



## SONOGRAPHIC AND HISTOPATHOLOGICAL CORRELATION AND EVALUATION OF ENDOMETRIUM IN WOMEN WITH PERIMENOPAUSAL AND POSTMENOPAUSAL BLEEDING

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**ABSTRACT**

**Aim:** In this study we evaluate the usefulness of transvaginal ultrasound to assess endometrial thickness and endometrial pathology, and its correlation with histopathology in cases of perimenopausal and postmenopausal bleeding.

**Methods:** It is a prospective study done on 100 women who were enrolled between August 2015 to July 2016. Out of 100 cases, 50 women were in perimenopausal age group and 50 were in postmenopausal age group.

**Result:** From this study 50% of women with atrophic endometrium had a mean endometrial thickness <5mm and 50% of women with endometrial pathology had a thickness >5mm.

**Conclusion:** TVS is useful as a first step diagnostic procedure in the evaluation of peri and postmenopausal bleeding. This study proves that this diagnostic tool correlates well with the histopathology findings. TVS with HPE correlation helps us to identify atypical hyperplasia at the earliest which is a precursor of adenocarcinoma in 29%.

**KEYWORDS :** Transvaginal, Histopathology, postmenopausal bleeding, endometrial thickness.

**INTRODUCTION:**

Abnormal Uterine bleeding (Aub) is one of the most common problem among peri & postmenopausal women. A menstrual abnormality is the cause of discomfort, inconvenience and disruption of healthy, social and physical life styles among women worldwide. It is responsible for more than 20% of all visits to outpatients clinic and may accounts for more than 25% of all hysterectomies . In perimenopausal women, Aub is diagnosed when there is a substantial change in frequency, duration or amount of bleeding or between periods. In postmenopausal women, any vaginal bleeding during after 1 year of cessation of menses is considered abnormal and required evaluation. There are many diagnostic modalities for evaluating endometrial pathologies in women who have Aub. These include dilation & Curettage, and hysteroscopy. Recently transvaginal sonogram (TVS) has permitted the use of higher frequency ultrasound waves at greater proximity of the uterus. It is relatively cheap, non invasive diagnostic modality of studying the endometrial pattern and its thickness and at the same time to exclude organic pathology in case of Aub and also detects malignant lesions or their precursors at an earlier stage. The thickness and internal echo texture of the endometrium in the various phases of the menstrual cycle as seen in transvaginal sonogram correlates well with endometrial histology.

**AIM OF THE STUDY:**

This study proposes to correlate the findings of two diagnostic modalities used in the evaluation of women with peri ad postmenopausal bleeding namely transvaginal sonogram and histopathological examination.

**METHODS:**

It is a prospective study done in the dept of OBG in Stanley Medical College & Hospital, Chennai, Tamilnadu for a period of 1 yr from August 2015 to July 2016. In this 100 women were enrolled who were coming to OPD. 50 women with perimenopausal bleeding (age >40yrs not attained menopause) and 50 women with postmenopausal bleeding (age >40 yrs who attained menopause). Patients included were with H/o of irregular or excessive vaginal bleeding, who were >40yrs and both nulliparous and parous women. Patients with medical disorders, ca cervix, fibroid polyp which is visualized by speculum examination and adnexal swelling were excluded. These women examined with detailed history, pelvic

examination with basic lab investigations & TVS done for endometrial thickness along with any pathology, later they were subjected to curettage for histopathological study and results correlated with TVS.

**RESULTS**

In our study, out of 100 women who were in the age group of >40 yrs were included. These were divided into 2 group like, perimenopausal age as group A, and post menopausal age as group B. 50%of cases in our study were in perimenopausal age and 50% were in post menopausal age.

**COMPARISON OF HPE WITH TVS MEASUREMENT OF ENDOMETRIAL THICKNESS IN GROUP A (POST MENOPAUSAL BLEEDING)**

NO	HPE REPORT	NO.OF CASES	MEAN ENDOMETRIAL THICKNESS IN MM	PERCENTAGE
1.	Atrophic Endometrium	18	3.87mm(2-5)	36%
2.	Tissue Insufficient for Diagnosis (TIFD)	8	3.58mm(2.6-4)	16%
3.	Cystoglandular hyperplasia	7	13.57mm(11-17)	14%
4.	Nonsecretory endometrium	3	7mm(6-8)	6%
5.	Secretory endometrium	6	9.16mm(8-10)	12%
6.	Pyometra/Endometritis	4	9mm(8-11)	8%
7.	Endometrial carcinoma	4	17.2mm(16-18)	8%

Thus it can be seen that 50 % of women with atrophic endometrium had a mean endometrial thickness <5mm and 50% of women with endometrial pathology namely proliferative phase, hyperplasia, carcinoma of endometrium and pyometra had a mean thickness >5mm.

