ISSN: 2581 – 3633
PubMed - National Library of Medicine - ID: 101745081

International Journal of Medical Science and Advanced Clinical Research (IJMACR)

Available Online at:www.ijmacr.com

Volume – 6, Issue – 2, March - 2023, Page No. : 430 - 437

Study of endometrial histopathology in patients with abnormal uterine bleeding in a tertiary care Centre.

[1]Dr. Nilesh Tatkare**,** Associate Professor, Dept of Pathology, K. J. Somaiya Medical College, Sion, Mumbai**.**

[2]Dr. Meherrituja Palve**,** Assistant Professor, Dept of Pathology, K. J. Somaiya Medical College, Sion, Mumbai.

[3]Dr. Smita Sawant, Professor, Dept of Pathology, K. J. Somaiya Medical College, Sion, Mumbai.

[4]Dr. Kalpana Hajirnis, Professor & HOD, Dept of Pathology, K. J. Somaiya Medical College, Sion, Mumbai.

Corresponding Author: Dr. Kalpana Hajirnis, Professor & HOD, Dept of Pathology, K. J. Somaiya Medical College, Sion, Mumbai.

How to citation this article: Dr. Nilesh Tatkare**,** Dr. Meherrituja Palve**,** Dr. Smita Sawant, Dr. Kalpana Hajirnis, "Study of endometrial histopathology in patients with abnormal uterine bleeding in a tertiary care Centre", IJMACR- March - 2023, Volume – 6, Issue - 2, P. No. 430 – 437.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Introduction: Abnormal uterine bleeding (AUB) is one of the commonest presenting complaints in females of varying age groups. AUB is defined as change in frequency of menstruation, duration of flow or amount of blood loss. It can be caused by various inflammatory, benign or malignant lesions. Micro scopic examination of the endo metrium aids in the diagnosis of AUB. We did this study to analyse the various histopathological patterns of endometrium in AUB and to observe the incidence of various pathologies in women of different age groups.

Materials and methods: This was a retrospective study done in Department of Pathology on samples received by procedures like D & C, endo metrial biopsy of patients complaining of AUB over a period of 3 years from 2019-2021. This his to mor phology of the endo metrium was studied. The analysis was done in the form of percentages and proportions and represented as tables where necessary.

Results: We studied a total of 271 samples. Maximum samples were received from perimenopausal females (45.86%, n=122). Iatrogenic endometrium was seen in 27% cases (n=72). Proliferative endometrium was seen in 18.42 % (n=49) cases. Secretory endo metrium was seen in 22.55 % (n=60) cases. Basal endometrium was seen in 1.12 % cases (n=3). Hyper plasia without atypia was seen in 13.15 % (n=35) cases. Hyperplasia with atypia was seen in 0.75 % (n=2) cases. Endometrial carcinoma was seen in 3.38% (n=9) cases. 6.76 % samples (n=18) were inadequate to opine. 1.87 % samples (n=5) showed products of conception. Endo metrial polyp was seen in 5.63% (n=15) cases. 1.12% cases (n=3) showed menstrual endometrium. In the

reproductive age group (<40 years), normal cyclical endo metrium was most commonly seen on his to patho logy. Peri menopausal females (41-50 years) had normal cyclical endo metrium followed by iatrogenic endo metrium and hyper plasias. Mali gnancies were most commonly seen in the post – Meno pausal (>51 years) age group.

Conclusion: His to patho logical examination of endo metrial samples has diagnostic importance in evaluation of AUB. There is significant correlation between age and endo metrial patho logies. Endo metrial study hence plays critical role in evaluation and further management of AUB

Keywords: AUB, Endo metrial his to patho logy, Pre and post Meno pausal, iatrogenic change, hyper plasia, carcinoma.

Introduction

Abnormal uterine bleeding (AUB) is one of the most common gynecological problems faced by many females of varying age groups. The prevalence of AUB in women between menarche and Meno pause is around 9-14%. The reported prevalence of AUB in India is around 17.9%.AUB is defined as the change in frequency of menstruation, duration of flow or amount of blood loss. The mean duration of menstruation is 4.7 days and average blood loss per cycle is 35ml.

