



Role of Hysteroscopy in the Evaluation of Abnormal Uterine Bleeding

KEYWORDS

Hysteroscopy, Abnormal uterine bleeding

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ABSTRACT *Introduction: Abnormal uterine bleeding(AUB) accounts for 30-40% of all gynaecological cases. Hysteroscopy allows direct visualisation of structural lesions within the endometrial cavity and can be performed as a diagnostic and therapeutic procedure in the same sitting.*

Objective: To assess the accuracy of the hysteroscopic diagnosis with that of histopathological reports obtained by endometrial sampling.

Materials and Methods: A prospective cross-sectional study in which hysteroscopy was performed for 50 patients with AUB. Hysteroscopy was done and after noting the findings, hysteroscope was withdrawn out of uterine cavity. Endometrial sampling was done. Then hysteroscope was reinserted and biopsy of persisting focal lesion was taken. Both samples were sent for histopathology. Result of hysteroscopy and endometrial sampling were compared. Statistical analysis was done by calculating sensitivity and specificity of hysteroscopy versus histopathology by targeted hysteroscopic biopsy and endometrial sampling.

Results: The mean age of the study group was 40.35±5.4 years(range 26-60 years). The mean parity was 3.2±1.5. The most common symptom was menorrhagia (40%) followed by metrorrhagia 38%, polymenorrhagia(12%) and postmenopausal bleeding(10%). The overall sensitivity and specificity of hysteroscopy for diagnosing intrauterine abnormalities was 84% and 72% respectively. Sensitivity and specificity of the procedure for endometrial hyperplasia was 66.6 and 90.2% respectively. For endometrial polyps, the results were 80% and 97.5% respectively. The sensitivity and specificity of the procedure was 100% for submucous fibroids and 100% and 95% respectively for inflammation. The sensitivity and specificity for atrophic endometrium was 100% and 95.9% respectively.

Conclusion: Hysteroscopy is a valuable tool for diagnosing endometrial inflammation, atrophic endometrium and focal lesions like endometrial polyps and submucosal fibroids. However hysteroscopy is not very reliable diagnostic modality for endometrial hyperplasia.

Introduction:

Abnormal uterine bleeding(AUB) accounts 30–40% of all gynecological cases[1] The etiology of AUB can be pregnancy related, endocrine related disorders of coagulation or anatomical lesions of uterine pathology.

The investigative modalities include imaging, endometrial sampling and visualization of endometrial cavity by hysteroscope. Use of hysteroscopy in abnormal uterine bleeding is almost replacing blind curettage, as it "sees" and "decides" the cause. This is because the uterine cavity can be observed and the area in question can be curetted. In fact, it is an eye in the uterus[2].

This study was done to assess the accuracy of the hysteroscopic diagnosis with that of histopathological reports obtained by endometrial sampling.

Materials and methods: A prospective cross-sectional clinical study was done in Department of Obstetrics and Gynaecology, Maharishi Markandeshwar Medical College & Hospital, Kumarhatti from March 2015-November 2015.

Design: Prospective cross-sectional study

Sample size: 50 patients with abnormal uterine bleeding

Inclusion criteria: All patients presenting with abnormal uterine bleeding requiring hysteroscopy

Exclusion criteria:

1. Pregnant women
2. Patients with cervical infection or pelvic inflammation
3. Patients with cervical or uterine malignancy
4. Intrauterine contraceptive device users
5. Coagulopathy

50 patients, in all age groups, presenting with AUB were included.

Method

History: A detailed history was taken including menstrual history, past medical and surgical treatment and history of drug or hormone intake.

Examination: A general physical, systemic and local examination was done.

Investigations: Urine pregnancy test was done in reproductive age group. All routine pre-anaesthesia investigations were done. A pap's smear and trans-vaginal sonography was done

Procedure: Informed written consent was taken and procedures were performed under general anaesthesia.

