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A Histopathological Study Of Endometrial Biopsies In Patients Of Abnormal Uterine Bleeding.

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ABSTRACT

A bleeding pattern that differs in amount, duration, and frequency from a normal menstrual cycle or postmenopause is referred to as abnormal uterine bleeding. This retrospective study was carried out over a one-year period from October 2021 to October 2022 in the department of pathology of a tertiary care hospital in Central India. A total of 304 endometrial biopsies were received in this period. Out of these, 45 samples were inadequate for interpretation and were hence excluded from the study. Tissues were preserved in 10% formalin, and 3-5 micrometre sections were mounted on the slides. Functional endometrial changes, precursors of endometrial tumours, tumor-like lesions, gestational trophoblastic disease, and endometrial carcinomas accounted for 60.22%, 5.8%, 3.86%, 1.54%, and 0.78%, respectively. The most common pathological cause of abnormal uterine bleeding was reported as "disordered proliferative phase" (16.21%), and 9.65% of these cases were in their perimenopausal age groups. A tiny fraction of our study sample was diagnosed with endometrial carcinomas, which further encourages us as clinicians and pathologists alike to carefully screen patients and report precisely in time for necessary interventions.

Keywords: endometrial biopsies, uterine bleeding

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INTRODUCTION

A bleeding pattern that differs in amount, duration, and frequency from a normal menstrual cycle or postmenopause is referred to as abnormal uterine bleeding [1]. A third of outpatients visiting the gynaecology OPD are comprised of cases of abnormal uterine bleeding [2, 3]. A detailed histopathological study of the endometrium is considered to be the gold standard for the diagnosis of AUB [4]. Histopathological diagnosis pivots on the association of age with endometrial hyperplasia. Patients in younger age groups seem to be affected by hormonal effects; however, peri- and postmenopausal women seem to have a predisposition to malignancies [5]. A spectrum of endometrial conditions, both benign and malignant, can be diagnosed on the basis of endometrial biopsies [6].

MATERIALS AND METHODS

This retrospective study was carried out over a one-year period from October 2021 to October 2022 in the department of pathology of a tertiary care hospital in Central India. A total of 304 endometrial biopsies were received in this period. Out of these, 45 samples were inadequate for interpretation and were hence excluded from the study. Tissues were preserved in 10% formalin, and 3-5 micrometre sections were mounted on the slides.

The classification of non-neoplastic and neoplastic lesions was based on the latest WHO guidelines.

Ethical clearance for the present study was obtained by the Health Research Ethics Committee of the concerned hospital.

RESULTS

Our study was based on 259 endometrial biopsies. Out of these, the majority of cases were constituted by women in the perimenopausal age group (n = 145, 55.98%), followed by pre-menopausal (n = 79, 30.51%), and post-menopausal (n = 35, 13.51%).

The youngest patient included in this study was 17 years old and was diagnosed with endometrium in the proliferative phase, while the oldest patient was 76 years old and was diagnosed with clear cell endometrial carcinoma.

Functional endometrial changes, precursors of endometrial tumours, tumor-like lesions, gestational trophoblastic disease, and endometrial carcinomas accounted for 60.22%, 5.8%, 3.86%, 1.54%, and 0.78%, respectively.

The most common pathological cause of abnormal uterine bleeding was reported as "disordered proliferative phase" (16.21%), and 9.65% of these cases were in their perimenopausal age groups.
One case each of endometrioid carcinoma and clear cell carcinoma was documented in our study. Both patients were postmenopausal.

Distribution of patients according to menstrual status		
Age Group	Frequency (n)	Percentage (%)
Pre- menopausal	79	30.51
Peri- menopausal	145	55.98
Post- menopausal	35	13.51
TOTAL		

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	PREMENO	PERIMENO	POSTMENO	Total	Percentage
Functional changes					
Proliferative phase	13	48	4	65	25.09%
Secretory phase	15	28	5	48	18.53%
Hormone imbalance	7	18	2	27	10.42%
Endometrial breakdown	5	9	2	16	6.18%
DISORDERED PROLIFERATIVE PHASE	8	25	9	42	16.21%
RETAINED PRODUCTS OF CONCEPTION	23	6	0	29	11.20%
GRANULOMATOUS LESIONS	1	0	0	1	0.39%
Precursors of endometrial tumours					
Endometrial hyperplasia without atypia	2	6	4	12	4.64%
Endometrial atypical hyperplasia	0	0	3	3	1.16%
Tumour like lesions					
Endometrial polyp	0	2	1	3	1.16%
Endometrial metaplasia	0	2	1	3	1.16%
Arias Stella reaction	1	1	2	4	1.54%
Gestational trophoblastic disease					
Partial hydatiform mole	2	0	0	2	0.77%
Complete hydatiform mole	2	0	0	2	0.77%
Endometrial carcinomas					
Endometrioid carcinoma	0	0	1	1	0.39%
Clear cell carcinoma	0	0	1	1	0.39%