[1] The FIGO Working Group on Menstrual Disorders has classified the various causes for AUB into structural/ organic lesions and non-structural entities. [1] In the absence of medical causes, endo metrial sampling and subsequent histopathological examination are the gold standard for the diagnosis of causes of AUB. This study was carried out to analyse the various histopathological patterns of endo metrium in AUB and to observe the incidence of various pathologies in women of different age groups.

Materials and methods

This was a retrospective study conducted in the Department of Pathology in a tertiary care Centre. The endometrial samples received for his to patho logy from Department of Obstetrics and Gynae cology over a period of 3 years were analysed. The endo metrial samples were subjected to routine tissue processing after fixation in 10% buffered neutral formalin and the H&E-stained slides prepared were evaluated under light microscope. The endometrial samples were grouped in various age groups like reproductive (18-40 years), perimenopausal (41-50 years) and postmenopausal (>50 years) and correlated with histomorphological pattern. Inclusion criteria: All samples received by procedures like D & C, endometrial biopsy of patients complaining of AUB over a period of 3 years from 2019-2021. Exclusion criteria: Hysterectomy samples. His to patho logical findings were divided into two broad categories, AUB due to non-organic and organic causes. Non-organic includes pro-life rative, secretory, disordered pro-life rative and atrophic. Organic causes include endo metrial carcinoma, tubercular endometritis, endometrial polyp and endometrial hyperplasia. [] Histopathological findings were correlated with the clinical presentations of the patient.

Statistical analysis Statistical package for social sciences (SPSS - Version 20) was used to carry out the statistical analysis of data. The analysis was done in the form of percentages and proportions and represented as tables where necessary.

Results

We analysed a total of 271 samples from three years 2019 to 2021. We found the age wise distribution of the

samples. Of these, 43. 17% (n = 117) were in the reproductive age group (< 40 years), 47.2 % (n=128) were in the perimenopausal age group (41-50 years) and 9.6% (n=26) were in the postmenopausal age group (>50 years). Maximum samples were received from females belonging to the perimenopausal age group (45.86%, n=122).

Histomorphological patterns of the samples were studied. Iatrogenic endometrium was seen in 27% cases (n=72). Proliferative endometrium was seen in 18.42 % (n=49) cases. Secretory endometrium was seen in 22.55 % (n=60) cases. Basal endometrium was seen in 1.12 % cases (n=3). Hyperplasia without atypia was seen in 13.15 % (n=35) cases. Hyperplasia with atypia was seen in 0.75 % (n=2) cases. Endometrial carcinoma was seen in 3.38% (n=9) cases. 6.76 % samples (n=18) were inadequate to opine. 1.87 % samples (n=5) showed products of conception. Endometrial polyp was seen in 5.63% (n=15) cases. 1.12% cases (n=3) showed menstrual endo metrium.

