Section: Obstetrics & Gynaecology

Original Research Article

A DESCRIPTIVE OBSERVATIONAL STUDY TO ASSESS THE DIAGNOSTIC VALIDITY OF HYSTEROSCOPY IN EVALUATION OF ABNORMAL UTERINE BLEEDING IN PERIMENOPAUSAL WOMEN AND ITS HISTOPATHOLOGICAL CORRELATION

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ABSTRACT

Background: The prevalence of abnormal uterine bleeding (AUB) is estimated to be 11-13% in the general population. AUB affects 10-30-% of reproductive age group women and upto 50% of women in perimenopausal age group. Hysteroscopy has emerged as a useful diagnostic procedure that is safe, with a low incidence of clinically significant complications. The accuracy of diagnosis based on hysteroscopic visualization is high for endometrial cancer, but only moderate for other endometrial diseases. **Objectives:** To evaluate the diagnostics validity of hysteroscopy in evaluation of abnormal uterine bleeding and its correlation with histopathological findings.

Materials and Methods: The present descriptive observational study was carried out in department of OBGY involving 85 women of the reproductive age group that underwent hysteroscopy for AUB during the study period from January to December 2024.

Results: We included total 85 perimenopausal women presented with AUB**.** Majority of the women were from 41-45 years age group i.e., 44(51.8%). Commonly observed symptoms were dysmenorrhea in 58.8% and pain abdomen in 18.5%. Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing secretory endometrium was 84.6%, 86.3%, 51% and 98.6% respectively. For diagnosing proliferative endometrium, agreement between hysteroscope and HPR was found in 27 patients.

Conclusion: Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing secretory endometrium was 84.6%, 86.3%, 51% and 98.6% respectively. For diagnosing proliferative endometrium, agreement between hysteroscope and HPR was found in 27 patients.

Key words: Diagnostic validity of hysteroscopy, abnormal uterine bleeding, perimenopausal women, histopathological correlation.

INTRODUCTION

Menstrual ailments are the common manifestation to call for medical visits among women of heavy menstrual bleeding of procreative age. Health‑care system is affected due to this malady, which may lead to having an impact on quality of life that landed up in off time from work.[1] The estimated worldwide prevalence of subjective, self‑defined abnormal uterine bleeding (AUB) varies greatly, from 4% to 52%.[2] In India, AUB is reported to occur in 9% to 14% of women between menarche and menopause. India has a prevalence of AUB which is 17.9% approximately.[2]

Abnormal uterine bleeding is defined as any type of bleeding in which the duration, frequency or amount is excessive for an individual patient. One third of gynaecological consultation is due to Abnormal uterine bleeding (AUB), is responsible for almost

two thirds of hysterectomies. The prevalence of abnormal uterine bleeding (AUB) is estimated to be 11-13% in the general population. AUB affects 10-30-% of reproductive age group women and upto 50% of women in perimenopausal age group.1 Incidence varies with age and reproductive status of the women. Incidence increases with age, reaching 24% in those aged 36-40 years. Endometrial sampling is considered essential in AUB to confirm the benign nature of the disease and excluding malignancy by histopathological examination and its important to decide the treatment modality.[2]

The problem is that 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. Goals of clinical management are primarily dependent upon attaining a correct etiological diagnosis. The history, physical examination and pelvic examination attempt to determine the site of the bleeding and its source.[3] Information gathered from this will suggest what direction the investigation would take and the treatment modality.

Traditionally Ultrasonography and Dilatation and Curettage were the most common investigations employed in the evaluation of the causes of abnormal uterine bleeding. Ultrasonography clearly depicts the uterine contour, any lesion in the myometrium like fibroid and the status of the ovary, but fails to provide adequate information regarding the endometrium. The endometrium pathology like small submucous fibroid, endometrial hyperplasia is missed sometimes by ultrasound.[4] Dilatation and Curettage is a blind procedure done without knowing the exact location of the lesion or the pathology of the endometrium and the endometrium has to be sent to the pathologist to study histological patterns and for the report and it misses the cause in more than 50% of the cases.[5]

Objectives

To evaluate the diagnostics validity of hysteroscopy in evaluation of abnormal uterine bleeding and its correlation with histopathological findings.

