

Role of Hysteroscopy Vs Transvaginal Sonography in Diagnosis of Abnormal Uterine Bleeding

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ABSTRACT

Introduction: Abnormal 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 underlying problem. Goal of clinical management is primarily dependent upon attaining a correct etiological diagnosis. Hysteroscopy allows direct visualisation of the uterine cavity and is used as an office technique in the evaluation of endometrial and endocervical disorders. Recently TVS has permitted the use of higher frequency ultrasound waves at greater proximity to the uterus

Aim: To analyze the place of hysteroscopy and TVS to evaluate abnormal uterine bleeding and to correlate hysteroscopic findings with that of TVS findings which help in provisional/ final diagnosis.

Materials and Methods: 60 patients fulfilling inclusion and exclusion criteria selected from the gynaecological O.P.D. and those admitted in gynaecological ward of MCSG, SMS Medical College, Jaipur, with complaint of abnormal uterine bleeding who were in reproductive, premenopausal and postmenopausal phase of life. All the patients underwent transvaginal sonography followed by hysteroscopy and further management was done according to the abnormality detected. Proportion and percentages were used for categorical variables Statistical analysis done by using χ^2 test.

Observations: The study shows that out of 60 patients 35% were normal and 65% were found abnormal on TVS whereas on hysteroscopy 21.66% were normal and 78.4% were found abnormal in cases of AUB. Hysteroscopy has sensitivity (92%) and NPV (69.23%) than that of TVS 78%. and 47.6% respectively. TVS has higher specificity and PPV (100%) in AUB cases than hysteroscopy 90% and 97.8% respectively.

Conclusion: Hysteroscopy is superior to TVS in detecting endometrial polyp and hyperplasia. Hysteroscopy shows 100% validity for submucous fibroid. TVS has better than hysteroscopy for detecting adenomyosis. TVS is superior to hysteroscopy in investigating PMB.

Key words: Hysteroscopy, transvaginal sonography, TVS, Abnormal uterine bleeding.

INTRODUCTION

Abnormal uterine bleeding refers to a symptom of excessive, scanty, prolonged, cyclic, unexpected or acyclic bleeding regardless of diagnosis or cause. Abnormal 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 underlying problem. [1,2]

Goal of clinical management is primarily dependent upon attaining a correct etiological diagnosis. Diagnostic hysteroscopy has ushered a new era in the evaluation of abnormal uterine bleeding and is accepted as the gold standard for determining the cause of endometrial pathologies presenting with the same. Hysteroscopy allows direct visualisation of the uterine cavity and is used as an office

technique in the evaluation of endometrial and endocervical disorders.

Recently transvaginal sonography (TVS) has permitted the use of higher frequency ultrasound waves at greater proximity to the uterus. It is relatively cheap, needs no anaesthesia and being non-invasive and can be a first diagnostic step in evaluation of AUB. [3,4]

AIM: To analyze the place of hysteroscopy and TVS to evaluate abnormal uterine bleeding and to correlate hysteroscopic with that of TVS findings which help in provisional/ final diagnosis.

MATERIALS AND METHODS

The present study was a prospective study was conducted in department of obstetrics and gynecology, in MCSG, SMS Medical College, Jaipur, in a period of 13 months from August 2017 to August 2018. The study was started after hospital ethical committee approval. 60 patients who were willing to participate in study (after taking

written consent) were recruited from gynaecological O.P.D. and those admitted in gynaecological ward with complaint of abnormal uterine bleeding who were in reproductive, premenopausal and postmenopausal phase of life. A detailed history, general and systemic examination was done. All the patients underwent transvaginal sonography followed by hysteroscopy and further management was done according to the abnormality detected.

Inclusion Criteria: a) Married women beyond the age 20 with AUB b) Both parous and nulliparous women c) Patients who did not need any emergency management

Exclusion Criteria: a) Pregnancy b) PID c) Patients with profuse bleeding

Carcinoma cervix d) Coagulation disorders
Statistical Analysis: Proportion and percentages were used for categorical variables Statistical analysis done by using χ^2 test.

RESULT

Table 1. Correlation of hysteroscopic finding with TVS finding in menorrhagia (n=27)

S. no.	Finding	Hysteroscopic Finding		TVS Finding		Final Finding	
		no.	%	no.	%	no.	%
1	Normal	5	8.3	7	11.7	4	5.76
2	Diffuse Endometrial Hyperplasia	3	5.0	3	5.0	3	5.0
3	Endometrial Polyp	9	15.0	5	8.3	9	15.0
4	Fibroid	7	11.7	6	10.0	7	11.7
5	Adenomyosis	1	1.7	2	3.3	1	1.7
6	RPOCs	1	1.7	2	3.3	1	1.7
7	Bulky uterus	0	0.0	1	1.7	1	1.7
8	Intrauterine Cu-T	1	1.7	1	1.7	1	1.7
	Total	27		27		27	

During evaluation of 27 cases of menorrhagia, hysteroscopy diagnosed 3 cases as normal out of 7 cases diagnosed by TVS. 9 cases (15%) were diagnosed to have endometrial polyp by hysteroscopy whereas TVS diagnosed only 5 cases. By both TVS and hysteroscopy 3 cases of endometrial hyperplasia and 1 case of intrauterine Cu-T

were found. Hysteroscopy found 7 cases of fibroid whereas TVS could visualize it in 6 cases. Adenomyosis and RPOCs each was found in 2 cases by TVS but hysteroscopy found them only in 1. 1 case of bulky uterus diagnosed by TVS could not be diagnosed by hysteroscopy and was interpreted as normal.

