Original Research Article

Journal of College of Medical Sciences-Nepal, Vol-21, No.2, Apr-Jun 2025

ISSN: 2091-0657 (Print); 2091-0673 (Online) Open Access
DOI: 10.3126/jcmsn.v21i2.78815

# Histopathological Findings in Dilatation and Curettage in Perimenopausal Age Group Women with Abnormal Uterine Bleeding in Tertiary Care Centre

**Bhagirathi Kayastha**[1], **Buddhi Kumar Shrestha**[1], **Alok Pradhan**[2]

[1]Department of Obstetrics and Gynecology, [2]Department of General Practice and Emergency Medicine, College of Medical Sciences-Teaching Hospital, Bharatpur, Chitwan, Nepal.

## ABSTRACT

### Background

Abnormal uterine bleeding (AUB) is the commonest presenting complaint in the perimenopausal age group. Histopathological examination (HPE) of endometrial tissue obtained by dilatation and curettage (D and C) is the preferred modality of investigation to determine the endometrial pathology. This study aimed to find out the clinical and histopathological findings in perimenopausal women presenting with AUB.

### Methods

This cross sectional study was conducted in Department of Obstetrics and Gynecology, College of Medical Sciences Teaching Hospital (COMS-TH), Bharatpur, Chitwan, Nepal from November 2024 to April 2025. Ethical approval was obtained from the Institutional Review Committee (IRC) of COMS-TH. Non probability convenient sampling technique was used for data collection. This study was conducted among 125 women selected for D and C. Endometrial tissue was collected and sent for HPE. Data was entered in Microsoft Excel 2016 and analyzed using Statistical Package for Social Science (SPSS), version 16.

### Results

The commonest age group was 40-45 years (46.4%) with mean ±SD of age 46.84 ± 4.83 years. Regarding gravida, 81.6% women were multipara, 7.2% primipara and 6.4% grand multipara. The commonest clinical presentation was menorrhagia (39.2%) followed by metrorrhagia (28.8%). Secretory endometrium (28%) was the commonest histopathological finding followed by disordered proliferative endometrium (27.2%), proliferative endometrium (16%), endometritis (11.2), endometrial polyp (7.2%), endometrial hyperplasia (2.4%) and endometrial carcinoma (1.6%).

### Conclusions

Menorrhagia followed by metrorrhagia is the most common presentation of perimenopausal abnormal uterine bleeding. D and C reveals varied endometrial changes, most commonly normal cyclical and disordered proliferative patterns. Endometrial hyperplasia and carcinoma are less frequent. D & C remains a valuable diagnostic and conservative management tool.

**Keywords:** abnormal uterine bleeding; clinical presentation; dilatation and curettage; histopathology; perimenopause.

**Correspondence:** Dr. Bhagirathi Kayastha, Department of Obstetrics and Gynecology, College of Medical Sciences-Teaching Hospital, Bharatpur, Chitwan, Nepal. Email: kayakayastha@gmail.com, Phone: +977-9841439879. **Article received**: 2025-05-05. **Article accepted**: 2025-06-15. **Article published**: 2025-06-30.

## INTRODUCTION

Perimenopause is defined as the beginning of menopausal transition and ending 12 months after the last menstrual period. It typically occurs in women in their 40's to early 50's.[1] AUB is one of the most important perimenopausal problems. International Federation of Gynecology and Obstetrics (FIGO) has defined normal uterine bleeding as a cycle duration of 24-38 days, a variation of ± 2-20 days, bleeding duration of 4.5 to 8 days and volume of 5 to 80ml.[2] Any deviation from normal uterine bleeding is termed as AUB. The global prevalence of AUB ranges between 3-30 % accounting for about one third of outpatient gynecology visits.[3] The prevalence of AUB in India is reported to be 17.9% and that of China is 34.5%.[4,5] The prevalence of AUB in Nepal is reported different in different studies ranging from 8.9% to 33%.[6,7] It represents age related hormonal imbalance but sometimes can be due to serious underlying pathology.[8,9] It adversely affects women`s psychology and quality of life, particularly in developing countries.[10] In women >40 years, it's mandatory to confirm benign nature of problem by ruling out endometrial carcinoma by dilatation and curettage in low resource settings.[11,12] Hysteroscopy and directed biopsy, endometrial aspiration are underutilized because of the cost of sampling devices and the lack of expertise.[13] This study was conducted to find out the clinical presentation and histopathological pattern of endometrium obtained by dilatation and curettage in perimenopausal women with Abnormal uterine bleeding.

## METHODS

A hospital based cross sectional study was conducted in Department of Obstetrics and Gynecology, College of Medical Sciences and Teaching Hospital, Bharatpur, Chitwan, Nepal from November 2024 to April 2025. Ethical approval was obtained from the Institutional Review Committee of COMSTH (Ref. No.COMSTH-IRC/2024-113). Non-probability (convenient) sampling method was used for data collection. The sample size was calculated using the cochran formula: Sample size (n) = $(Z)^2$ *P(1-P) / $e^2$ = $(1.96)2*0.089(1-0.089)/ (0.05)^2$ = 124.58.

