

ORIGINAL RESEARCH

## HISTOMORPHOLOGICAL SPECTRUM OF ENDOMETRIAL AND CERVICAL LESIONS FOLLOWING CURETTAGE AND BIOPSY- A RETROSPECTIVE STUDY

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### ABSTRACT

**Background:** Abnormal uterine bleeding (AUB) is the most common clinical presentation in premenopausal and postmenopausal period which could be due to either endometrial or cervical lesions. Early detection of precursor lesions and exclusion of malignancy is a diagnostic challenge for pathologists. Many studies were done on either endometrium or cervix alone, hence we took this study to evaluate both simultaneously before the hysterectomy. **Objectives:** To profile the histomorphological spectrum of endometrium and cervical lesions on curettage and biopsy concurrently before hysterectomy and correlation with hysterectomy specimens wherever available.

**Materials and Methods:** The present study was conducted on 153 cases of endometrial curetting's and cervical biopsies received from Department of Gynaecology to Department of Pathology, RIMS, Raichur during a period of February 2020 to January 2022. Histopathology slides were retrieved from the archives of Department of Pathology. New slides were made from Paraffin embedded blocks wherever necessary and stained with Haematoxylin and Eosin. Histopathological examination of the hysterectomy specimens was conducted wherever available.

**Results:** Majority of the patients were in third decade of life with mean age of 41.3 years (P<0.0001) and the commonest clinical indication was AUB ((P<0.0001). Majority of the endometrium showed cyclical changes in both endometrial curettage and in hysterectomy specimens which showed a perfect positive coefficient correlation of 0.92 (P value = 0.028). Similarly, the cervical biopsy and cervix findings in hysterectomy specimen showed a highly significant P < 0.0001. The commonest histomorphological lesion in cervix was non-specific chronic cervicitis (NSCC).

**Conclusion: Abnormal uterine bleeding is a major gynaecological problem in perimenopausal and post-menopausal women. It could be due to either endometrial / cervical lesions hence if it is evaluated simultaneously with a minimally invasive procedure as our study so that unnecessary radical surgeries can be avoided and medical/ conservative treatment could be offered.**

**Keywords: Endometrial curettage, Cervical biopsy, Abnormal uterine bleeding, Hysterectomy.**

## **INTRODUCTION**

Uterus is a vital organ of female reproductive system which varies throughout the life under the influence of hormones which needs to be evaluated. Lesions of endometrium and cervix are broadly categorised into inflammatory / benign and malignant. PAP smears, endometrial curetting's and cervix biopsies are the minimally invasive procedures used to evaluate the lesions and are done on OPD basis as they do not require General Anaesthesia.

Histopathological examination is the gold standard for evaluation; hence this can be considered as a preoperative screening procedure for both cervix and endometrial lesions.

Abnormal uterine bleeding is the most common cause for both endometrial and cervix sampling as it is one of the underlying causes of anaemia in premenopausal period and suspicious of malignancy in the post-menopausal period.

Often benign lesions of cervix and endometrium, mimic malignancy and malignant disease may be hidden from view which can be a challenging task. Diagnosis and management require a compilation of visual, tactile and laboratory assessment. Hence, this study has been taken up in order to evaluate various lesions in both endometrial curettage & cervical biopsy simultaneously which will further aid in appropriate management of the patient.

## **MATERIALS & METHODS**

This is a 2 years retrospective study of 153 cases from the duration of February 2020 to January 2022 in department of pathology. RIMS, Raichur. All the cases with endometrial curetting's and cervical biopsy, received in the department of pathology, RIMS for histopathological examination were included in the present study. Hysterectomy specimen for histopathological examination of the same cases were also retrieved, wherever available.

Demographic data regarding age, clinical features and diagnosis, other investigations were retrieved from the histopathology requisitions and medical record department. Histopathology slides were retrieved from the archives of Department of Pathology. New slides were made from Paraffin embedded blocks wherever necessary and stained with Haematoxylin and Eosin.