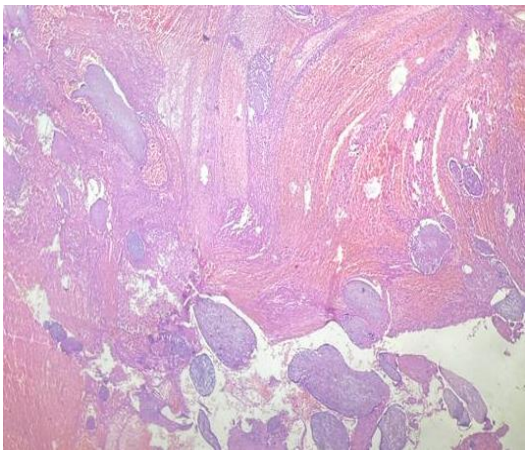

Figure 1: Retained products of conception

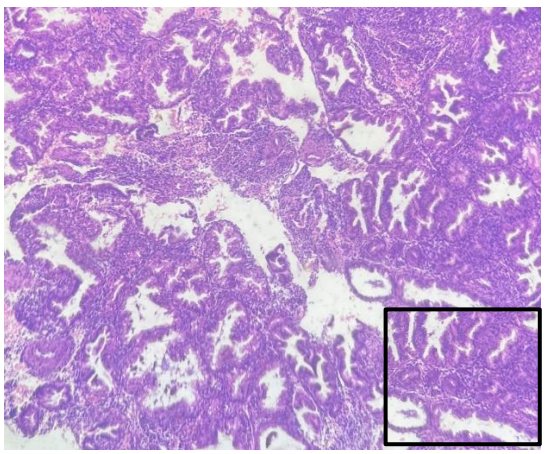

Figure 2: Endometrial biopsy showing increased gland to stromal ratio. Inset shows nuclear stratification along with increased nuclear size.

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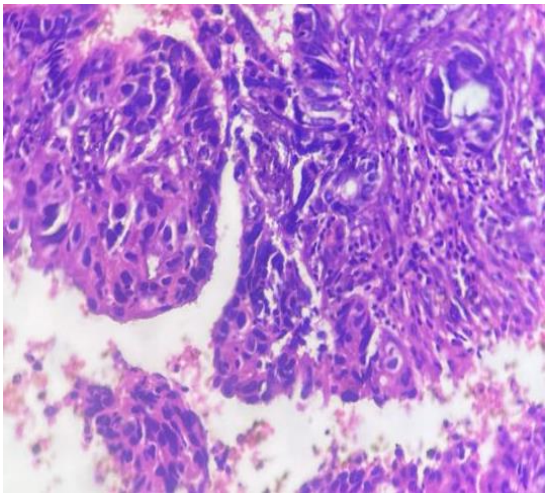

Figure 3: Endometrial carcinoma in 40x magnification. Image shows glands with moderate nuclear pleomorphism, increased N:C ratio, nuclear hyperchromasia