Where, Z= degree of confidence level at 95%= 1.96, P = Prevalence of the disease (8.9%)[6], e = Margin of error i.e. 5%.

Women who visited our Obstetrics and Gynecology OPD/Emergency Department with abnormal uterine bleeding in perimenopausal age group were selected after taking written Informed Consent. Inclusion criteria included women of age 40-58 years with abnormal uterine bleeding. Exclusion criteria included women with any demonstrable pelvic pathologies like fibroids, cervical cancer, vaginal or endometrial cancer on clinical examination and those having an active pelvic infection, coagulopathy, thyroid disorder, pregnancy and women on hormonal therapy like tamoxifen. Such women who met the inclusion criteria were included. Women were subjected to a detailed history including menstrual patterns, examination and investigations like Complete blood count, Serology, Thyroid function test, Random blood sugar and Urine pregnancy test. Those women underwent Dilatation and curettage as day care procedure after proper counseling and consent. Endometrial tissue, obtained from Dilatation and Curettage, was collected in 10% formalin and sent for histopathological examination. Histopathological examination reports were collected, recorded and studied. The information was collected in predesigned proforma and then entered in Microsoft Excel 2016. The data were analyzed using Statistical Package for Social Science (SPSS), version 16.

## RESULTS

A total of 125 perimenopausal women with abnormal uterine bleeding underwent dilatation and curettage and sent for histopathological examination. Clinical presentations and histopathological findings were studied. Majority of women were between 40-45 years (46.4%) followed by 46-50 years (28%) (Table 1).

The figure 1 shows that majority of women presenting with AUB were Multipara (81.6%).

Figure 2 shows that Menorrhagia (39.2%) was the commonest clinical presentation of AUB followed by metrorrhagia (28.8%).

| Table 1. Distribution of age. (n=125) | |
|---|---|
| **Age (years)** | **Frequency (%)** |
| 40-45 | 58 (46.4) |
| 46-50 | 35 (28) |
| 51-55 | 27 (21.6) |
| 56-58 | 5 (4) |

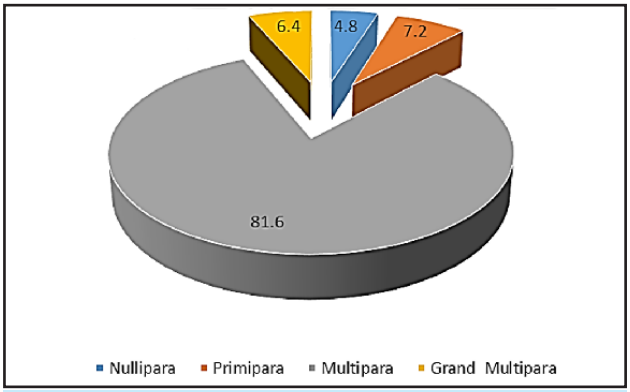


**Figure 1. Distribution of parity.**

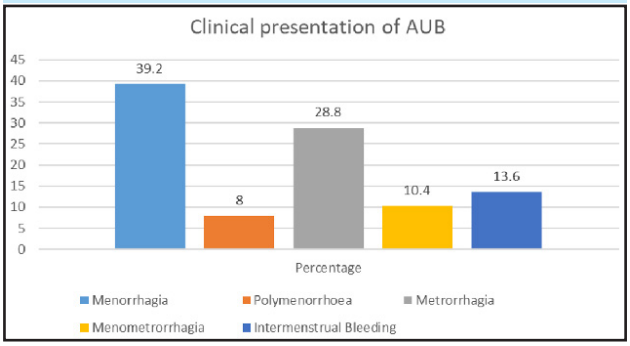


**Figure 2. Distribution of Clinical presentation of AUB.**

Table 2 shows that 28% of women were reported to have endometrium showing secretory phase in histopathology followed by disordered proliferative (27.2%) and proliferative phase (16%). Endometrial hyperplasia was reported in three women while carcinoma in two cases. Secretory phase endometrium and disordered proliferative endometrium were associated with metrorrhagia and menorrhagia whereas Proliferative phase endometrium was associated with menorrhagia and menometrorrhagia.

| Table 2. Distribution of Histopathological findings of endometrium. (n=125) | |
|---|---|
| **Histopathological findings** | **Frequency (%)** |
| Secretory phase endometrium | 35 (28) |
| Disordered proliferative endometrium | 34 (27.2) |
| Proliferative phase endometrium | 20 (16) |
| Endometritis | 14 (11.2) |
| Endometrial polyp | 9 (7.2) |
| Pill Endometrium | 4 (3.2) |
| Atrophic Endometrium | 4 (3.2) |
| Simple Endometrial hyperplasia | 2 (1.6) |
| Atypical Endometrial Hyperplasia | 1 (0.8) |
| Endometrial endometroid carcinoma | 1 (0.8) |
| Endometrial Adenocarcinoma | 1 (0.8) |