Objective of the study was to profile endometrial and cervical lesions at a time before hysterectomy in different age group for early detection of lesions which can aid in further appropriate management.

## **RESULTS**

Total 153 cases were studied, maximum number of cases were in the age group of 31-40 years followed by 41-50 years and least in 71-80 yrs age group which were 66 (43.1%), 49 (32%) and 1 (0.7%) respectively. Mean age in our study was 41.3 years. Age distribution is

depicted in [Table 1]. The statistical analysis showed P value of less than 0.0001 which was considered highly significant for age distribution of cases.

In our study most common clinical presentation was abnormal uterine bleeding followed by uterovaginal prolapse and pain abdomen which were 75 cases (44.02%), 30 (19.67%) and 30 (19.67%) respectively. Only 1 case (0.65%) had mass per abdomen. Following results are depicted in [Table 2]. The statistical analysis showed P value of less than 0.0001 which was considered highly significant for clinical indications of endometrial curettage and cervical biopsy

[Table 3] shows the histomorphological pattern of endometrium and cervix. Out of 153 cases 82 cases showed normal cyclical changes of them 57 (37.2%) had Proliferative Phase and 25 (16.34%) were secretory phase. On Cervical biopsies 116 (76.82%) out of 153 cases showed Non-Specific chronic cervicitis followed by Chronic Polypoidal Cervicitis 6 (3.92%). Among 153 cases 45(28.76%) endometrial curetting's and 13 (8.5%) cervical biopsies were inadequate for interpretation due to scant tissue / unassessable.

**Table 1: Age wise distribution of cases in the present study**

Age	No of cases	Percentage	P<0.0001 (Highly Significant)
21-30	19	12.4	
31-40	66	43.1	
41-50	49	32	
51-60	15	9.8	
61-70	3	2	
71-80	1	0.7	
	Total= 153	100	

Mean age is 41.30

**Table 2: Clinical Indications for endometrial curettage and cervical biopsy**

Indications	No of cases	Percentage	P<0.0001 (Highly Significant)
Abnormal Uterine Bleeding	75	49.02	
UVP	30	19.61	
Mass per abdomen	1	0.65	
White discharge	9	5.88	
Pain abdomen	30	19.61	
No major complaints	8	5.23	
Total	153	100	

**Table 3: Spectrum of HPR (biopsy) findings in endometrial curettage and cervical biopsy.**

No	Endometrium			Cervix		
	Diagnosis	No of cases	% of cases	Diagnosis	No of cases	% of cases
1	SP	25	16.34	NSCC	116	75.82
2	PP	57	37.26	NSCC with sq metaplasia	3	1.96

3	Simple hyperplasia	7	4.58	NSCC with epidermidization/squamous metaplasia	5	3.27
4	CGH	4	2.61	Nscc , FOCAL MILD ATYPIA	1	0.65
5	Pill endometrium	2	1.31	NSCC with koilocytic change	1	0.65
6	Disordered PP	9	5.88	NSCC with procedural change	3	1.96
7	Atrophic	3	1.96	Dysplasia	4	2.62
8	Endocervicitis	1	0.65	Chronic polypoidal cervicitis	6	3.92
9	Endometrial polyp	1	0.65	Squamous Cell Carcinoma	1	0.65
10	Inadequate	45	28.76	Inadequate	13	8.50
P<0.0001(Highly significant)				P<0.0001(Highly significant)		

