



COMPARISON BETWEEN ULTRASONOGRAPHY AND HYSTEROSCOPY FOR ASSESSMENT OF ENDOMETRIAL PATHOLOGY

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INTRODUCTION- While Ultrasonography is a non-invasive Out-patient based procedure and carried out with minimal discomfort to the patient, hysteroscopy and endometrial biopsy/aspiration are invasive office-based procedures or may require day care admission, may be uncomfortable for the patient and are costlier. Nevertheless, hysteroscopy remains the most accurate technique for the diagnosis of endometrial disease. It allows both direct visualization of the uterine cavity and biopsies of suspicious areas.

AIMS AND OBJECTIVES- To compare the diagnostic accuracy of Ultrasonography and Hysteroscopy as measured in sensitivity, specificity, Positive predictive value and negative predictive value in diagnosing endometrial pathology against histopathology examination taken as gold standard.

METHODOLOGY- All patients with abnormal uterine bleeding diagnosed as per FIGO system 1 guidelines underwent ultrasonography, hysteroscopy and endometrial biopsy along with all the necessary investigations directed towards diagnosing abnormal uterine bleeding as per patient clinical profile. Patients fulfilling the inclusion criteria were included in the study after informed consent. Data were collected and analysed by using SPSS version 23.

STUDY DESIGN –
PROSPECTIVE OBSERVATIONAL STUDY
Test of proportion was used for analysing the comparisons of sensitivity, specificity, Positive predictive value (PPV) and Negative Predictive value (NPV).

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Women aged > 35 years with AUB who are willing to participate in the study and giving consent. • Those who were willing to undergo TVS (trans vaginal sonography) and hysteroscopy followed by biopsy.	• Women < 35 years of age • Known Cases of malignancy of genital tract. • Women who were diagnosed with endocrinological disease, tumors of genital tract, coagulation abnormalities as causes of AUB • Those not willing for undergoing transvaginal sonography, hysteroscopy and biopsy/aspiration.

AGE GROUP	SENSITIVITY (in %)		SPECIFICITY (in %)		PPV (in %)		NPV (in %)	
	HYS	USG	HYS	USG	HYS	USG	HYS	USG
OVERALL	81.94	47.22	81.08	42.86	89.87	62.87	68.67	28.38
PRE-/PERI MENOPAUSAL	84.48	51.72	87.10	45.16	88.57	52.75	82.59	44.15
POST- MENOPAUSAL	84.62	30.77	80.00	40.00	44.62	8.9	96.47	75.21
ENDOMETRIAL POLYP	87.50	34.38	83.33	16.67	69.13	14.96	93.99	37.32
ENDOMETRIAL HYPERPLASIA	57.15	28.75	100	<1	100	4.12	93.94	<1
ENDOMETRIAL CARCINOMA	66.67	33.33	100	<1	100	<1	99.05	<1

RESULTS - In total 107 patients were recruited in the study, out of which 18 were post-menopausal females, and 89 were pre-/peri-menopausal females. In the current study Sensitivity, specificity, PPV, NPV of hysteroscopy in diagnosing endometrial pathologies was found to be better than that of hysteroscopy. In analysis among post-menopausal females and pre-/peri-menopausal females similar results were reflected. Sensitivity, specificity, PPV and NPV of hysteroscopy for diagnosing endometrial polyp, endometrial hyperplasia and endometrial carcinoma was significantly higher than diagnostic power of ultrasonography. This difference was statistically significant with p value of <0.00001 in all comparisons. In comparing Hysteroscopy and Ultrasonography, Kappa value was calculated to be 0.30 which is a fair agreement.

CONCLUSION- Hysteroscopy can be recommended as investigation of choice for assessment and treatment of abnormal uterine bleeding in both reproductive age group and post-menopausal females as it is being offered as first line of investigation for suspected endometrial pathology as a office based procedure in many centres.