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Clinicopathological study of 400 endometrial curettage samples at rural tertiary care centre

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Abstract
Introduction: An endometrial sampling procedure is a gold standard for the diagnostic evaluation of women with abnormal uterine bleeding (AUB) with primary aim to identify the cause, especially to determine whether carcinoma or premalignant lesions are present. Abnormal uterine bleeding (AUB) is the commonest presenting symptom in gynaecology outpatient department. Here we are presenting a study of 400 endometrial curettage samples with regard to the clinic-pathological findings.
Objectives: This study was done to evaluate 400 endometrial curettage samples clinicopathologically at a rural tertiary care centre.
Material and Methods: A total of 400 endometrial curettage samples were processed and H & E staining was done. Special staining and IHC was done wherever required. Clinicopathological correlation was done in all the cases and the results are compared to other studies.
Results: In our study of 400 endometrial curettage samples, the minimum age observed was 18 years and maximum age of 70 years with most common age group was between 31-40 years. The commonest findings were of cyclical changes in the endometrium followed by abnormal endometrial pathology and trophoblastic diseases.
Conclusion: Endometrial biopsy is an important tool to diagnose gynaecological conditions in patients. It is important to know the histological pattern of the endometrium in abnormal uterine bleeding in different age groups since it will help in the management of the cases. Postmenopausal bleeding should be considered as an indication of malignancy until proved otherwise.

Keywords: endometrial curettage, clinicopathological, abnormal uterine bleeding

Introduction
Uterine cavity is lined by the endometrial mucosa. Endometrium is continuously under hormonal effect throughout life. These hormones can be of ovarian or pituitary origin. Pathology of endometrium can be better evaluated on endometrial biopsies, scrapings or curettage. Endometrial biopsies are obtained for a number of reasons that include abnormal uterine bleeding in certain age groups, incomplete abortions, or suspected neoplasia and the endometrium may be sampled prior to certain procedures to treat infertility to determine the phase of the cycle to guide further tests or treatments. The endometrium may be examined as part of a hysterectomy specimen and may be the site of a primary or secondary neoplastic process [1].
Endometrial sampling is a safe procedure with a high sensitivity to evaluate the endometrium [2]. It could be used as the first diagnostic step in the evaluation of abnormal uterine bleeding (AUB). Any alteration in the volume or pattern of menstrual blood flow is termed as AUB. Abnormal uterine bleeding occurring after one year of menopause is termed as postmenopausal bleeding (PMB) [1].

Materials and Methods
The present study is a prospective and retrospective observational study carried out in the department of Pathology, at a rural based tertiary care centre on 400 endometrial curettage samples received to the histopathology laboratory. The case selection was based on inclusion and exclusion criteria. Only endometrial curettage/ biopsy samples were included in the study while hysterectomy specimens were excluded. Pertinent data like age, parity, menstrual history and drug history were collected from the patients. The curettage samples were fixed in 10% formal saline, processed in automatic tissue processor and paraffin blocks were prepared.

Tissue sections of 4- 6µ were cut and stained with haematoxylin and eosin stain [H&E] stain. Histopathological evaluation was done under light microscope. Special stains and Immunohistochemistry [IHC] were done as when required for confirmation of the diagnosis.

Observations and Results

The present study includes a total of 400 endometrial curettage samples received during period of January 2019 to August 202. In specimens where no endometrial tissue was seen or no conclusion could be arrived at, in spite of the presence of some tissue, a diagnosis of inadequate for evaluation was given. Normal cyclical changes in endometrium and abnormal histopathological findings such as hyperplasia's, polyps, features suggestive of AUB/ DUB, pregnancy complications (molar or retained products of conception), malignancy etc. were noted.

Table 1: Distribution of patients in various age groups:

Age [years]	No. of patients	Percentage [%]
< 20	01	0.25
20- 30	86	21.5
31- 40	135	33.75
41- 50	117	29.25
51- 60	54	13.50
61- 70	04	1.00
> 70	03	0.75

Most of the biopsy specimens were received in the age group of 30-50 years followed by 20-30 years and 51- 60 years of age.

Table 2: Distribution of cases according to clinical presentation

Chief complaints	Number of cases	Percentage [%]
Menorrhagia	128	32
Metromenorrhagia	91	23
Polymenorrhea	80	20
Inability to conceive	55	14
Discharge and bleeding per vaginum	41	10
Post-menopausal bleeding	5	1
Total	400	100

Menorrhagia was the most common chief complain amongst 128 [32%] cases followed by Metromenorrhagia in 91 [23%], Polymenorrhea in 80 [20%], inability to consive in 55 [14%] and discharge with prevaginal bleed in 41 [10%] cases in the present study.