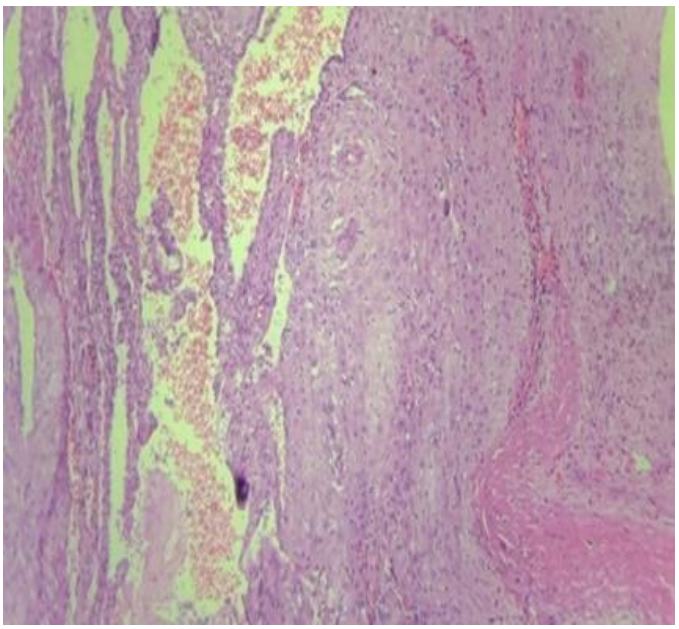

Fig 1. Decidual Change

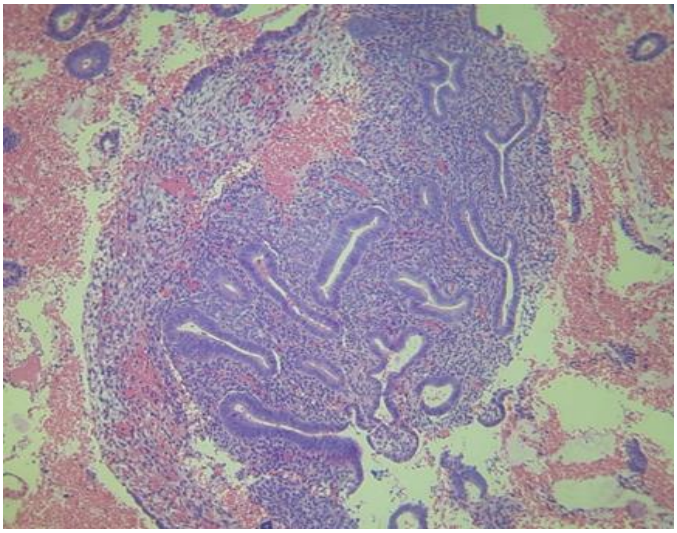

Fig 2. Proliferative Change

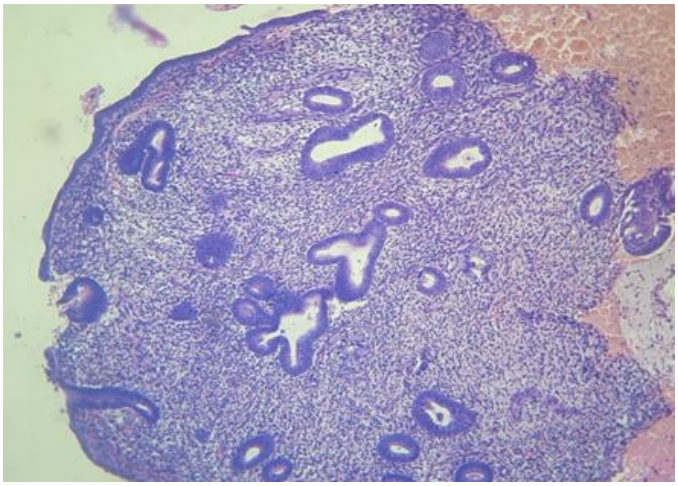

Fig 3. Iatrogenic changes

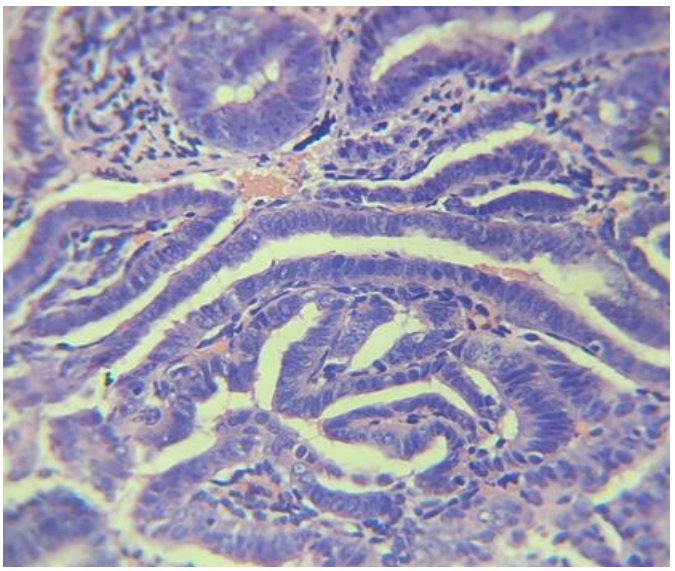

Fig 4. Hyperplasia without atypia

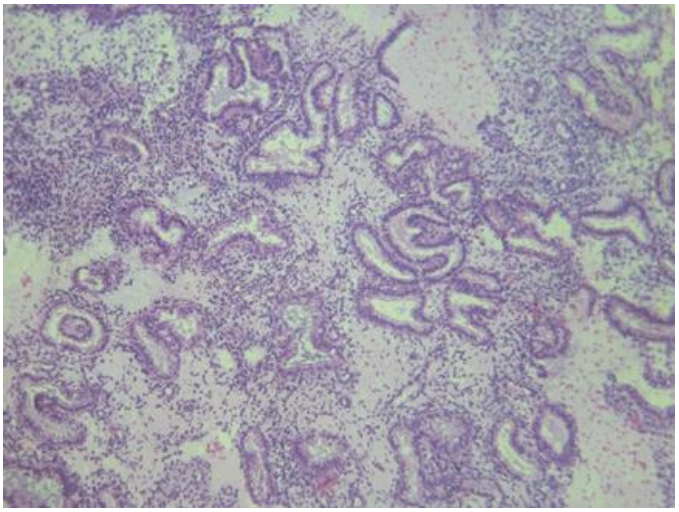

Fig 5. Secretory change

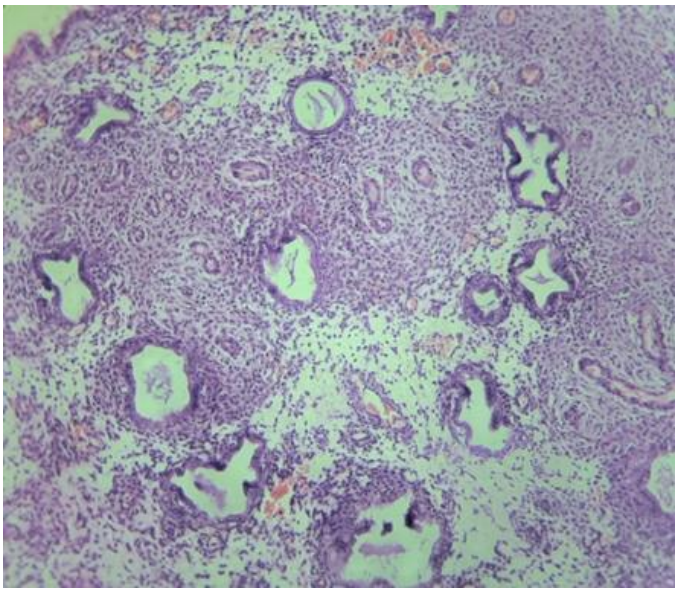

Fig 6. Endometrial polyp

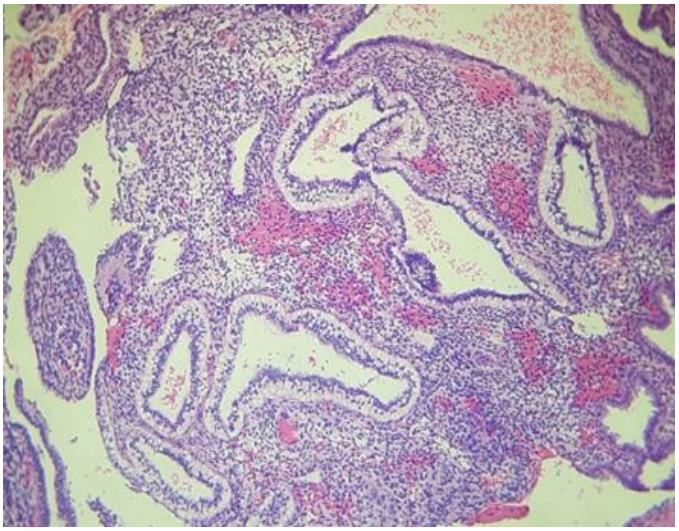

Fig 7. Secretory change

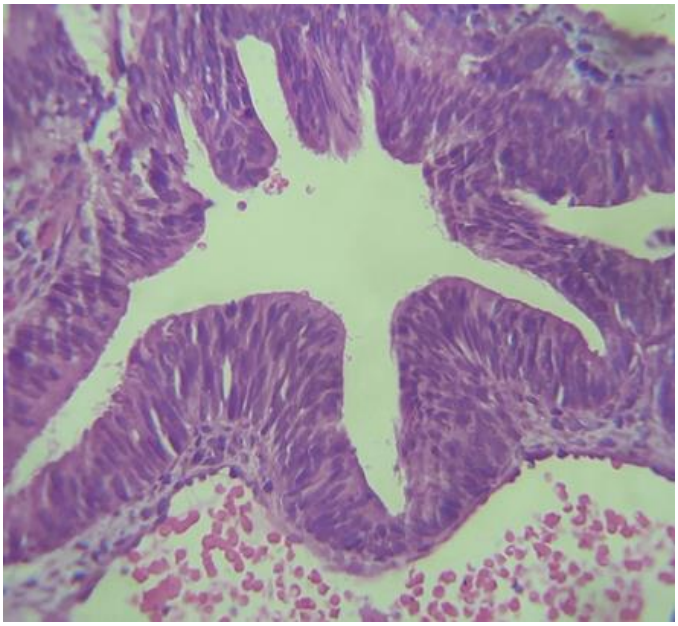

Fig 8. Hyperplasia with atypia

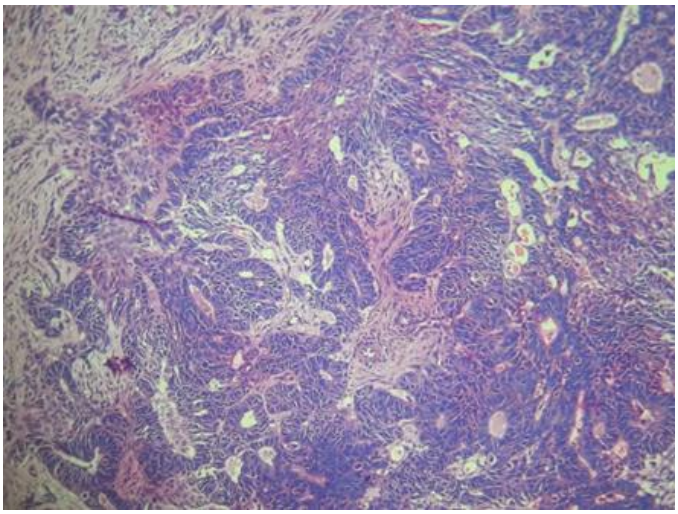

Fig 9. Endometrioid carcinoma

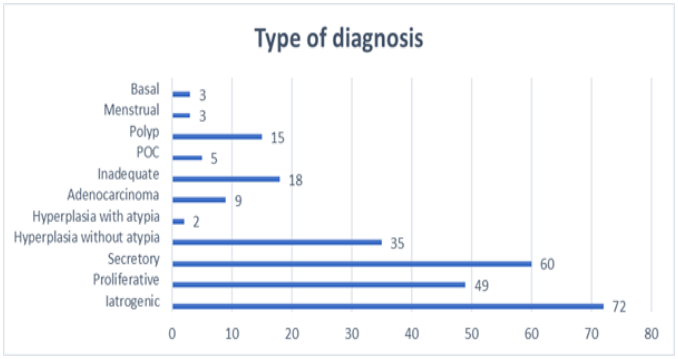

Fig 10. Analysis of the various endometrial patterns was done with respect to the various age groups.

