



## CLINICOHISTOPATHOLOGICAL STUDY IN PATIENT OF ABNORMAL UTERINE BLEEDING AT A TERTIARY CARE HOSPITAL IN WESTERN INDIA

### Pathology

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### ABSTRACT

**Introduction:** Abnormal uterine bleeding (AUB) is one of the commonest clinical presentation in obstetrics and gynecology(O&G) department. 30-70% of the patients in O&G OPD present with complaint of AUB. According to the National Health Portal the prevalence of AUB in India is around 17.9%. Early evaluation of AUB in perimenopausal and postmenopausal women is essential to confirm the exact nature of the lesion, to rule out malignancy and for better management of patients. **Method:** In this prospective study, 233 specimens of hysterectomy and endometrial biopsy received for histopathological evaluation during the period of February 2023 to January 2024 were included. **Result:** AUB is most common presentation observed in perimenopausal age group(48.92%). On clinical examination most frequent bleeding pattern observed was menorrhagia (62.23%), majority of patients were of low parity(53.21%), and on histopathological evaluation commonest cause identified on for AUB was leiomyoma in 22.75%. **Conclusion:** Histopathological examination remains the gold standard, offering definitive diagnosis and crucial insights into uterine pathologies.

### KEYWORDS

Abnormal uterine bleeding, Clinical examination, Histopathological examination.

### INTRODUCTION

Abnormal uterine bleeding (AUB) is defined as any variation in menses pattern and frequency, duration of flow, or amount of blood loss during normal cyclical menstruation.<sup>(1)</sup>

It is one of the common gynecological problem in females and has significant impact on the overall quality of women's life.<sup>(2)</sup> Among the patients attending obstetrics and gynaecology out patient department(OPD), 30- 70% of the patients present with complaint of AUB.<sup>(3)</sup> According to National Health Portal the prevalence of AUB varies between 9-14% in each country, and in India it is around 17.9%.<sup>(4)</sup> AUB affects around 10-30% of reproductive-aged women and up to 50% of perimenopausal and postmenopausal women.<sup>(5)</sup> Patients with a history of obesity, hypertension, diabetes, and exogenous estrogen use are at increased risk for endometrial hyperplasia and adenocarcinoma. Early evaluation of AUB is essential to confirm the exact nature of the lesion including malignancy.<sup>(6)</sup>

Although ultrasound scan, CT scan and magnetic resonance imaging (MRI) are the noninvasive and good methods for diagnosis of cause AUB, but histopathology is gold standard to detect and confirm the uterine pathologies pre-operatively and postoperatively that causes AUB. So every curetting material and hysterectomy specimen from cases of AUB should be subjected to histopathological examination for diagnosis and better management of patients.<sup>(7)</sup>

### Aim

Clinico-histopathological evaluation of patients presenting with AUB.

### Objective

- To determine frequency distribution of various histopathological findings among patients of AUB.
- To analyze histopathological findings in relation of age, parity and bleeding pattern.

### MATERIALS AND METHODS

In this prospective study 233 hysterectomy and endometrial biopsy specimen of AUB patient which were received for histopathological evaluation during period of February 2023 to January 2024 were included. Relevant clinical examination findings were retrieved from the patient's request forms. The specimens were processed as per routine histotechniques and slides were prepared for histopathological examination. Histopathological findings were noted and analyzed in relation with patients clinical examination findings.

### RESULTS

**Table-1: Histopathological Findings Of Studied Cases**

| Diagnosis                                  | No. Cases | Percentage(%) |
|--------------------------------------------|-----------|---------------|
| Proliferative endometrium                  | 41        | 17.60%        |
| Secretory endometrium                      | 19        | 8.15%         |
| Disordered proliferative endometrium       | 23        | 9.87%         |
| Atrophic endometrium                       | 21        | 9.01%         |
| Endometritis                               | 1         | 0.43%         |
| Polyp                                      | 5         | 2.14%         |
| Leiomyoma                                  | 53        | 22.75%        |
| Adenomyosis                                | 37        | 15.88%        |
| Adenomyosis-Leiomyoma                      | 18        | 7.73%         |
| Endometrial hyperplasia(EH) without atypia | 11        | 4.72%         |
| Endometrial hyperplasia(EH) with atypia    | 1         | 0.43%         |
| Carcinoma                                  | 2         | 0.86%         |
| Carcino-sarcoma                            | 1         | 0.43%         |
| Total                                      | 233       | 100%          |

Table-1 shows the most common cause for AUB observed was leiomyoma in 53(22.75%). Endometrial hyperplasia without atypia was observed in 11(4.72%)cases, one(0.43%) case of endometrial hyperplasia with atypia and 3(1.29%) cases of malignancy. The data highlights the diverse range of histopathological presentations in AUB.