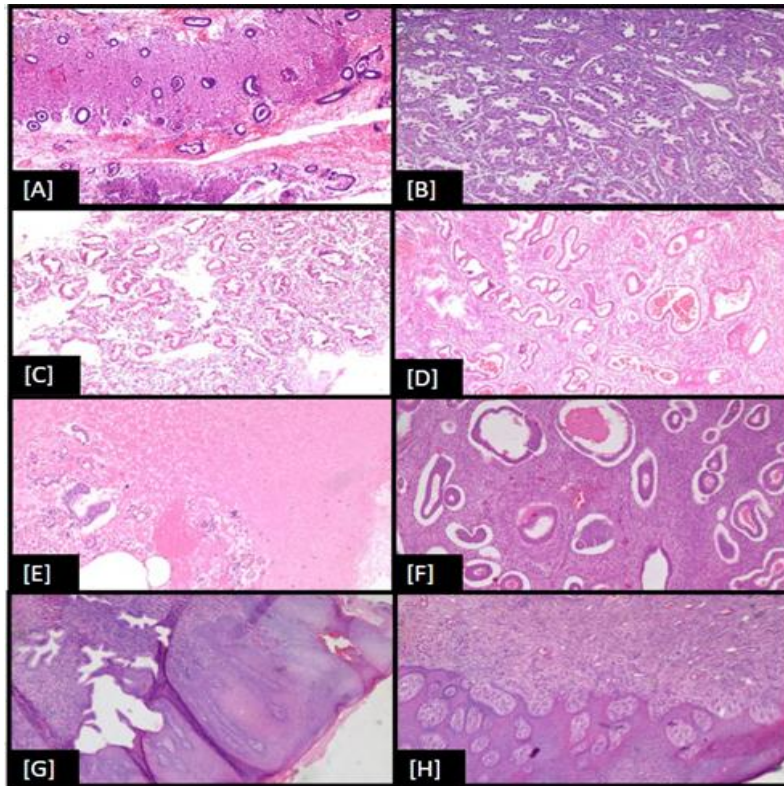
**Table 4: Histopathological correlation of endometrial curetting's with hysterectomy specimens.**

<b>Endometrium</b>				
<b>S.No</b>	<b>Endometrial Curettage</b>	<b>No of cases</b>	<b>Hysterectomy - Endometrium</b>	<b>No. of cases</b>
1	SP	5	SP	3
			PP	1
			atrophic	1
2	PP	11	PP	6
			SP	4
			CGH	1
3	Simple hyperplasia	1	Simple hyperplasia	1
4	Disordered proliferative phase	3	PP	1
			SP	1
			Atrophic	1
5	Inadequate	7	Senile atrophy	5
			PP	2
	Total	27		27

**Table 5: Histopathological correlation of cervical biopsies with hysterectomy specimens.**

<b>No</b>	<b>CERVIX</b>			
	<b>Cervix Biopsy</b>	<b>No.of cases</b>	<b>Hysterectomy - Cervix</b>	<b>No. of cases</b>
1	NSCC	26	NSCC	14
			NSCC with squamous metaplasia	6
			Chronic Polypoidal cervicitis with squamous metaplasia	5
			Benign cervical polyp	1

4	Inadequate	1	Endocervicitis	1
	TOTAL	27		27
P <0.00032 (Highly Significant)				



**Figure 1: Endometrial Curetting's: [A] Proliferative Phase [C] Secretory Phase [E] Inadequate, [2] Microscopy of Hysterectomy Specimens: [B] Proliferative Phase [D] Secretory Phase [F] Senile Cystic Atrophy, [G] Cervical Biopsy : Non Specific Chronic Cervicitis, [H] Hysterectomy findings of Cervix : Non Specific Chronic Cervicitis**

Amongst 153 endometrial curetting's and cervical biopsies, only 27 cases of hysterectomy were available for evaluation which is depicted in [Table 4]. The histopathological findings of endometrial curettage and cervical biopsy on statistical analysis showed a P value of less than 0.0001 which was considered highly significant.

7 cases were reported inadequate on endometrial curetting's but on hysterectomy histopathological examination 5 cases showed senile atrophy which may be the cause of scant tissue on endometrial curetting's and 2 cases showed proliferative phase.

The Correlation Coefficient is 0.918 which denotes a perfect positive correlation between endometrial curettage findings with histopathological diagnosis of endometrium in hysterectomy specimens had a significant P value of 0.028.

All 27 cases that showed non-specific chronic cervicitis on cervical biopsy well correlated with histopathological examination of cervix in hysterectomy specimens showed a highly significant P value of less than 0.00032. One case showed additional finding of benign cervical polyp as depicted in [Table 5].