Table 1: Correlation of various endometrial patterns with age groups.

Age	Iatrogenic	Proliferative	Secretory	Hyperplasia Without atypia	Hyperplasia with atypia	Adeno carcinoma	Inadequate	POC	Polyp	Menstrual	Basal
11-20	0	0	0	0	0	0	0	1	0	0	0
21-30	5	7	6	2	0	0	0	3	0	0	0
31-40	23	22	25	14	0	1	5	1	3	0	0
41-50	43	20	27	16	1	2	9	0	4	3	3
51-60	1	1	2	2	1	2	3	0	6	0	0
61-70	0	0	0	1	0	3	0	0	2	0	0
71-80	0	0	0	0	0	0	1	0	0	0	0
81-90	0	0	0	0	0	1	0	0	0	0	0
Total	72	49	60	35	2	9	18	5	15	3	3

Discussion

AUB is defined as change in frequency of menstruation, duration of flow or amount of blood loss. Almost 25% of gynecological operations and 20 % of outpatient visits are due to AUB. [] Prevalence of AUB in women between menarche and menopause is around 9-14%. The reported prevalence of AUB in India is around 17.9%.[1] PALM-COEIN is a useful acronym provided by International Federation of Obstetrics and Gynecology to classify the etiologies of AUB. Causes of AUB are structural like polyps, adenomyosis, leiomyoma, malignancy and hyperplasia. Non-structural causes of AUB are coagulopathy, ovulatory dysfunction, endometrial disorders, iatrogenic and not otherwise classified. [5]

After ruling these out, D and C was done for diagnosis as well as a thera peutic procedure. The reported sensitivity of endo metrial biopsy for detection of endometrial abnormalities has been as high as 96%. [1] We have studied the various histopathological patterns of endometrium in patients with AUB and correlated with the different age groups in which they presented.