MATERIALS AND METHODS

Study setting: Department of OBGY, MIMSR Medical College, Latur, Maharashtra

Study population: All women of the reproductive age group that underwent hysteroscopy for AUB

Study period: January to December 2024

Sampling design: Descriptive observational study

Inclusion Criteria: All the patients who have AUB and underwent hysteroscopic examination and hysteroscopic guided biopsy were registered for inclusion in the study

Methods of data collection

The present descriptive observational study was carried in the Obstetrics and Gynaecology department during the period of January to December 2024. A detail history of complain regarding the duration of abnormal uterine bleeding, number of days bleeding, amount of bleeding [in term of no. of pads], passage of clots [if history of passage of clots than no. of clots and size of clots noted]. Whether associated with pre and post menstrual spotting and dysmenorrhea [If dysmenorrhea present than type of dysmenorrhoea-congestive or spasmodic] and duration of dysmenorrhoea noted. The intermenstrual period will be recorded. Her previous menstrual history recorded in detail in similar manner.

Detailed Obstetric history, history of IUCD insertion, Contraceptive history. Past medical history recorded in detail regarding to Liver and kidney disorder, coagulation disorder, thyroid disorder, hyperprolactinoma and other endocrinal disorder.

History of drug intake especially Hormonal, Anticoagulant therapy was noted down. Any past surgical history recorded. Conduct General Examination of a patient in reference to take Pulse, Blood Pressure, see pallor to rule out degree of anemia noted down.

All the patients have AUB who underwent hysteroscopic examination and hysteroscopic guided biopsy registered for inclusion in the study. Injection TT ½ cc given intramuscularly. Prophylactic antibiotics was given in preoperative and postoperative period. The Hysteroscopic noted down and HPE report of the endometrial Hysteroscopic guided D & C of patient will be recorded and data was analysed.

Statistical analysis and methods

Data was collected by using a structure proforma. Data entered in MS excel sheet and analyzed by using SPSS 24.0 version IBM USA. Qualitative data was expressed in terms of proportions. Quantitative data was expressed in terms of Mean and Standard deviation. Association between two qualitative variables were seen by using Chi square/ Fischer's exact test. A p value of <0.05 was considered as statistically significant.

RESULTS

Table 1: Distribution according to age group

		Frequency	Percent
Age group in years	<40	14	16.5
	41-45	44	51.8
	46-50	16	18.8
	>50	11	12.9
	Total	85	100.0

We included total 85 perimenopausal women presented with AUB. Majority of the women were from 41-45 years age group i.e., 44(51.8%). This is followed by 16 women i.e., 18.8% from 46-50 years age group, 14(16.5%) from less than 40 years and least were from above 50 years age group i.e. 12.9%.

Table 2: Distribution according to menstrual pattern

		Frequency	Percent
Menstrual pattern	Menorrhagia	51	60.0
	Metro menorrhagia	3	3.5
	Polymenorrhagia	31	36.5
	Total	85	100.0

Menstrual pattern of the women revealed that majority had menorrhagia i.e. 60% followed by 36.5% had polymenorrhagia and 3.5% had metro menorrhagia.

Table 3: Distribution according to associated symptoms

		Frequency	Percent
Associated symptom	Back ache	5	7.7
	Breathlessness	7	10.8
	Dysmenorrhea	50	58.8
	Giddiness	10	15.4
	Pain abdomen	12	18.5
	Prolapse	5	7.7
	Weakness	4	6.2
	White discharge	3	4.6

Commonly observed symptoms were as follows: dysmenorrhea 58.8%, pain abdomen 18.5%, giddiness 15.4%, breathlessness 10.8%, back ache 7.7%, prolapse 7.7%, weakness 6.2% and white discharge 4.6%.

Table 4: Sensitivity, specificity, PPV and NPV of hysteroscopy in comparison with HPR (gold standard)

Findings	Sensitivity	Specificity	PPV	NPV
Proliferative (n-53)	74.5%	82.6%	83%	74.6%
Secretory (n-12)	84.6%	86.3%	51%	98.6%
Hyperplastic (n-36)	55.2%	95.78%	77.5%	91.3%
Polyps (n-22)	71.6%	99.6%	99.5%	95.6%

Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing proliferative endometrium was 74.5%, 82.6%, 83% and 74.6% respectively. Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing secretory endometrium was 84.6%, 86.3%, 51% and 98.6% respectively. Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing hyperplastic endometrium was 55.2%, 95.78%, 77.5% and 91.3% respectively. Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing polyp was 71.6%, 99.6%, 99.5% and 95.6% respectively.

Table 5: Agreement between three diagnostic modalities

Findings	TVS, Hysteroscope and HPR
Proliferative	20
Secretory	4
Hyperplastic	2
Polyps	1

For diagnosing proliferative endometrium, agreement between hysteroscope and HPR was found in 27 patients. For diagnosing secretory endometrium, agreement between hysteroscope and HPR was found in 4 patients. For diagnosing hyperplastic endometrium, agreement between hysteroscope and HPR was found in 3 patients. For diagnosing polyps, agreement between TVS and HPR was found in 1 patient.