## DISCUSSION

Abnormal uterine bleeding is the most common presentation to the gynaecology OPD which could be due to either endometrial / cervical causes which need to be evaluated thoroughly. Any variation in the menstrual blood flow, frequency, volume, amount is defined as abnormal uterine bleeding. Although hysterectomy is most commonly performed surgery for abnormal uterine bleeding but it has its own morbidity.

Hence the present study was done to evaluate the endometrial curetting, cervical biopsy at the same time and subsequently histopathological examination of hysterectomy specimens was carried out wherever specimens were available. In our study a total of 153 cases were studied over a period of 2 years.

The age distribution in our study was ranging from 21years to 80years with mean age group of 41 years. Similar observations were also found in other studies by Tiwana et al.<sup>[1]</sup> where the patient age ranged from 22-85 years with mean age of 45 years and Neetu Punia et al,<sup>[2]</sup> who had a total of 104 cases with age group ranging from 21-70 years.

The commonest clinical indication for endometrial curettage and cervical biopsy in our study was abnormal uterine bleeding which was found in 75 cases (49%) out of 153 cases. Similar results were also observed in Qamar ur nisa et al,<sup>[3]</sup> Sreedhar et al,<sup>[4]</sup> Arzoo Amin et al,<sup>[5]</sup> Poonam Sharma,<sup>[6]</sup> Sarika Gaikwad and Sehrish Khurshid et al respectively.<sup>[7,8]</sup>

Out of 153 cases the most common endometrial finding in endometrial curetting's was proliferative phase 57 (37.26%) and secretory phase 25 (16.34%), similar findings were observed in Sarika Gaikwad et al,<sup>[7]</sup> (19.5% and 15%) as well as in Vaidya et al 165(40.94%).<sup>[9]</sup>

The other morphological patterns were disordered proliferative phase followed by cystoglandular hyperplasia, pill endometrium and atrophic endometrium. Above findings were also observed in Vani et al,<sup>[10]</sup> Ayesha Sarwar et al.<sup>[11]</sup> 7 cases were reported as inadequate for opinion where no endometrial tissue was found / unassessable.

Among 153 cases of cervical biopsies, the most common lesion was non-specific chronic cervicitis 116 (75%) which was observed in other studies by Kumari k et al Kaseka Pu et al and Badge et al.<sup>[12-14]</sup> The other cervical biopsy findings were Non-specific chronic cervicitis with squamous metaplasia, chronic polypoidal cervicitis and benign cervical polyp.

There were no malignant lesions either in endometrium and cervix in our study conducted.

Hysterectomy specimens were available only for 27 cases, of which 16 cases showed normal cyclical endometrial changes which was correlated of which 9 cases had similar findings on endometrial curetting's. 1 case showed endometrial hyperplasia on endometrial curetting as well as on hysterectomy specimen.

7 cases were inadequate out of 153 cases of which 5 cases were of senile cystic atrophy on hysterectomy specimen, this could be the cause for scant tissue on endometrial curetting's and 2 were proliferative phase on hysterectomy specimens.

Among 27 cases of cervical biopsy, 26 cases were of Non-specific chronic cervicitis which was well correlated with hysterectomy specimens. Only one case was considered inadequate for opinion in cervical biopsy which showed Chronic Polypoidal cervicitis in hysterectomy specimens.

Our study showed a highly significant P value on statistical analysis for age wise distribution, clinical indications and profiling of histomorphological spectrum of lesions in endometrial

curettage and cervical biopsy as well as in correlation between cervical biopsies with hysterectomy findings of cervix. Similarly, there was a perfect positive coefficient correlation between endometrial curettage and endometrial findings in hysterectomy specimens.

## CONCLUSION

Abnormal uterine bleeding is a major gynaecological problem in perimenopausal and postmenopausal women. It could be due to either endometrial / cervical lesions hence if it is evaluated simultaneously with a minimally invasive procedure as our study, unnecessary radical surgeries can be avoided and medical/ conservative treatment can be offered.

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