The incidence of abnormal bleeding increases with increase in age.

In our study the youngest patient was 20 years old and had retained products of conception. Eldest patient was 81 years old and had adenocarcinoma. In our study maximum patients were in the age group of 41-50 years, followed by 31-40 years. This was comparable with many other studies as by Doraiswamy et al, Bindroo et al, Sharma et al and Samal et al. [,] As women approach menopause, decline in the number of ovarian follicles and fluctuations in the estradiol levels cause the cycles to shorten and often become anovulatory leading to various patterns of abnormal bleeding.

The incidence of AUB was low between 51-60 years as compared to 41-50 years. This was similar to the study by Doraiswami et al, Samal et al. [6,9] This may be due to the fact that patients were evaluated and treated early in the course of the disease. In our study most patients showed normal cyclical endometrium on histology i.e proliferative, secretory, menstrual phase.

In our study, proliferative endometrium was seen is in 18.42 % cases similar to the study by Dangal et al. [ ] Secretory endometrium was seen in 22.55 %cases. This

was similar to other studies by Kathleen et al and Iqbal et al. [,] Bleeding in the proliferative phase may be due to anovulatory cycles causing unopposed estrogen to act on the endometrium. Without sufficient progesterone to stabilize and differentiate the endometrium, the mucous membrane becomes fragile and sloughs irregularly. Endometrial study aids in the differentiation between ovulatory and anovulatory cycles.

The bleeding in secretory phase is due to ovulatory dysfunctional uterine bleeding. In ovulatory dysfunctional uterine bleeding, the main defect appears to be in the control of processes regulating the volume of menstrual blood loss, primarily decreased endometrial vasoconstriction and vascular hemostatic plug formation. [2]

Most patients which showed normal cyclical endo metrium on histopathology were in the age group between 31- 50 years similar to study by Vani et al. [2] Iatrogenic endometrium was seen in 27% cases. Iatro genic endometrium referred to endo metrium showing effects of exogeneous hormonal treatment. The his to patho logy shows small inactive glands set in a fibrotic stroma showing pseudo decidualization. It was higher than other studies. [8, 12,] The higher incidence may be due to the fact that most patients visit a primary healthcare before being referred to a tertiary Centre like ours where they are given hormonal treatment as first line of management for the bleeding. Most patients with this pattern were in the perimenopausal age group of 41-50 years. Hyperplasia without atypia was seen in 13.15 % cases and most patients belonged to the premeno pausal age group of 41-50 years.

Atypia was seen only in 0.75 % cases. This was similar to the findings of Dangal et al, Veena et al and Baral et al. [10,] Endo metrial hyperplasia is commonly seen in perimenopausal age group due to failure of ovulation. Heavy bleeding is secondary to sustained level of estrogens. The epithelial overgrowth affects glands and stroma and there is abnormal vascularization leading to prolonged and excessive bleeding.[12] As is well known endometrial hyperplasia is a precursor of endometrial carcinoma with the overall risk of progression being 5-10%.[13] Hence, it is imperative to identify this lesion before its progression.

Endometrial carcinoma was seen in 3.38 % cases. In our study out of 9 cases, one case was of high grade serous papillary carcinoma and all others were endometrioid carcinoma. The incidence of endometrial carcinoma in our study was similar to the findings of Varun et al, Doraiswami et al and Iqbal et al. [3,6,12]

Even lower incidences were reported by Rajagopal et al, Vani et al, Kathleen et al and Prathippa etal. [1,2,6,13] When compared to the international studies, the low incidence of endo metrial carcinoma in India can be attributed to the early child bearing age and multiparty of females which reduces the proliferative activity of endometrium.

Endometrial carcinoma can occur as a result of excess estrogenic stimulation and developing against a back ground of endo metrial hyperplasia or de novo combined with insufficient progesterone levels.

Endo metrioid endometrial carcinoma is the most common form of endo metrial cancer. Similar to the findings of other studies, in our study too, maximum cases of endo metrial carcinoma were seen in the post-Meno pausal age group. [3,11,12,13] Benign endo metrial polyp was seen in 5.63% cases. This was similar to the study by Kathleen et al. [11] Incidence of polyps was lesser in studies by Vani et al and Prathipaaet al. [2,13] It was higher in the study by Varun et al and

Doraiswami et al. [3,6] Most cases of polyp have been observed in the age group of 51-60 years. Retained products of conception were seen in 1.87 % cases. In reproductive age group, complications of pregnancy should be ruled out in patients presenting with abnormal uterine bleeding. 6.76% samples were inadequate to opine in this study due to various reasons like inadequate sampling or the material showing only blood or mucous.