**Table-2: Age Wise Distribution Of Histopathological Findings.**

| Histo-pathology findings             | Reproductive age (<40years) No.(%) | Perimenopausal age (41 - 50years) No.(%) | Postmenopausal age (>50years) No.(%) | Total No.(%) |
|--------------------------------------|------------------------------------|------------------------------------------|--------------------------------------|--------------|
| Proliferative endometrium            | 20(8.58%)                          | 18(7.72%)                                | 3(1.23%)                             | 41(17.60%)   |
| Secretory endometrium                | 11(4.72%)                          | 7(3.00%)                                 | 1(0.42%)                             | 19(8.15%)    |
| Disordered proliferative endometrium | 8(3.43%)                           | 12(5.15%)                                | 3(1.28%)                             | 23(9.87%)    |

|                       |             |             |            |            |
|-----------------------|-------------|-------------|------------|------------|
| Atrophic endometrium  | 5(2.14%)    | 5(2.14%)    | 11(4.72%)  | 21(9.01%)  |
| Endometritis          | 0(0%)       | 0(0%)       | 1(0.42%)   | 1(0.42%)   |
| Polyp                 | 0(0%)       | 5(2.14%)    | 0(0%)      | 5(2.14%)   |
| Leiomyoma             | 21(9.01%)   | 27(11.58%)  | 5(2.14%)   | 53(22.75%) |
| Adenomyosis           | 12(5.15%)   | 22(9.44%)   | 3(1.28%)   | 37(15.88%) |
| Adenomyosis-leiomyoma | 6(2.57%)    | 12(5.15%)   | 0(0%)      | 18(7.73%)  |
| EH without atypia     | 3(1.28%)    | 6(2.57%)    | 1(0.42%)   | 11(4.72%)  |
| EH with atypia        | 0(0%)       | 0(0%)       | 1(0.42%)   | 1(0.42%)   |
| Carcinoma             | 0(0%)       | 0(0%)       | 2(0.85%)   | 2(0.85%)   |
| Carcino-sarcoma       | 0(0%)       | 0(0%)       | 1(0.42%)   | 1(0.42%)   |
| Total                 | 86 (36.90%) | 114(48.92%) | 33(14.16%) | 233(100%)  |

Table-2 shows in perimenopausal age group was predominant comprising 114(48.92%) cases.

Leiomyoma was most common finding among all age group while cases of endometrial hyperplasia with atypia and malignancy were noted in the post-menopausal age group.

**Table-3: Distribution Of Histopathological Findings Of Aub Patients In Accordance With Parity**

| HP findings | Nullipara No.(%) | Lowpara No.(%) | Multi-para No.(%) | Grand multi-para No.(%) | Total No.(%) |
|-------------|------------------|----------------|-------------------|-------------------------|--------------|
|-------------|------------------|----------------|-------------------|-------------------------|--------------|

|                                      |           |              |             |            |             |
|--------------------------------------|-----------|--------------|-------------|------------|-------------|
| Proliferative endometrium            | 5 (2.14%) | 28 (12.01%)  | 5 (2.14%)   | 3 (1.28%)  | 41 (17.60%) |
| Secretory endometrium                | 1 (0.42%) | 8 (3.43%)    | 7 (3.00%)   | 3 (1.28%)  | 19 (8.15%)  |
| Disordered proliferative endometrium | 1 (0.42%) | 5 (2.14%)    | 14 (6.00%)  | 3 (1.28%)  | 23 (9.87%)  |
| Atrophic endometrium                 | 0 (0%)    | 12 (5.15%)   | 7 (3.00%)   | 2 (0.85%)  | 21 (9.01%)  |
| Endometritis                         | 0 (0%)    | 1 (0.42%)    | 0 (0%)      | 0 (0%)     | 1 (0.42%)   |
| Polyp                                | 0 (0%)    | 2 (0.85%)    | 3 (1.28%)   | 0 (0%)     | 5 (2.14%)   |
| Leiomyoma                            | 2 (0.85%) | 31 (13.30%)  | 19 (8.15%)  | 1 (0.42%)  | 53 (22.75%) |
| Adenomyosis                          | 0 (0%)    | 16 (6.86%)   | 18 (7.72%)  | 3 (1.28%)  | 37 (15.88%) |
| Adenomyosis-leiomyoma                | 0 (0%)    | 13 (5.57%)   | 4 (1.71%)   | 1 (0.42%)  | 18 (7.73%)  |
| EH without atypia                    | 0 (0%)    | 5 (2.14%)    | 6 (2.57%)   | 0 (0%)     | 11 (4.72%)  |
| EH with atypia                       | 0 (0%)    | 0 (0%)       | 1 (0.42%)   | 0 (0%)     | 1 (0.42%)   |
| Carcinoma                            | 0 (0%)    | 2 (0.85%)    | 0 (0%)      | 0 (0%)     | 2 (0.85%)   |
| Carcino-sarcoma                      | 0 (0%)    | 1 (0.42%)    | 0 (0%)      | 0 (0%)     | 1 (0.42%)   |
| Total                                | 9 (3.86%) | 124 (53.21%) | 84 (36.05%) | 16 (6.86%) | 233 (100%)  |