Table 3: Distribution of patients based on histopathological diagnosis:

Histopathological Diagnosis	Number of patients	Percentage [%]
Inadequate Samples/ Biopsies	72	18.0
Proliferative Phase	78	19.5
Secretory Phase	52	13.0
Menstrual endometrium	01	0.25
Atrophic endometrium	02	0.5
Senile cystic glandular hyperplasia	10	2.5
Hyperestrogenic state	01	0.25
Disordered proliferative phase	14	3.5
Abnormal secretory phase	18	4.5
Luteal phase defect (Hormonal imbalance)	16	4.0
Pill endometrium/Progestin effect	22	5.5
Endometrial polyp	19	4.75
Simple endometrial hyperplasia without atypia	24	6.0
Complex hyperplasia without atypia	02	0.5
Glandular and stromal breakdown	13	3.25
Products of conception and molar pregnancy	50	12.5
Acute endometritis	02	0.5
Chronic endometritis	01	0.25
Endometrioid adenocarcinoma	01	0.25
Mucinous carcinoma	01	0.25
Papillary serous carcinoma	01	0.25
Total	400	100%

Out of 400 specimens, 72 samples received were inadequate followed by normal cycling endometrium, which was the commonest pattern observed. Among these 131 cases of cyclic endometrium [Fig 1], 78 were proliferative and 52 were secretory and 1 in menstrual phase. Senile cystic glandular hyperplasia was seen in 10 cases while hyperestrogenic state was observed in single case. Atrophic endometrium was seen in 2 cases.

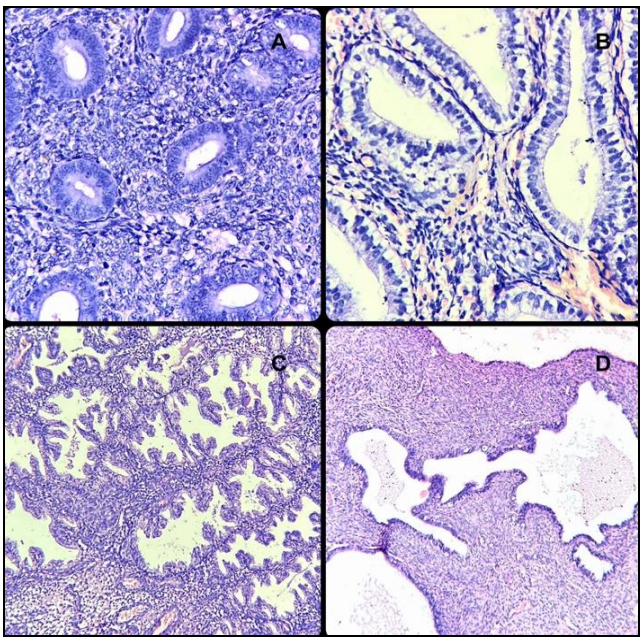

Fig 1: Shows [A] proliferative phase, [B] early secretory phase, [C] secretory phase and [D] senile cystic atrophy of endometrium. [H&E: 40X]

Disordered proliferative phases and abnormal secretory phases [Fig. 2 A, B] in the endometrium were observed in 14 and 18 cases respectively. Luteal phase defect was seen in 16 cases. Pill endometrium [Fig.3A] was observed in 22 cases while endometrial polyps were seen in 19 cases. Simple endometrial hyperplasia without atypia [Fig.3B] was observed in 24 patients while complex endometrial hyperplasia without atypia was seen in 2 cases. Glandular and stromal breakdown suggestive of AUB was seen in 13 cases. Trophoblastic lesions were seen in 50 cases with molar pregnancy [Fig.3C] being the predominant cause. Endometritis [Fig. 2C, D] was seen in 3 cases. Three cases of malignancy [Fig. 3D] were seen during study period.

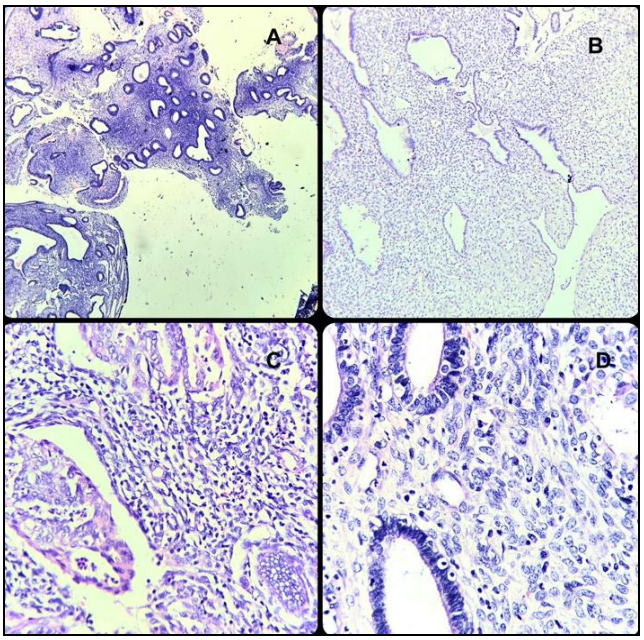

Fig 2: Shows [A] disordered proliferative phase, [B] abnormal secretory phase, [H&E: 10X] [C] acute endometritis and [D] chronic endometritis. [H&E: 40X]

