



Hysteroscopy : An Additional Tool to D & C for Evaluation of Abnormal Uterine Bleeding

KEYWORDS

Abnormal Uterine Bleeding, Hysteroscopy, D & C

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ABSTRACT

AIMS AND OBJECTIVES: Abnormal uterine bleeding (AUB) is a very common complaint in gynaec OPDs. It may be evaluated by USG, Hysteroscopy and Histopathologically. This study was conducted to determine the specificity, sensitivity and predictive values of hysteroscopic impression versus histological diagnosis of endometrium in evaluating patients with abnormal uterine bleeding.

MATERIAL AND METHOD: It is an observational cross sectional study done in department of obstetrics and gynecology, Sola civil hospital, Ahmedabad. In this study 82 patients of abnormal uterine bleeding were analyzed over a period of 16 months from March 2013 to June 2014. Hysteroscopic examination was done in all patients followed by dilation and curettage. The endometrium obtained was sent for histopathological examination.

RESULT: AUB was more common in the age group from 31- 40 yrs. It was more common in multiparas than nulliparas. The most common menstrual abnormality identified was menorrhagia. Hysteroscopy had sensitivity, specificity, PPV and NPV of 100% each in diagnosing polyp, submucous myoma. & 58.4, 95.7, 70, and 93.1% in endo hyperplasia respectively.

CONCLUSION: Hysteroscopy is superior and complimentary to D&C in evaluating patients with Abnormal Uterine Bleeding. Accuracy of Endometrial biopsy is more than hysteroscopy in detecting Hyperplasia & Endometrial Carcinoma.

INTRODUCTION :

Abnormal uterine bleeding is a public health problem prevalence exceeded only by abnormal vaginal discharge as a reason for medical consultation⁽³⁾ The incidence of AUB is 30–40% of all gynecological cases⁽²⁾ quoted by Devi and Menon,.

Uterine bleeding is a normal physiologic episode for all women with varied normal characteristics (cycle frequency , duration of flow , amount of flow). Menstrual cycles that are longer than 35 days or shorter than 21 days are abnormal. The lack of periods for 3-6 months (amenorrhoea) is also abnormal.

The causes of Abnormal Uterine Bleeding and its differential diagnosis are heterogeneous and complex. Various causes of AUB include pregnancy, miscarriage, ectopic pregnancy, adenomyosis, fibroids, uterine and /or cervical infection, polyps, IUCD, OC pills, PCOS, coagulation defects, uterine synchaea, etc. AUB is one of the common presentations of endometrial hyperplasia (precancerous), adenocarcinoma, other uterine tumors, cervical malignancy, vaginal cancer etc. Thus, identifying the etiology is important^(1,5,16)

Abnormal uterine bleeding can be evaluated By Careful History, Clinical Examination, Blood Investigations, Hormonal Profile, Ultrasonography, Sonohysterography, Hysteroscopy, MRI and Endometrial sampling to reach a diagnosis.

Traditionally D & C and ultrasonography were the most common investigations employed in the evaluation of

Abnormal Uterine bleeding. D&C has long been the diagnostic gold standard for AUB. The accuracy of the pathologist is also important. However only 70 to 80 % of the endometrium can be curetted. Polyps and Submucous fibroids are frequently undetected by curette alone.

USG clearly depicts the uterine contour and the status of the ovary, but fails to provide adequate information regarding the endometrium.

Hysteroscopy is a invasive endoscopic procedure to diagnose and treat many uterine disorders, including AUB. It is a quick, safe and accurate method not only of diagnosing pathologies of uterine cavity but also offers cure in various conditions causing AUB.

MATERIAL AND METHODS:

Design: Observational Cross Sectional Study
Place of the study : GMERS Medical College, Sola, Ahmedabad; Dept of Obstetrics & Gynaecology
Duration of the Study : March 2013 to June 2014
Sample size : 82

Detail history was recorded in all the patients with AUB. The women were subjected to a thorough clinical examination complemented by relevant investigations as required by the study.

A written consent taken from all the cases. All patients were given patient information sheet before taking consent.