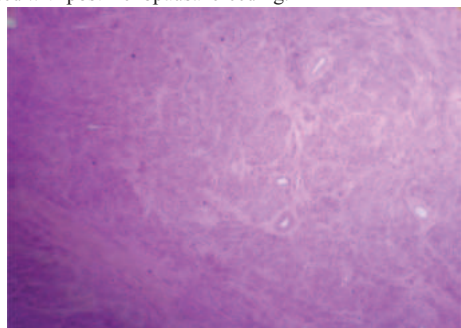
Table-3 shows the majority of cases of AUB were noted in women with low parity in 53.21% cases. Cases of leiomyoma and malignancy were also more commonly observed in lowparous women consisting 31(13.30%) and 3(1.29%) cases respectively.

**Table-4: Distribution Of Histopathological Findings In Accordance To Bleeding Pattern**

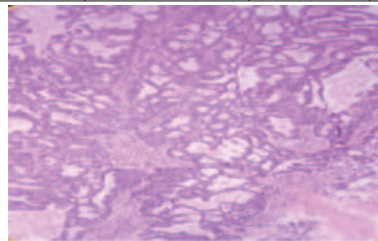
| Histopathology findings              | Menorrhagia No.(%) | Poly-menorrhagia No.(%) | Meno-metrorrhagia No.(%) | Oligomenorrhagia No.(%) | Post-menopausal bleeding No.(%) | Metrorrhagia No.(%) | Total No.(%) |
|--------------------------------------|--------------------|-------------------------|--------------------------|-------------------------|---------------------------------|---------------------|--------------|
| Proliferative endometrium            | 22(9.44%)          | 1(0.42%)                | 0(0%)                    | 2(0.85%)                | 8(3.43%)                        | 8(3.43%)            | 41(17.60%)   |
| Secretory endometrium                | 17(7.29%)          | 2(0.85%)                | 0(0%)                    | 0(0%)                   | 0(0%)                           | 0(0%)               | 19(8.15%)    |
| Disordered proliferative endometrium | 13(5.57%)          | 3(1.28%)                | 0(0%)                    | 0(0%)                   | 5(2.14%)                        | 2(0.85%)            | 23(9.87%)    |
| Atrophic endometrium                 | 6(2.57%)           | 0(0%)                   | 0(0%)                    | 0(0%)                   | 15(6.43%)                       | 0(0%)               | 21(9.01%)    |
| Endometritis                         | 1(0.42%)           | 0(0%)                   | 0(0%)                    | 0(0%)                   | 0(0%)                           | 0(0%)               | 1(0.42%)     |
| Polyp                                | 2(0.85%)           | 0(0%)                   | 0(0%)                    | 0(0%)                   | 2(0.85%)                        | 1(0.42%)            | 5(2.14%)     |
| Leiomyoma                            | 44(18.88%)         | 0(0%)                   | 1(0.42%)                 | 2(0.85%)                | 4(1.71%)                        | 2(0.85%)            | 53(22.75%)   |
| Adenomyosis                          | 22(9.44%)          | 0(0%)                   | 3(1.28%)                 | 3(1.28%)                | 7(3.00%)                        | 2(0.85%)            | 37(15.88%)   |
| Adenomyosis-leiomyoma                | 11(4.72%)          | 0(0%)                   | 5(2.14%)                 | 0(0%)                   | 2(0.85%)                        | 0(0%)               | 18(7.73%)    |
| EH without atypia                    | 6(2.57%)           | 0(0%)                   | 1(0.42%)                 | 0(0%)                   | 3(1.28%)                        | 1(0.42%)            | 11(4.72%)    |
| EH with atypia                       | 0(0%)              | 0(0%)                   | 0(0%)                    | 0(0%)                   | 1(0.42%)                        | 0(0%)               | 1(0.42%)     |
| Carcinoma                            | 0(0%)              | 0(0%)                   | 0(0%)                    | 0(0%)                   | 2(0.85%)                        | 0(0%)               | 2(0.85%)     |
| Carcino-sarcoma                      | 1(0.42%)           | 0(0%)                   | 0(0%)                    | 0(0%)                   | 0(0%)                           | 0(0%)               | 1(0.42%)     |
| Total                                | 145(62.23%)        | 6(2.57%)                | 10(4.29%)                | 7(3.00%)                | 49(21.03%)                      | 16(6.86%)           | 233(100%)    |