DISCUSSIONS

Demographic information: We included total 85 perimenopausal women presented with AUB. Majority of the women were from 41-45 years age group i.e., 44(51.8%). This is followed by 16 women i.e., 18.8% from 46-50 years age group, 14(16.5%) from less than 40 years and least were from above 50 years age group i.e. 12.9%. 62.4% women were from rural area and 37.6% from urban area. 76.5% of the women were multipara, 16.5% were grand multipara and 7.0% were primipara. 64.7% of the women were from lower middle class and 35.3% from middle class.

Edwin R et al,[6] reported that the age of patients varied from 20 to 60 years. Abnormal uterine bleeding was most common among women having age groups, 26-30 years and 41-45 years (32%).

Para 1 (12%) was least affected and the commonest affected women were para 3 or more (36%). Sixty-five percentages of the women were belonging to middle socioeconomic class, 17% to high socioeconomic class and 18% of the cases were from poor socioeconomic class. Jain M. et al,[7] reported that out of 50 patients in this study ranged from 40-55 yr. mean age was yr. Majority of patient were in age group of 40-44 yrs. (48%) and minimum 14% in age group of 50-55 yr. The proportion of patient in present study among all age group categories 40-44 yrs., 45-49 yrs., 50-55 yrs. i.e. 48%, 38%, 14%. Sujatha Audimulapu et al,[8] reported that the mean age of the patients enrolled in the study was 44.5±5.36 years. Barman SC et al,[9] reported that the majority of patients (38.9%) belonged to the age group of 40-43 yrs.

Mensural pattern

In our study, Menstrual pattern of the women revealed that majority had menorrhagia i.e. 60% followed by 36.5% had polymenorrhagia and 3.5% had metro menorrhagia.

Duration of menstrual blood flow was less than 7 days in 37.6% and more than 7 days in 62.4% cases. Barman SC et al,[9] reported menorrhagia i.e. 26(30.59%) followed by 8(9.41%) had polymenorrhagia and 14(16.17%) had metro menorrhagia.

According to Jaiswar Shyam Pyari et al,[10] in 2006 study, most common symptoms in patients with abnormal uterine bleeding were menorrhagia (40%), metrorrhagia (18%), menometrorrhagia (14%), and polymenorrhoea (14%).

Hysteroscopy diagnostic validity

In our study, Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing proliferative endometrium was 74.5%, 82.6%, 83% and 74.6% respectively. Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing secretory endometrium was 84.6%, 86.3%, 51% and 98.6% respectively. Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing hyperplastic endometrium was 55.2%, 95.78%, 77.5% and 91.3% respectively. Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing polyp was 71.6%, 99.6%, 99.5% and 95.6% respectively.

Barman SC et al,[9] reported that Sensitivity (S), Specificity (SP), positive predictive value (PPV), Negative predictive value (NPV) of TVS in comparison to gold standard H.P report, for diagnosis of hyperplastic endometrium and polyp was 43.75%, 95.65%, 70%, 88% and 50%, 89.16%, 10%, 98.67% respectively. Vitner, et al,[11] in 2013 did a comparative study between ultrasonography and hysteroscopy in the diagnosis of uterine pathology. Their results showed that ultrasound has 93% sensitivity, 58% specificity, 84.3% positive and 78.3%, negative predictive value while hysteroscopy had 92% sensitivity, 67% specificity, 87.3% positive and 77.7% negative predictive values. Hysteroscopy had a significantly higher sensitivity in diagnosing intra-uterine fibroids while TVS had a significantly higher sensitivity in diagnosing retained products of conception. Dasgupta, et al,[12] studied diagnostic accuracy of trans-vaginal sonography, saline infusion sonography and dilatation & curettage (D & C) and were compared with hysteroscopic guided biopsy to determine the etiology. In determining uterine pathology, positive likelihood ratio (PLR) of TVS, SIS and D & C are 2.81, 7.5 and 3.81 respectively considering hysteroscopy as standard.

CONCLUSION

Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing proliferative endometrium was 74.5%, 82.6%, 83% and 74.6% respectively. Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing secretory endometrium was 84.6%, 86.3%, 51% and 98.6% respectively. Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing hyperplastic endometrium was 55.2%, 95.78%, 77.5% and 91.3% respectively. Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing polyp was 71.6%, 99.6%, 99.5% and 95.6% respectively. For diagnosing proliferative endometrium, agreement between hysteroscope and HPR was found in 27 patients. For diagnosing secretory endometrium, agreement between hysteroscope and HPR was found in 4 patients. For diagnosing hyperplastic endometrium, agreement between hysteroscope and HPR was found in 3 patients. For diagnosing polyps, agreement between TVS and HPR was found in 1 patient.

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