A diagnostic hysteroscopy was performed under general anesthesia/ sedation/ without anesthesia as required with a 3.5 mm rigid hysteroscope of 30 degree (Maxer, India) and a 5mm sheath. Normal saline was used as the distension media. Hysteroscopic examination were done in all patients post-menstrually, whenever possible. The patient were placed in the lithotomy position. The hysteroscope then gently introduced through the cervix into the uterine cavity after cervical dilatation if required. To dilate the intrauterine space normal saline at a pressure of 100 – 150 mm hg and a continued flow of medium of 120 – 200 ml per minute were used. Suction pressure was 0.2 bars. Illumination provided by a Storz cold light source via a fibre-optic cable. Hysteroscopy was considered successful if an adequate view over the whole uterine cavity will be obtained.

All patient were subjected to D&C after Hysteroscopy. Tissue was sent for histopathology.

All the data were recorded in the standard prepared proforma and analysed.

Further management of the patient was decided according to age, parity, severity of the disease, hysteroscopic and histopathological report.

Histopathology for endometrial pathologies and hysteroscopy guided biopsy for anatomical lesions was taken as gold standard. Their sensitivity, specificity, PPV and NPV were calculated.

OBSERVATION AND RESULT:

In the present study Hysteroscopy was performed in 82 (100%) patients who presented with abnormal uterine bleeding followed by Dilatation and Curettage. The specimen obtained by D&C was sent for Histopathological analysis.

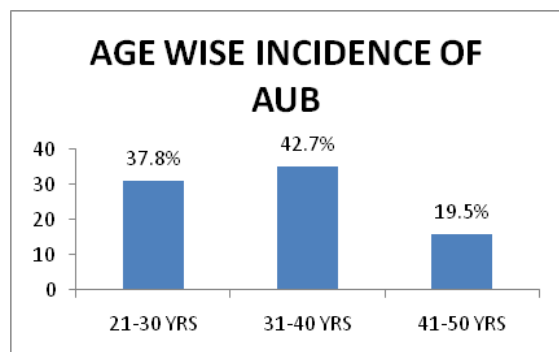
Study design: An observational study

TABLE 1 : AGE DISTRIBUTION OF PATIENTS STUDIED

Age in years	No. of patients	%
21-30	31	37.8
31-40	35	42.7
41-50	16	19.5
Total	82	100.0

Mean ± SD: 34.21±7.90

BAR CHART OF AGE DISTRIBUTION OF PATIENTS STUDIED



In the present study, age of the patients studied varied from 21yrs to 50yrs. Maximum age incidence of AUB was seen in patients between the ages of 31 to 40 yrs accounting for 42.7%. The average age of the patients in the study was 34.2 years with a SD of 7.9 years.

TABLE 2: TYPES OF MENSTRUAL PATTERNS IN AUB

Menstrual complaints	No. of patients	%
Menorrhagia	43	52.4
Hypomenorrhagia	4	4.9
Menometrorrhagia	3	3.7
Oligomenorrhoea	15	18.2
Polymenorrhagia	4	4.9
Metrorrhagia	5	6.1
Polymenorrhoea	8	9.8
Total	82	100.0

Majority of the patients presented with menorrhagia, seen in 52.4% patients in the present study. The second most common menstrual abnormality was Oligomenorrhoea seen in 18.2% patients followed by Polymenorrhoea seen in 9.8% of patients.

Table No.3 :CO-RELATION OF TYPE OF AUB WITH THE PATHOLOGY:

DIAGNOSIS	Normal	Polyp	Hyperplasia	Myoma	Synichea	Ca endometrial	Total
Menorrhagia	15	9	9	8	0	2	43
Polymenorrhoea	6	2	0	0	0	0	8
Metrorrhagia	1	1	0	1	2	0	5
Menometrorrhagia	0	1	2	0	0	0	3
Poly menorrhagia	2	1	1	0	0	0	4
Hypomenorrhoea	3	0	0	0	1	0	4
Oligomenorrhoea	14	0	0	0	1	0	15
Total	42	14	12	9	4	2	82

More than half of the patients with AUB had actually no detectable pathology. Normal findings were present in all types of AUB. 1/3 rd of the patients with Menorrhagia had normal findings. 2/3 rd of the patients with menorrhagia had some type of pathology. Pathologies in patients with menorrhagia were polyp, fibroids and endometrial hyperplasia. Almost all of the patients with Oligomenorrhoea had normal findings except one with ashermans syndrome. Hypomenorrhoea were more likely to have normal finding on hysteroscopy or D&C.