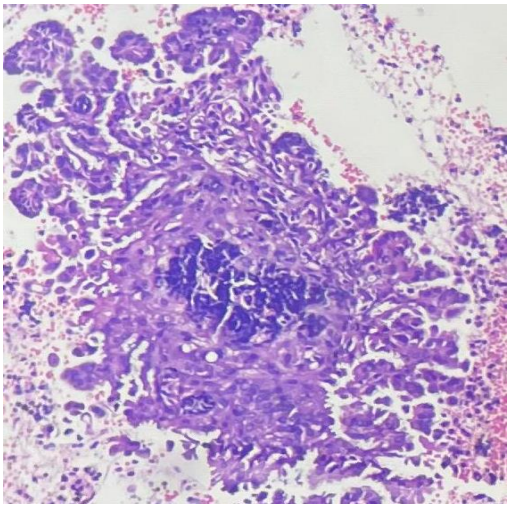

Figure 4: Endometrial biopsy showing hobnail metaplasia

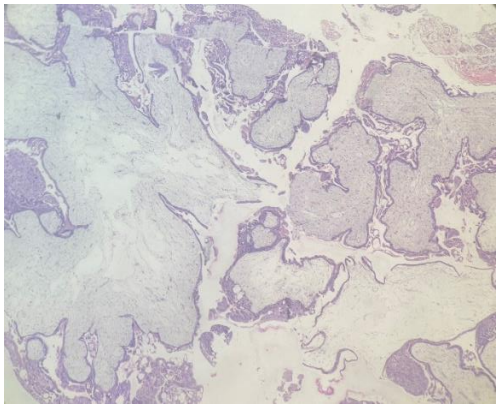

Figure 5: Endometrial biopsy showing diffuse villous enlargement showing hydropic changes with trophoblastic hyperplasia in a circumferential pattern.

DISCUSSION

Our study was conducted on 259 patients over a span of 12 months. Perimenopausal women formed the bulk of this study (54.98%), followed by premenopausal (30.51%), and postmenopausal

(13.51%) women. Functional endometrial bleeding constituted 60.22% of cases suffering from abnormal uterine bleeding. Proliferative changes in endometrium were documented to form the bulk of this category (25.09%), followed by secretory endometrium (18.53%). These studies coincided with those conducted by Tiwari et al [7]. However, studies conducted by Gitika et al [10]. Moghal et al. [11], and Gazozai et al. [12] recorded secretory phase endometrium as the predominant cause of functional endometrial bleeding.

Hormonal imbalance and endometrial breakdown accounted for 10.42% and 6.18% of cases, respectively. Disordered proliferative-phase bleeding was recorded as the most common (16.21%) pathological cause of abnormal uterine bleeding. These findings were higher than Tiwari et al [7] but significantly lower as compared to the studies conducted by Maksem et al [8] and Sarfraz et al [9].

Anovulatory cycles in women in their perimenopausal age group cause disordered proliferative phase changes in the endometrium [16]. In our study, 9.65% of women in their perimenopausal years were diagnosed with DPP.

Fifteen (5.79%) cases of endometrial hyperplasia were documented microscopically. These results were comparable to the studies by Doraiswami et al. (6.1%) [13] and Gitika Hyankin et al. (7%) [10], but lower than those studied by Subhashini et al. (14.59%) [14] and Babbar K et al. (19.8%) [15]. A low percentage of endometrial hyperplasia could be attributed to the fact that our institute detected a greater percentage of patients with disordered proliferative endometrial changes. W. G. McCluggage [16] conducted studies that support the extension of disordered proliferative changes of the endometrium into endometrial hyperplasias due to an increased effect of oestrogen.

Out of the 15 cases of endometrial hyperplasia, 12 cases showed an absence of atypia, and 3 cases showed the presence of atypical histology. One case showed the presence of atypical endometrial hyperplasia in the presence of a polyp. Our study recorded a 1:1 ratio of partial to complete moles. Additionally, these cases were recorded in the premenopausal age group. These results were consistent with the findings of Abubakar et al [17] Vhiriterhire et al [18], and Abdullahi et al [19]. Endometrial polyps were recorded in 1.16% of all cases studied. Similar findings were noted in the studies conducted by Abubakar et al [17], Abdullahi et al [19], and Asuzu et al [20].

In our study, one case of endometrial hyperplasia with atypia was noted in association with a polyp. Two cases (0.77%) of endometrial carcinomas were documented in our study. In comparison to Dhakal et al. (2%) [21], Tabata T. (2.6%) [22] and Aslam et al. (1%) [23], our study recorded a lower percentage. The decreased rates of carcinomas in our study could be a result of a variation in sample size. The patients diagnosed with endometrioid carcinoma and clear cell carcinoma were aged 58 years and 76 years respectively. Our study revealed the relevance of routine endometrial biopsies in order to avoid hysterectomies in patients suffering from abnormal uterine bleeding.

CONCLUSION

A tiny fraction of our study sample was diagnosed with endometrial carcinomas, which further encourages us as clinicians and pathologists alike to carefully screen patients and report precisely in time for necessary interventions.

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