Conclusion

Endo metrial sampling is a helpful diagnostic tool in the evaluation of AUB. Study of endometrium helps reveal many structural and functional causes of AUB which can be seen in the form of different his to patho logical patterns.

These endometrial pathologies have significant corre lation with the age of the patient. Endo metrial hyper plasia is common in the peri Meno pausal age group and carcino mas are commonly seen in the Meno pausal age group. Therefore, endo metrial study must be done in the patients presenting with AUB to diagnose these conditions and provide timely intervention and reduce morbidity and mortality.

References

1. Rajagopal I, Thomas BM, Rao VNKR. Endometrial patho logy in abnormal uterine bleeding. Int J Res Med Sci 2019; 7:3762-6.

2. Vani B. S, Vani R, Jijiya Bai P. Histopathological evaluation of endometrial biopsies and curetting's in abnormal uterine bleeding. Trop J Path Micro 2019;5(4): 190-197.doi:10.17511/jopm. 2019.i04.02.

3. Varun N, Gupta N, Khan S. A retrospective study of endometrial his to patho logy in abnormal uterine bleeding patients. Int J Reprod Contracept Obstet Gynecol 2018; 7:4116-9

4. Sajitha K, Padma SK, Shetty KJ, Kishan Prasad HL, Permi HS, Hegde P. Study of histopathological patterns of endometrium in abnormal uterine bleeding. CHRISMED J Health Res 2014; 1:76-81

5. Munro MG, Critchley HO, Broder MS, Fraser IS. FIGO Working Group on Menstrual Disorders. FIGO classification system (PALM-COEIN) for causes of abnormal uterine bleeding in nongravid women of reproductive age. Int J Gynaecol Obstet. 2011 Apr 1; 113 (1):3-13.

6. Doraiswami S, Johnson T, Rao S, Rajkumar A, Vijaya Raghavan J, Panicker VK. Study of endometrial pathology in abnormal uterine bleeding. J Obstet Gynaecol India. 2011 Aug; 61 (4): 426-30. doi: 10.1007/ s13224-011-0047-2. Epub 2011 Sep 22. PMID: 228 518 26; PMCID: PMC3295868.

7. Bindroo S, Garg M, Kaur T. Histopathological spectrum of endometrium in abnormal uterine bleeding. Int J Reprod Contracept Obstet Gynecol 2018; 7:3633-7

8. Sharma K, Rasania A. Clinicopathological spectrum of endometrial biopsies in a tertiary care center. Int J Sci Res. 2019; 8:4–7.

9. Samal R, Vaithy A, S, Habeebullah S. Clinico patho logical analysis of abnormal uterine bleeding in reproductive and post-menopausal women in a tertiary care Centre of south eastern part of India. Indian J Obstet Gynecol Res 2020;7(1):66-70

10. Dhangal G. A Study of Endometrium of Patients with Abnormal Uterine Bleeding at Chitwan Valley. Katmandu Univ Med J 2003;1(2):110-112.

11. Kathleen G, Patil MS, AS Anand, Histopathological correlation of endometrial samples in pre and post Meno pausal women with abnormal uterine bleeding, J Diagn Pathol Oncol 2019;4(1):32-38

12. Iqbal M. B, Kambale T, Khandelwal A, Koshy A, Banerjee B. Spectrum of Endometrial lesions in patients presenting with abnormal uterine bleeding. Indian J Pathol Oncol. 2018;5(4):587-591.

13. Prathipaa R, Divya J. Histopathological study of endometrial samples in abnormal uterine bleeding. Indian J Pathol Oncol 2020;7(4):567-570

14. Veena M, Chakraborty A, Tyagi S, Sharma R, Alam K. and Mohsin S. Endometrial changes in abnormal uterine bleeding. J Obstet Gynaecol India 1996; 33(4): 389-394.

15. Baral R and Pudasaini S. Histopathological pattern of endometrial samples in abnormal uterine bleeding. J Pathol Nepal 2011; 1:13-16.