TABLE 4: HYSTEROSCOPY and D&C FINDINGS

Findings	Hysteroscopy		D&C	
	No. of patients (n=82)	%	No. of patients	%
Normal	41	50.0	60	73.1
Abnormal	41	50.0	22	26.9
• Polyp	14	17.1	8	9.8
• Endometrial-hyperplasia	10	12.2	12	14.7

• Submucous fibroid	9	11	0	0
• Fundal synchiea	4	4.9	0	0
• Endometrial-cancer	2	2.4	2	2.4
• Endometritis	2	2.4	0	0

Normal Hysteroscopic findings also called as NEGATIVE HYSTEROSCOPIC VIEW were seen in 50% of patients and abnormal finding were seen in 50% of patients.

The most common abnormality detected was Endometrial Polyp seen in 17.1 % of patients followed by Endometrial Hyperplasia seen in 12.2% of patients. Hysteroscopy also detected Submucous Myoma in 11% of cases. Endometrial cancer was diagnosed in 2.4% patient.

The most accurate finding in this study has been the detection of intra- uterine pathology like endometrial polyp, submucous myoma and uterine synchiea with 100 % accuracy with hysteroscopy

On Histopathological examination of the samples obtained on D&C in the 82 patients with AUB studied , 73.1 % showed normal endometrium. 14.7% percent of women showed endometrial hyperplasia. Endometrial polyp was observed in 9.8% of the cases & Endometrial Carcinoma in 2.4% of cases . None of the cases of Myoma were confirmed on blind D&C as confirmation of myoma requires a hysterectomy/ myomectomy specimen specimen .

TABLE NO 5 : HYSTEROSCIC AND HISTOPATHOLOGICAL CO-RELATION:

HYSTEROSCOPY FINDINGS	HISTOPATHOLOGY FINDINGS							
	TOTAL	PROLIFERATIVE ENDOMETRIUM	SECRETORY ENDOMETRIUM	HYPERPLASIA	MYOMA	ENDOMETRIAL POLYP	ENDOME-TRITIS	CA ENDOMETRIUM
PROLIFERATIVE ENDOMETRIUM	36	30	3	3	0	0	0	0
SECRETORY	5	2	1	2	0	0	0	0
HYPERPLASIA	10	2	1	7	0	0	0	0
ENDOMETRIAL POLYP	14	5	1	0	0	8	0	0
MYOMA	9	6	3	0	0	0	0	0
ENDOMETRITIS	2	1	0	0	0	0	0	0
SYNICHAE	4	4	0	0	0	0	0	0
CARCINOMA ENDOMETRIUM	2	0	0	0	0	0	0	2
TOTAL	82	51	9	12	0	8	0	2

The above table no shows the comparative results of Hysteroscopy and the Histopathological features . 36 out of 41 cases, which were labeled as normal endometrium on hysteroscopy showed normal histological features and the other 5 cases showed Hyperplastic features on Histopathological examination .On comparing the Hysteroscopy findings with that of histopathology, it was observed that of the 10 cases labeled as Hyperplasia on hysteroscopy, only 7 cases were confirmed as Hyperplastic on Histopathology while remaining 3 cases showed normal findings on histopathology (with 1 secretory and 2 proliferative endometrium) . 5 additional cases of hyperplasia were diagnosed by histology which were missed (diagnosed as normal) on hysteroscopy. Out of the 14 cases diagnosed as polyp on hysteroscopy , only 8 cases could be correctly identified on D&C where as 6 cases were missed on D&C.2 cases of endometrial cancer were correctly identified on both hysteroscopy and histopathology. 9 cases of submucous Myoma and 4 cases of Synchiea could not be identified on D & C. Two cases labeled as Endometritis were found normal on D&C.

DISCUSSION:

Hysteroscopy Findings	Study (year) (values in %)						
	Present series (2014)	Paranis (1992) ⁶	Jyotsana (2004) ⁷	Tajossadat (2007) ⁸	Sheetal (2009) ⁹	Sonja pop (2011) ¹⁰	Aisha (2011) ¹¹
Normal	50	73.95	33.33	31.4	50	41.2	37.5
Endometrial hyperplasia	12.2	6.3	22.6	15.2	18	8.54	17
Endometrial polyp	17.1	9.4	20	38.09	9	33.7	18.8
Submucous myoma	11	5.2	17	23.8	11	7.7	11.3
Endometrial atrophy	0	3.12	0	17.14	8	7.7	15
Endometritis	2.4	1.04	0	3.8	0	0	0
Synichae	4.8	0	2.66	0	0	0	0
Endometrial cancer	2.4	1.04	1.33	0	3	1.28	0

COMPARATIVE ANALYSIS OF HYSTEROSCOPY FINDINGS IN VARIOUS STUDIES:

