45 ± 8.36 years. The utmost common symptom of hysteroscopy in this

study was menorrhagia presenting in 30 (39.47%) patients and smallest common sign was postmenopausal bleeding witnessed in only⁹ (11.84%) patients. In our study the most common reason of AUB was endometrial hyperplasia 25.00% (n=19) followed by endometrial polyp 18.42% (n=14) and fibroids 14.47% (n=11). These results are consistent to another study conducted by Chaudhari and Sathe¹⁷ in which 27.44% women presented with endometrial hyperplasia and 14.7% reported with endometrial polyp.

Insofar as the extent of detection of different abnormal pathologies is concerned, both hysteroscopic and histopathological findings were found identical for nearly all the pathologies barring slightly higher detection rate of hyperplasia, polyp and fibroid obtained through hysteroscopy.

Hysteroscopy has been reported to have high sensitivity and specificity in recognizing the cause of AUB owing to the reason that uterine cavity and intrauterine pathology can be seen directly. In this study sensitivity, specificity, PPV, NPV and accuracy for hysteroscopy were 97.87%, 82.76%, 90.20%, 96.00% and 92.11% respectively. Similar to findings in our study, Chaudhari and Sathe¹⁷ also stated a high sensitivity and specificity of hysteroscopy for revealing of abnormalities (98.3 and 80.5%, respectively) which is supportive of our findings. In one more study, Nandanet al.¹⁸ established that

hysteroscopy is highly sensitive 92.2% but less specific at 21.2% in detection of abnormal pathologies in comparison to histopathology.

CONCLUSION

Hysteroscopy assisted with endometrial biopsy is a safe and reliable diagnostic tool for evaluating patients of abnormal uterine bleeding and accurately detect conditions such as endometrial polyps, fibroids and endometrial hyperplasia.

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