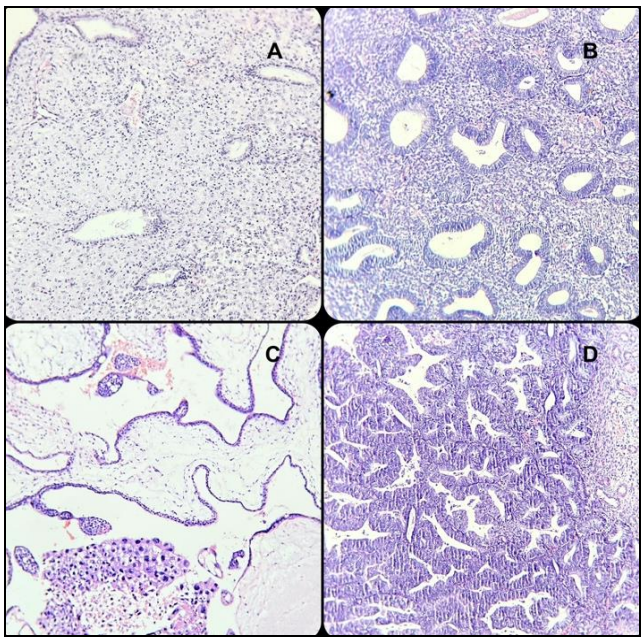

Fig 3: Shows [A] pill endometrium, [B] endometrial hyperplasia, [C] vesicular mole and [D] endometrial carcinoma. [H&E: 40X]

Table 4: Age [Years] wise histopathological diagnosis:

Histopathological Diagnosis	< 20	20-30	31-40	41- 50	51-60	>61
Proliferative Phase	0	11	26	34	7	0
Inadequate	0	5	25	21	20	1
Secretory Phase	1	8	22	15	5	1
Products of conception and molar pregnancy	0	48	2	0	0	0
Simple endometrial hyperplasia without atypia	0	3	13	3	4	1
Pill endometrium/ Progestin effect	0	4	9	8	1	0
Endometrial polyp	0	0	10	5	4	0
Abnormal secretory phase	0	0	10	6	1	1
Luteal phase defect	0	4	5	6	1	0
Disordered proliferative phase	0	2	4	5	3	0
Glandular and stromal breakdown	0	0	3	8	2	0
Simple cystic glandular hyperplasia	0	0	2	3	4	1
Complex hyperplasia without atypia	0	0	2	0	0	0
Atrophic endometrium	0	0	0	0	2	0
Acute endometritis	0	0	0	2	0	0
Chronic endometritis	0	0	1	0	0	0
Menstrual endometrium	0	0	1	0	0	0
Hyperestrogenic state	0	1	0	0	0	0
Endometrioid adenocarcinoma	0	0	0	1	0	0
Mucinous carcinoma	0	0	0	0	0	1
Papillary serous carcinoma	0	0	0	0	0	1
Total [400]	1	86	135	117	54	7

Discussion

The endometrial lining is divided into a deeper basal layer and a superficial functional layer. The superficial functional layer is under the influence of pituitary and ovarian hormones. Any deviation from the normal menstrual cycle can be attributed to: disorders of endometrial origin, disorders of hypothalamic-pituitary-ovarian axis. A normal menstrual cycle has a frequency of 24-38 days, last 7-9 days

with 5-80 ml of blood loss. Variations in any of these parameters constitute Abnormal uterine bleeding (AUB) [4].

The FIGO Working Group on Menstrual Disorders has classified the various causes for AUB into structural/organic lesions and non-structural entities. Endometrial sampling and subsequent histopathological study remain the gold standard for diagnosis of causes of AUB [2]. Histopathological examination of endometrial biopsies is gold standard diagnostic tool in evaluation of AUB and a specific diagnosis helps to plan the therapy for successful, resourceful management of AUB [3].