Normal hysteroscopy findings were observed in 50% cases in present series . Normal hysteroscopy was observed in 50 % in study by Sheetal et al⁹ in 2009 also. The range of normal hysteroscopy findings in various studies was from 73% in study by Paranis et al⁶ to 14.3% in study by Neetha et al in 2013¹². Endometrial polyp was the most common abnormal hysteroscopy finding in present series , Tajossad at et (2007)⁸ & Sonja pop (2011)¹⁰.Endometrial hyperplasia was seen in 12.2% in this series in contrast to 61 % seen in study by neetha et al¹² in 2013. The other series had endometrial hyperplasia in 50% (Reethu et al ¹⁵) to 8.5%(Sonja pop et al 2011¹⁰). Myoma was seen in 11% patients in study by sheetal et al(9) , aisha et al(11) and in this series.

COMPARATIVE ANALYSIS OF D&C FINDINGS IN VARIOUS STUDIES:

Histopathological findings	Present series	Parasnis ⁶ 1992	Jyotsana ⁷ 2004	Sheetal ⁹ 2009	Sonjapop ¹⁰ 2011	Neetha ¹² (2013)
Normal	73.1	80.2	66.66	64	43.5	48.6
Endometrial hyperplasia	14.7	6.24	13.33	20	6.83	12.3
Endometrial/cervical polyp	9.8	7.28	6.66	5	35	3.4
Submucous fibroid	--	1.04	--	1	6.41	---
Endometrial atrophy	--	3.12	--	3	6.83	4
Endometritis	--	1.04	2.66	3	---	---
Tb endometritis	--	1.04	1.33	2	1.28	6.9
Endometrial cancer	2.4	1.04	1.33	2	1.28	6.9
Insufficient	--	--	--	2	--	5.1

According to various studies normal endometrium on D&C is more common than pathological endometrium in AUB patients. Endometrial hyperplasia was seen in 14.7% patients in present series and in 13.33% patients in study by Jyotsana et al⁸. Endometritis was not confirmed in any of the patients in present series but it was seen in few patients in other studies

COMPARISON OF VALIDITY FACTORS:

Loverro et al¹³ in 1996 found Sn to be 98% and Sp to be 95%. Loffer et al¹⁴ found in his study Sn and Sp to be 98 and 100% ,respectively. Sonja Pop et al in 2011 found Sp , Sn , PPV and NPV to be 100, 91 , 93 and 100 % respectively where as reethu et al in 2013 found it to be 96.15 , 58.33, 93 and 51 respectively.

Study(year)	Sn	Sp	PPV	NPV
Parasnis et al (1992) ⁶	92	100	100	2.8
Tajossadat et al (2007) ⁸	100	80.5	88.9	100
Aisha et al (2011) ¹¹	97.9	90.6	94	96.7
Present series	87.8	87.8	87.8	87.8

Statistical analysis of the validity factors of hysteroscopy showed there is no statistical difference between validity factors in this study and that obtained by various other authors. This confirms the validity of hysteroscopy in the pre-

sent study.

COMPARISON OF VALIDITIES:

	HYSTEROSCOPY (%)	D&C (%)
SENSITIVITY	87.8	58.5
SPECIFICITY	87.8	100
PPV	87.8	100
NPV	87.8	100
ACCURACY	87.8	79.2

The Accuracy of Hysteroscopy in the present study was 87.8% and that of Endometrial Histopathology was 79.2%

CONCLUSION:

The study confirms that hysteroscopy has a definitive role in evaluating patients with AUB .Hysteroscopy is a safe & reliable procedure in the diagnosis of cases with abnormal uterine bleeding with high sensitivity, specificity and negative predictive value. It allows an adequate exploration of the uterine cavity under visual control. It allows finding cause of bleeding, biopsy and immediate treatment in certain conditions.The results of hysteroscopy are immediately available.Hysteroscopy is more sensitive and superior to D & C in evaluating patients with abnormal uterine bleeding , specially in detecting endometrial polyps and submucous fibroids but less sensitive in detecting endometrial hyperplasia and endometrial cancer . It is also highly specific in excluding polyps , fibroids & atrophic endometrium as these may be missed on blind curettage.Hysteroscopy is very helpful in uterine synechia as it can detect its location , extent, nature and can be removed under visual control. Hysteroscopy and D&C compliment to each other in the evaluation of a patient with AUB for accurate diagnosis and further treatment OF AUB.

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