Table 2. Correlation of hysteroscopic finding with TVS finding in Primary amenorrhoea(n=1)

Finding	Hysteroscopic Finding		TVS Finding		Final Finding	
	No	%	No	%	No	%
Fibrosed endometrium (TB endometrium)/ Small uterus	1	100.0	-	-	1	100.0
Total	1	100.0	1	100.0	1	100.0

In only case of primary amenorrhoea, Tubercular endometrium was diagnosed by hysteroscopy which was interpreted as small uterus by TVS.

Table 3. Correlation of hysteroscopic finding with TVS finding in oligomenorrhoea (n=3)

S. no.	Finding	Hysteroscopic Finding		TVS Finding		Final Finding	
		no.	%	no.	%	no.	%
1	Normal	3	100.0	1	33.33	1	33.33
2	Ovarian Cyst	-	-	1	33.34	1	33.33
3	PCOS	-	-	1	33.33	1	33.34
		3	100.0	3	100.0	3	100.0

It is evident from the above the table that all the 3 cases (100%) were labeled as normal by hysteroscopy whereas by TVS only 1 case (33.3%) was normal and the other were having adnexal pathology i.e. PCOS in one (33.3%) and ovarian cyst in one (33.3%).

Table 4. Correlation of hysteroscopic finding with TVS finding in polymenorrhoea (n=3)

S. no.	Finding	Hysteroscopic Finding		TVS Finding		Final Finding	
		no.	%	no.	%	no.	%
1	Normal	-	-	3	100.0	-	-
2	Diffuse endometrial hyperplasia	1	33.34	-	-	1	33.33
3	Endometrial polyp	1	33.33	-	-	1	33.34
4	Endocervical polyp	1	33.33	-	-	1	33.33
	Total	3	100.0	3	100.0	3	100.0

As shown in the above table, all the three cases of polymenorrhoea were diagnosed as normal (100%) by TVS whereas one of them was normal by hysteroscopy and 1 case each of endometrial hyperplasia (33.3%), endometrial polyp (33.3%), and endocervical polyp (33.3%) diagnosed by hysteroscopy.

Table 5. Correlation of hysteroscopic finding with TVS finding in Postmenopausal BPV (n=10)

S. no.	Finding	Hysteroscopic Finding		TVS Finding		Final Finding	
		no.	%	no.	%	no.	%
1	Normal	1	10.0	4	40.0	1	10.0
2	Diffuse endometrial hyperplasia	4	40.0	3	30.0	3	30.0
3	Endometrial polyp	2	20.0	1	10.0	2	20.0
4	Endometrial carcinoma	1	10.0	2	20.0	2	20.0
5	Atrophic endometrium	1	10.0	-	-	1	10.0
6	Endocervical polyp	1	10.0	-	-	1	10.0
	Total	10	100.0	10	100.0	10	100.0

Out of 10 cases (16.8%) of postmenopausal bleeding, TVS diagnosed 30% as endometrial hyperplasia, 20% endometrial carcinoma, 10 % endometrial polyp and the rest (40%) as normal. By hysteroscopy, endometrial hyperplasia was found to be 40%, endometrial polyp and endometrial carcinoma in 20% and 10% cases respectively. There was one case each of atrophic endometrium (10%) and endocervical polyp (10%) also.

Above shown table depicts that hysteroscopy has sensitivity (92%) and NPV (69.23%) than that of TVS 78%. and 47.6% respectively. TVS has higher specificity and PPV (100%) in AUB cases than hysteroscopy 90% and 97.8% respectively.

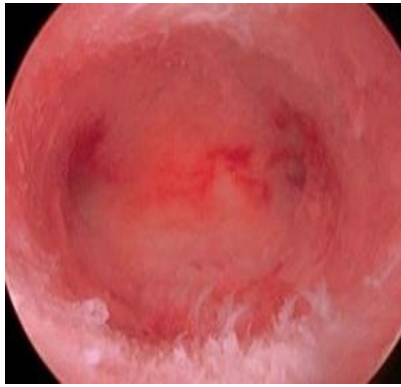
Table-6. Validity of hysteroscopy and TVS in abnormal uterine bleeding

	Sensitivity	Specificity	PPV	NPV
Hysteroscopy	92%	90%	97.87%	69.23%
TVS	78%	100%	100%	47.62%