The most common endometrial histopathologic pattern observed was normal cycling endometrium. Normal cyclical endometrium including proliferative phase (19.5%) and secretory phase (13%) was seen in 32.5% of total cases and comparable to studies conducted by Vaidya *et al*. (40.94%) & Sajitha *et al*. (38.99%) [2]. Muzzafar *et al.* and Fakhar S *et al.* also reported proliferative phase in 46.6% and 54% cases respectively. Doraiswamy *et al.* and Sushila Devi *et al*. have also documented normal cyclical endometrium as the commonest observation in their studies. This pattern was high between 30 and 49 years of age [2].

Disordered proliferative endometrium accounted for 3.5% of our cases with the highest incidence in 40- 49 years age group. It is common in the perimenopausal years because of anovulatory cycles. Morphologically disordered proliferative endometrium resembles normal proliferative tissue consisting of glands lined by cytologically bland, pseudostratified, proliferative, mitotically active epithelium and having a normal ratio of glands to stroma, but the glands may be cystically dilated or show shallow budding or tubular within abundant stroma. Metaplastic ciliated epithelium and evidence of endometrial breakdown may be seen. It differs from hyperplasia without cytologic atypia by virtue of its relatively normal gland: stroma ratio of 1:1.2

Endometrial hyperplasia amounts to 6% of the cases and most commonly seen in 30-49 years of age [2]. Endometrial hyperplasia which is an intraepithelial nonneoplastic proliferative lesion was said to peak around the perimenopausal and menopausal period with variable incidence in other studies [1]. To differentiate between benign uterine lesions and atypical hyperplasia or EIN morphological criteria is taken which may be further supported by additional immunohistochemical (IHC) markers. Acute endometritis was seen in 0.5% of cases and chronic endometritis was seen in 0.25% cases. Chronic endometritis is usually encountered in the context of pelvic inflammatory disease, in association with the use of intra uterine device or in connection with retained products of conception. Atrophic endometrial pattern was seen in 3% cases with more than half of them occurring after 50 years of age. The exact cause of bleeding from the atrophic endometrium is not known [6].

Endometrial polyps are polypoid structures with a fibrous stroma containing large, thick-walled, coiled vessels showing cystically dilated and occasionally crowded glands lined by inactive, atrophic to weakly proliferative endometrium. Many undergo spontaneous regression. Endometrial tissue from lower uterine segment may be confused with endometrial polyp as the stroma has a fibrous appearance and glands are few in number. The absence of thick-walled stromal blood vessels and the characteristic admixture of mucinous endocervical epithelium suggests an origin from the lower uterine segment [2].

Out of 400 cases, malignancy were found in three cases which accounts for 0.75% of total cases. Endometrioid adenocarcinoma was the most common type of endometrial carcinomas encountered.

Conclusion

Endometrial biopsy is an important tool to diagnose gynaecological conditions in patients. Postmenopausal bleeding should be considered as an indication of malignancy until proved otherwise.

References

1. Asuzu IM, Olaofe OO. Histological pattern of endometrial biopsies in women with abnormal uterine bleeding in a hospital in north central nigeria. Int J Rep Med 2018. Article ID 2765927, 5 pages.
2. Vani BS, Vani R, Jijiya BP. Histopathological evaluation of endometrial biopsies and curetting's in abnormal uterine bleeding. Trop J Path Micro 2019;5(4):190-97.
3. Dr. Moizah N, Dr. Bharathi M. Histopathological study of endometrial biopsies in women presenting with abnormal uterine bleeding. JMSCR 2019;7(4):104-07.
4. Rajagopal I, Thomas BM, Rao VNKR. Endometrial pathology in abnormal uterine bleeding. Int J Res Med Sci 2019;7(10):3762-66.
5. Kaur P, Kaur A, Suri AK, Sidhu H. A two year histopathological study of endometrial biopsies in a teaching hospital in Northern India. Ind J Pathol Onco 2016;3(3):508-19.
6. Doraiswami S, Johnson T, Rao S, Rajkumar A, Vijayaraghavan J, Panicker VK. Study of endometrial pathology in abnormal uterine bleeding. Journal of Obstetrics and Gynecology of India 2011;61(4):426-30.
7. Garg S, Kalhan S, Saini N, Sharma P, Misra S. Study of spectrum of endometrial pathology in patients with abnormal uterine bleeding and its clinicopathological correlation. Int J Clin Diag Pathol 2020;3(1):88-91.
8. Baral R, Pudasaini S. Histopathological pattern of endometrial samples in abnormal uterine bleeding. Journal of Pathology of Nepal 2011;1(1):13-16.
9. Karri S, Sinha S, Kartheek BVS, K. A Study on Endometrial Biopsies in Gynaecological Specimen: A 2 Years Retrospective Study. J Evid Based Med Healthc 2018;5(38):1-6.