Panormic hysteroscopy was done using normal saline as distension media to maintain intra-uterine pressure of 45-60 mm Hg. Hysteroscopic findings were noted and hysteroscope was withdrawn out of uterine cavity. Endometrial

sampling was done. Then hysteroscope was reinserted and biopsy of persisting focal lesion was taken.

Statistical analysis: Result of hysteroscopy and endometrial sampling were compared. Statistical analysis was done by calculating sensitivity and specificity of hysteroscopy versus histopathology by targeted hysteroscopic biopsy and endometrial sampling.

Results: 50 patients presenting with menstrual complaints who met the selection criteria were studied by TVS and hysteroscopy for this study and evaluated. The mean age of the study group was 40.35 ± 5.4 years (range 26-60 years). The mean parity was 3.2 ± 1.5 . The most common symptom was menorrhagia (40%) followed by metrorrhagia (38%, polymenorrhagia (12%) and postmenopausal bleeding (10%) (Table 1).

Table 1: Symptoms in patients presenting with AUB (n=50)

Symptom	Number(n=50)	%
Menorrhagia	20	40
Metrorrhagia	19	38
Polymenorrhagia	6	12
Postmenopausal bleeding	5	10

Out of 50 patients, 79% had normal pap smear report and 21% had inflammatory pap smear report. Sixty percent of the patients were having normal ultra-sonographic findings. Endometrial hyperplasia (14%) was the most commonly detected pathology, followed by endometrial polyp in 12% and fibroid uterus in 4% cases.

Hysteroscopy findings are mentioned in Table 2.

Table 2: Hysteroscopy findings

Hysteroscopy Findings	Number (n=50)	Findings confirmed on Histopathology
Normal endometrium	19	17
Endometrial hyperplasia	10	06
Endometrial polyp	09	08
Submucosal fibroid	03	03
Endometrial inflammation	06	04
Atrophic endometrium	03	01

Hysteroscopy was reported abnormal if a visual diagnosis of hyperplasia, polyps, submucous fibroid or inflamed endometrium was made. The overall sensitivity and specificity of hysteroscopy for diagnosing intrauterine abnormalities was 84% and 72% respectively. Hysteroscopy was reported normal in 19 out of 50 cases (38%). Out of these, 17 out of 19 cases were normal on histopathology. Two cases of hyperplasia were missed. The diagnostic accuracy of hysteroscopy was 89.4%.

Sensitivity and specificity of hysteroscopy for different lesions

Hyperplasia was diagnosed by hysteroscopy in 10 out of 50 (20%) cases. Out of these, 6 were confirmed on histopathology. The diagnostic accuracy of hysteroscopy for diagnosing endometrial hyperplasia was 60%. The sensitivity and specificity of hysteroscopy for hyperplasia was 66.6% and 90.2%. Polyp was diagnosed by hysteroscopy in 9 cases, out of which 8 (88.8%) were confirmed on his-

topathology. The sensitivity and specificity of hysteroscopy for endometrial polyps was 88.8% and 97.5% respectively. Submucous fibroid was diagnosed in 3 cases. The sensitivity and specificity of hysteroscopy for submucous fibroid was 100%. Inflammation was diagnosed by hysteroscopy in 6 cases. Out of these 4 cases were confirmed on histopathology giving a diagnostic accuracy as 66%. The sensitivity and specificity was 100% and 95% respectively. Atrophic endometrium was diagnosed by hysteroscopy in 3 cases. Out of these 1 case was confirmed on histopathology giving a diagnostic accuracy as 33%. The sensitivity and specificity was 100% and 95.9% respectively.

