



**ORIGINAL RESEARCH PAPER**

**Medical Science**

**A STUDY OF ENDOMETRIAL THICKNESS IN TRANS VAGINAL SONOGRAPHY IN RELATION WITH HISTOPATHOLOGY REPORT IN DILATION & CURRATAGE IN AUB WOMEN**

**KEY WORDS:** Trans vaginal sonography, abnormal vaginal bleeding, dilation and curettage

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**ABSTRACT**

A study of endometrial thickness on TVS in relation with histopathology report on dilation and curettage.  
**AIM AND OBJECTIVE-**To set a cut off limit of endometrial thickness on TVS for differentiating between normal and abnormal endometrium.  
**MATERIAL AND METHOD-**hospital based comparative study.  
**RESULTS-**TVS is non invasive ,simple first line procedure in AUB women. Mean endometrial thickness in normal endometrial group was 8.00±2.44 mm and in abnormal endometrial group was 15.16±33 mm. The difference was found highly significant (p value<.001)

**INTRODUCTION-**

Abnormal uterine bleeding (AUB) is a common problem which account for more than one fifth of all visits to outpatient door and more than one fourth of all hysterectomies<sup>1,2</sup>. Abnormal uterine bleeding is excessive, prolonged, unexpected or acyclic bleeding regardless of cause or diagnosis, not only affects the quality of life such as intimate relationships, day to day living but can have serious adverse consequences like anemia or malignancy. Abnormal peri menopausal bleeding should always be taken seriously and properly investigated, no matter how minimal or persistent. "Perimenopause" include the period immediate prior to menopause (when the endocrinological, biological and clinical feature of approaching menopause commences) and first year after menopause. Evaluation of abnormal uterine bleeding in perimenopause women is challenging because waxing and waning function of ovary produces change in the menstruation pattern. During last decade various methods to perimenopausal bleeding evaluation are transvaginal sonography (TVS), endometrial biopsy, dilatation & curettage and hysteroscopy. Diagnostic procedures obtaining material for histopathology assessment (e.g. D&C, hysteroscopy, and endometrial biopsy) can be more accurate but are also more invasive and need anesthesia. TVS is simple method of visualization of clear endometrium. TVS can be safely used as an initial investigation in the management of AUB as it a non invasive method for detection of endometrial pathology with no need of anesthesia.<sup>3,4</sup> No need of full urinary bladder as compared to trans abdominal USG. TVS is preferred in obese patients, patients with extensive anterior abdominal wall scarring and retroverted uterus. Thus, currently available modalities are far from being perfect<sup>5</sup>. Ability of TVS for screening the lesions within the endometrial cavity is limited. The finding of a thickened central endometrial complex seen on TVS is often non-specific and may be caused by an endometrial polyp, submucosal fibroids, endometrial hyperplasia, carcinoma, or cystic atrophy. Focal lesions are underdiagnosed at TVS because of limitations of the double-layer thickness evaluation<sup>5</sup>. Disadvantages of TVS - Limited transducer movements inside the vagina, Absence of sound enhancement as seen with the filled urinary bladder in transabdominal sonography Unable to distinguish between benign proliferation, hyperplasia, polyp and malignancy<sup>6</sup>.

**AIM AND OBJECTIVE-**

1. Set a relation endometrial assessment by TVS with histopathology report obtained by D&C.
2. Deciding a cut off limit of endometrium thickness to reduce unnecessary diagnostic invasive curettage and hysteroscopy procedure.

**MATERIAL AND METHOD-**

The present study was conducted in department obstetrics & gynecology, zenana hospital attached to s.m.s, medical college, jaipur. Study period was 2012-13. Case collection :- OPD and indoor cases taken. A total of forty cases were taken.

**INCLUSION CRITERIA-**

Any patient above the age of forty yrs with history of abnormal uterine bleeding.

**EXCLUSION CRITERIA-**

Women taking medical treatment like hormonal pills. All eligible patients were examined by taking detailed history about her age, parity, menstruation pattern (present and past) including duration, severity, cyclic or acyclic, method of contraception used or any other medical and gynecological problem. All routine investigations like CBC, coagulation profile done. Then all patients were subjected to TVS. TVS was performed using vaginal transducer of 6.5 MHz frequency. Endometrial thickness measured at the thickest part of endometrium from the endometrial-myometrial junction reflective interface at the funds in the longitudinal plane. The thickness measured includes both endometrial layers. Then all patients were subjected to D&C and result were analysed.

**OBSERVATIONS-**

**TABLE-1 DISTRIBUTION OF CASES ACCORDING HPR FINDING ON DILATION & CURRATAGE**

Condition of endometrium		Patients	
		No.	%
Normal	Atrophic endometrium	0	0
	Proliferative endometrium	23	57.5
	Secretory endometrium	11	27.5
Abnormal	Endometrial Hyperplasia	5	12.5
	Polypoid endometrium	1	2.5
	Carcinoma	0	0

57.5% cases had proliferative phase while 27.5% had secretory phase, 12.5% cases had endometrial hyperplasia, 2.5% cases had polypoid endometrium.

**TABLE-2 DISTRIBUTION OF CASES ACCORDING ENDOMETRIUM THICKNESS IN RELATION WITH NORMAL AND ABNORMAL UTERUS**

Condition of Endometrium	No.	Range	Mean	SD	
Perimenopausal group	Normal type	34	5-16	8.00	2.44
	Abnormal type	6	11-19	15.16	3.3

In perimenopausal women mean endometrial thickness of normal endometrium was  $8.00 \pm 2.44$  and Mean endometrial thickness of abnormal endometrium was  $15.16 \pm 3.3$ . The difference between mean normal and abnormal endometrium thickness was significance ( $p$  value  $< .001$ ).

**DISCUSSION—**

Always a ideal diagnostic test should be non invasive, easily acceptable, easily performable, low cost, high sensitivity, high specificity. In this prospective study we done study of endometrium on TVS & its relation with HPR finding on D&C. HPR was normal in 85% cases, endometrial hyperplasia in 12.5% and polyp. in 2.5% cases. A. Singh<sup>7</sup>, S. Singh, V.M., K. Singh (2001) have done a study in M. Medical College, Agra, India. 100 patients, out of which 50 were of DUB and 50 of reproductive age group with normal menstrual cycles were for the study. On histopathology normal endometrium was present in 60% cases, endometrial hyperplasia was in 28% cases. Histopathological findings were well correlated with TVS findings in all cases except four.<sup>7</sup> Mean endometrial thickness in normal endometrium group was  $8.00 \pm 2.44$  mm and in abnormal endometrium group was  $15.16 \pm 3.3$  mm. The difference was found highly significant ( $p$  value  $< .001$ ). Similar results obtain by Thera<sup>8</sup> and co workers suggested that endometrial thickness of  $< 7$  mm gave 100% sensitivity and 46% specificity with normal histopathology. Similar results also found by Odvaar. et al<sup>9</sup> study In premenopausal women  $> 8$  mm endometrial thickness gave sensitivity of 67%, Specificity 75%, positive predictive value 14% and negative predictive value 97%.

**CONCLUSION-**

This study shows that in perimenopausal women with abnormal uterine bleeding the first investigation should be less invasive TVS. If endometrial thickness with  $> 8$  mm on TVS then they can be further subjected to dilatation and curettage, as this study shows that with an endometrial thickness Cut off of  $> 8$  mm the dilatation and curettage can be avoided in fourty percentage AUB women. If necessary we can subject women to further more invasive tests like hysteroscopic guided biopsy, saline infusion sonogram. In TVS we can also see the myometrium, endomyometrial junction, adnexa more precisely.

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