Table-7 Correlation of TVS & Hysteroscopy

Modality(n=60)	Normal	%	Abnormal	%
TVS	21	35.0	39	65.0
Hysteroscopy	13	21.66	47	78.34

$$\chi^2=2.627$$



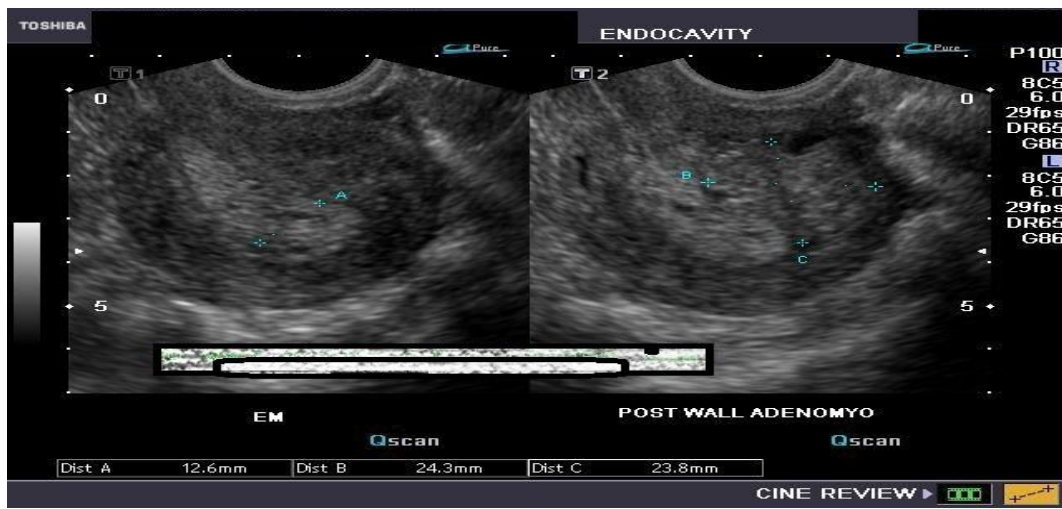
1.Hysteroscopic view of normal uterine cavity



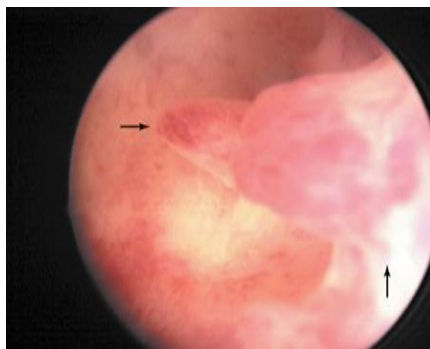
2. Normal TVS



3. Hysteroscopic view of adenomyosis



4. Adenomyosis uterus on TVS



5. Hysteroscopic view of endometrial polyp



6. TVS of endometrial polyp



7. Hysteroscopic view of submucous fibroid



8. Submucous fibroid on TVS

DISCUSSION

The age of the patients in the present study ranged from 20-60 years. Maximum number of patients (41.6%) belongs to 31-40 years of age followed by 23.3% in the age group of 41-50 years. Above the age of 60, there were only four patients.

Similarly Gianniotos et al [5] (2003) in their study on AUB studied patients in range of 28-80 years. They found maximum patients in age group 30-45 which is almost comparable to present study. R. Somlatha et al [6] (2013) had maximum incidence (40%) of AUB between 30-40 years of age.

TVS findings in our study shows results similar to study of Deepti et al [7] (2009) who studied 100 patients in whom endometrial hyperplasia (15%) was the most common detected pathology followed by fibroid uterus (13%) on TVS. Adnexal mass was found in seven cases, endometrial polyp in two cases while endometrial carcinoma was suspected in one case.

N Suer et al [8] (2008) found maximum (48.1%) endometrial polyp followed by 15.2% submucosal fibroid, then 5.1% intramural fibroid and hyperplasia each in reproductive and premenopausal age group jointly. In postmenopausal, endometrial polyp endometrial polyps were diagnosed in 32% patients, submucosal fibroid in 24%, intramural fibroid and hyperplasia in 8% each. Result was normal in 28% which is not comparable to present study.

In the present study, normal hysteroscopic findings were in 21.2% and abnormal finding could be detected in 78.5% women including all phases of menstrual life. As the above table depicts, results of present study are comparable to that of Giannito [5] and S. Khare et al. [9]

In the present study, hysteroscopy was found to have better sensitivity 92% and NPV 69.2% than TVS which was 78% and 47.6% respectively. TVS had 100% specificity and PPV which is nearly comparable to hysteroscopy i.e. 90% and 97.8%. Result of hysteroscopy in present study are almost similar to that of Chae-

Chun et al. [10] Results of TVS in present study are nearly similar to study of Kulsum et al [11] (2010) with a lower sensitivity 78% and NPV 47.6%.

CONCLUSION

Hysteroscopy is superior to TVS in detecting endometrial polyp and hyperplasia. Hysteroscopy shows 100% validity for submucous fibroid. TVS has better than hysteroscopy for detecting adenomyosis. TVS is superior to hysteroscopy in investigating PMB.

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