Table-4 shows the common bleeding pattern observed in AUB patients was menorrhagia in 62.23% cases followed by post menopausal bleeding in 21.03% cases.

Frequently noted benign lesion leiomyoma, adenomyosis, endometrial hyperplasia without atypia commonly presented with menorrhagia while endometrial hyperplasia with atypia and malignancy mainly presented with post menopausal bleeding.



**Figure-1: Leiomyoma (4X) H & E stain**



**Figure-2: Endometrial Carcinoma, Endometrioid Type (10X) H & E Stain**

## DISCUSSION

AUB is most frequently noted complaint among O&G OPD.

In present study Leiomyoma was reported as most common cause for AUB in all age group comprising 22.75% cases followed by adenomyosis (15.88%) which is comparable to study done by Mishra D. et al.<sup>(6)</sup> who also reported Leiomyoma in majority of cases of AUB comprising 37.28% followed by adenomyosis in 8.47%. In study shows 4.72 % cases were of endometrial hyperplasia without atypia which is comparable to study done by Mishra D. et al.<sup>(6)</sup> Nidhi Golecha

et al.<sup>(9)</sup>. Endometrial hyperplasia with atypia was reported in 0.43% case of AUB and endometrial carcinoma and carcinosarcoma were reported in 0.86% and 0.43% cases of AUB respectively in present study which is comparable to study conducted by Mishra D. et al.<sup>(8)</sup>, Chhatrasal C et al.<sup>(10)</sup>, Prathipaa R. et al.<sup>(11)</sup> and Nidhi Golecha et al.<sup>(9)</sup>

In present study maximum cases of AUB were seen in perimenopausal women (41-50 years) (48.92%) which is comparable with the study done by Meenakshi Gothwal, et al.<sup>(12)</sup>, Prathipaa R et al.<sup>(11)</sup> and Ranjan et al.<sup>(13)</sup>, Nidhi Golecha et al.<sup>(9)</sup> who noted 50.7%, 42.19%, 45%, 68.33%, cases respectively in perimenopausal group.

In present study, with respect to the parity of the subjects, the maximum incidence of AUB was seen in the lowpara (53.21%) followed by multipara (36.05%), which is similar to study done by Singh A et al.<sup>(14)</sup> which shows 52.9% cases of AUB in lowpara followed by 39.0% cases in multipara. In present study benign lesions Leiomyoma, adenomyosis, polyp, endometrial hyperplasia without atypia mainly observed in perimenopausal age whereas endometrial hyperplasia with atypia and malignancy mainly observed in post-menopausal age group suggesting age has definitive influence on endometrial pathology which is comparable to study by Gubbala S. et al.<sup>(15)</sup> and Nidhi Golecha et al.<sup>(9)</sup>

In present study, menorrhagia was clinical presentation observed in with majority of histological findings reported in 62.23% cases of AUB patients, in present study, similarly study by Chhatrasal C et al.<sup>(10)</sup> and Shukla M et al.<sup>(16)</sup> also reported menorrhagia as a most common bleeding pattern comprising 45.5% and 53% respectively. Post-menopausal bleeding was the presentation in majority of cases of endometrial proliferation with atypia and malignancy. Nidhi Golecha et al.<sup>(9)</sup>, also noted the menorrhagia is main bleeding pattern in majority of histopathological diagnose, while atrophic endometrium, endometrial hyperplasia with atypia and malignancy are mainly presented with post-menopausal bleeding.

## CONCLUSION

Abnormal uterine bleeding is a common gynecological issue, especially in peri- and postmenopausal women. While clinical and radiological examination aid in initial assessment, histopathological examination remains the gold standard for definitive diagnosis. Histopathological evaluation of endometrial and hysterectomy specimens is crucial for detecting benign and malignant lesions. Early diagnosis improves patient outcomes and quality of life.

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