Findings of endometrial sampling are shown in Table 3

Table 3: Findings of Endometrial Sampling and Targeted Hysteroscopy Biopsy

Histopathology Findings	Endometrial Sampling (n=50)	Targeted Tissue Biopsy (n=13)
Normal endometrium	17	
Endometrial hyperplasia	09	
Endometrial polyp	02	10
Submucosal fibroid	00	03
Endometrial inflammation	10	
Atrophic endometrium	01	01

Endometrial sampling was done in 50 patients. The overall sensitivity and specificity of endometrial curettage for diagnosis of intrauterine abnormalities was 65.6% and 100% respectively. Endometrial sampling curettage diagnosed all cases of hyperplasia and inflammation correctly. Regarding focal lesions, endometrial sampling missed 80% cases of polyps and 3 cases (100%) of submucous fibroids.

Discussion:

This is a prospective cross-sectional clinical study done in Department of Obstetrics and Gynaecology, Maharishi Markandeshwar Medical College & Hospital, Kumarhatti. 50 women between 26 and 60 years of age presented with complaints of abnormal uterine bleeding pattern participated in this study. Shwarzler [3] studied a total of 104 patients with age varying from 26 to 79 years. Tahir [4] studied 400 women all above age of 35 years. The mean parity in the present study was 3.2 ± 1.5 . Geeta et al [5] reported a mean parity of 3.1 in their study.

The most common symptom in our study was menorrhagia (40%) followed by metrorrhagia 38%, polymenorrhagia (12%) and postmenopausal bleeding (10%). In the study by Geeta et al [5], menorrhagia (30%) was the most frequent symptom reported. Menorrhagia as the primary indication for hysteroscopy was reported in 49.6% by Sciarra and Valle [6] and 37.5% by Hamou [7].

Patients with normal endometrium: In the present study, the diagnostic accuracy of hysteroscopy for normal endometrium was 89.4%. Patil et al [8] reported diagnostic accuracy of hysteroscopy for diagnosing normal endometrium as 85.93%. In another study by Panda et al [9], diagnostic accuracy for normal endometrium was 92.5%.

Patients with hyperplastic endometrium: The diagnostic accuracy of hysteroscopy for endometrial hyperplasia was 60%. Diagnostic accuracy of hysteroscopy for endometrial hyperplasia was 68.2, 71.4 and 76.4% in a series reported by Valle et al [10], Seth et al [11], and Panda et al [9] respectively.

In the present study, the sensitivity and specificity of hysteroscopy for hyperplasia was 66.6% and 90.2% respectively. Loverro et al,[12] stated the sensitivity and specificity of the procedure as 98 and 95%, respectively, for endometrial hyperplasia. Patil et al[8] reported the sensitivity and specificity of hysteroscopy for hyperplasia as 75 and 92.5%, respectively.

Patients with endometrial polyp: For polyps, the diagnostic accuracy was 88.8%. The sensitivity and specificity of hysteroscopy for endometrial polyps was 80% and 97.5% respectively. Haller et al, [13] had reported sensitivity and specificity of 100 and 96.7%, respectively. Panda et al[9] had reported diagnostic accuracy of 100% in diagnosing polyp. Acharya Veena[14] had obtained sensitivity and specificity of hysteroscopy for endometrial polyp as 100% each.

Patients with submucous fibroid: The sensitivity and specificity of hysteroscopy for submucous fibroid was 100%. Similar findings were reported by others also [8,9,14].

Patients with endometrial inflammation: Inflammation was diagnosed by hysteroscopy in 6 cases. Out of these 4 cases were confirmed on histopathology giving a diagnostic accuracy as 66%. The sensitivity and specificity was 100% and 95% respectively. In their study, tuberculous endometritis was missed by Gita et al[5].

Patients with atrophic endometrium: For atrophic endometrium, diagnostic accuracy as 66%. The sensitivity and specificity was 100% and 95.9% respectively. Haller et al[13] had reported sensitivity and specificity of 100 and 97%, respectively.

Conclusion: Hysteroscopy is a valuable tool for diagnosing endometrial inflammation and focal lesions like endometrial polyps and submucosal fibroids. However hysteroscopy is not very reliable diagnostic modality for endometrial hyperplasia.

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