**COMPARISON OF HPE WITH TVS MEASUREMENT OF ENDOMETRIAL THICKNESS IN GROUP B (PERI MENOPAUSAL BLEEDING)**

NO	HPE REPORT	NO.OF CASES	MEAN ENDOMETRIAL THICKNESS IN MM	PERCENTAGE
1.	Adenomatous hyperplasia	1	22mm	2%
2.	Proliferative Endometrium	4	8.75mm(8-10)	8%
3.	Cystoglandular hyperplasia	11	15.36mm(13-18)	22%
4.	Nonsecretory endometrium	26	8.73mm(6-11)	52%
5.	Secretory endometrium	4	10.25mm(9-12)	8%
6.	Endometritis	1	18mm	2%
7.	Endometrial carcinoma	2	25.5mm(25-28)	4%
8.	Atypical hyperplasia	1	24mm	2%
<b>TOTAL</b>		<b>50</b>		

Therefore it can be seen that endometrial thickness <13mm the HPE report was normal endometrium either secretory or nonsecretory. An endometrial thickness >13mm has been found to be associated with hyperplasia including one adenomatous and one atypical hyperplasia.

**COMPARISON OF HPE WITH TVS MEASUREMENT OF ENDOMETRIAL VOLUME IN GROUP A (POST MENOPAUSAL BLEEDING)**

NO	HPE REPORT	NO.OF CASES	MEAN ENDOMETRIAL THICKNESS IN CM3	PERCENTAGE
1.	Atrophic Endometrium	18	12.72(8.46-14.2)	36%
2.	Tissue Insufficient for Diagnosis (TIFD)	8	11.5(10.45-12.46)	16%
3.	Cystoglandular hyperplasia	7	59.3(28.8-95.7)	14%
4.	Nonsecretory endometrium	3	43.87(43.16-45.3)	6%
5.	Secretory endometrium	6	48.78(34.6-63.4)	12%
6.	Pyometra/Endometritis	4	49.33(26.8-68.5)	8%
7.	Endometrial carcinoma	4	136(102.3-175.8)	8%
<b>TOTAL</b>		<b>50</b>		

This table shows mean endometrial volume was <13 cm3 HPE report is atrophic endometrium. An endometrial volume >13cm3 is associated with endometrial pathology.

**DISCUSSION**

Abnormal uterine bleeding is common in peri menopausal & postmenopausal women. The etiology varies from simple dysfunctional uterine bleeding to benign lesions like polyp, fibroid & malignancies. Apart from the clinical examination, various diagnostic modalities are available to confirm our diagnosis. In our study the efficacy of trans vaginal sonogram for diagnosing abnormal uterine bleeding & its correlation with histopathology of endometrium by fractional curettage were studied. In our study 100 cases of AUB were enrolled, out of which, 50 cases (50%) in peri menopausal and 50 cases (50%) in post menopausal age group respectively.

Regarding endometrial thickness by TVS and results were correlated with HPE reports. In postmenopausal group 18(36%) had atrophic endometrium, 8(16%) had Tissue insufficient for diagnosis, 7(14%) had endometrial hyperplasia with ET

Thickness of 13.57mm, 4(8%) had endometrial carcinoma (ET Thickness-17.2mm). In peri menopausal group 11(22%) had endometrial hyperplasia with ET Thickness of 15.36mm, 1(2%) had adenomatous hyperplasia, another 2(4%) had endometrial carcinoma of ET Thickness (25.5mm).

The endometrial volume in women with postmenopausal bleeding ranged from 8.46cm3 in atrophic endometrium to 175.84cm3 in a patient with endometrial carcinoma

In the present study of 50 women with postmenopausal bleeding using 5 mm and perimenopausal bleeding using 13mm as a cut off limit, vaginal sonography successfully diagnosed endometrial abnormality. The specificity and sensitivity were both 100%. There were no false negative or false positive with a positive predictive value of 100% and a negative predictive value of 100%.

**CONCLUSION**

Transvaginal sonography has a good diagnostic accuracy in detecting endometrial hyperplasia. Due to the fact that TVS is safe, acceptable and non invasive which is easily available in all health centre and it should be continued as first line of diagnostic step in women with Abnormal uterine bleeding. This study proves that the diagnostic tool correlates well with its histopathological findings. Intrauterine pathology of the endometrium and myometrium are well delineated and endometrial carcinoma detected with precision. It appears that the ultrasonogram will continue to take the role of stethoscope for gynaecologist.

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