| Table 3. Association between Histopathological findings and clinical presentation. (n=125) | | | | | |
|---|---|---|---|---|---|
| **HPE findings** | **Clinical presentation** | | | | |
| | **Intermenstrual bleeding** | **Menometro-rrhagia** | **Menorrhagia** | **Metrorrhagia** | **Polymeno-rrhoea** |
| Secretory phase endometrium | 4 | 2 | 10 | 18 | 1 |
| Disordered proliferative Endometrium | 7 | 3 | 9 | 14 | 1 |
| Proliferative Endometrium | 1 | 3 | 14 | 0 | 2 |
| Endometritis | 0 | 2 | 10 | 2 | 0 |
| Endometrial polyp | 4 | 0 | 2 | 0 | 3 |
| Pill Endometrium | 1 | 0 | 0 | 0 | 3 |
| Atrophic endometrium | 0 | 0 | 2 | 2 | 0 |
| Simple endometrial hyperplasia | 0 | 2 | 0 | 0 | 0 |
| Atypical endometrial hyperplasia | 0 | 0 | 1 | 0 | 0 |
| Endometrial endometroid carcinoma | 0 | 0 | 1 | 0 | 0 |
| Endometrial Adenocarcinoma | 0 | 1 | 0 | 0 | 0 |

## DISCUSSION

AUB is common in perimenopausal women. Abnormal uterine bleeding occurs in various forms like menorrhagia, polymenorrhoea, metrorrhagia and menometrorrhagia.[14] A new classification for the causes of abnormal uterine bleeding is based on the acronym PALM-COEIN- Polyps, Adenomyosis, Leiomyoma, Malignancy, Hyperplasia, Coagulopathy, Ovulatory disorders, Endometrial causes, Iatrogenic and Not classified was developed by FIGO in November 2010.[15] Whenever unscheduled bleeding occurs which is heavy or prolonged in perimenopausal women it is mandatory to evaluate the case with dilatation and curettage to obtain an endometrial tissue sample to confirm benign condition by ruling out endometrial carcinoma.[11,12] Out of 125 women, the mean age was 46.84 years ± 4.83 years. Similar results were seen by Sreelakshmi U et al., Valson et al and Qureshi et al.[14, 16,17] In our study, we observed that common age of AUB was noted in 40-45 years of age (46.4%) followed by 46-50 years' age group (28%). Similar observations were seen by many other researchers also. In a study conducted by Chapagain S et al.,[7] in a tertiary hospital in Nepal, majority of cases of AUB was seen in 40-44 years' age group (45.5%) followed by 45-55 years' age group (31%). Other studies done by Dhakhwa et al., and Sheeja and Begam et al., have similar findings.[18,19] The reason of increased incidence of AUB in this age group (40-50 years) is that the women in this age group are in their climacteric period. As women approach menopause, cycles shorten and become intermittently anovulatory due to the decline in the level of ovarian follicles and estradiol level.[16,20]

In our study, most of the women were multipara (81.6%), followed by primipara (7.2%) and grand multipara (6.4%). Similar results were observed in a study done by Thapa S et al.,[21] and Lotha L et al.[22] The commonest complaint was menorrhagia in 39.2%. Menorrhagia has also been identified to be the commonest clinical presentation of AUB in different studies in Nepal and elsewhere.[7,18] However, a study done in Pakistan has identified polymenorrhoea as the commonest presenting complaint.[23] The next frequent complaint was metrorrhagia in our study which was similar to the study done by Thapa S et al.[24] The high incidence of menorrhagia was observed in perimenopausal age group according to literature as menopause approaches there will be decrease in the number of ovarian follicles and increase in the resistance to gonadotrophin stimulation which produces low levels of estrogen which reduce the normal endometrial growth leading to various patterns of abnormal bleeding.[19] In our study we observed the common histopathological findings of endometrial tissue following dilatation and curettage was normal cyclical pattern (proliferative and secretory endometrium) which accounted for 44% followed by hormonal imbalance pattern (Disordered proliferative endometrium and Pill effect) which accounted for 30.4%. Disordered proliferative endometrium is an amplification of the normal proliferative phase without any sign of an increase in the glands to stroma ratio as a cause of continuous estrogen stimulation mostly seen in perimenopausal women.[25] In our study, 27.2% cases were found to be with disordered proliferative endometrium. The results are similar to the studies done by Thapa S et al.,[24] Chapagain S et al.,[7] and Sheeja and Begum et al.[19] However, this is in contrast to the studies done by Dhakhwa et al.,[18] and Abid et al.,[23] who reported hormonal imbalance pattern as the commonest in the perimenopausal age. We observed inflammatory pathology in 14 women (11.2%). All cases showed features of chronic endometritis. This may be due to socio economic status, hygienic condition or exposure to surgical intervention. In contrast, the incidence is much lower in studies conducted by Roy M et al., Fakhar S et al., and Patil SG et al., which reported to be 4%, 3% and 3.28% respectively.[24,26,27] Endometrial polyps are formed due to lengthening of estrogen stimulation, whose prevalence, according to studies, increases with advancing age and lessens gradually after menopausal.[28] The endometrial polyp in our study accounted for 7.2%. However, none of the polyp showed atypical hyperplasia or carcinoma. Atrophic endometrium is the commonest cause of postmenopausal bleeding. The reason behind it is

unclear, the hypothesis may be due to prolonged absence of estrogen leading to thinning and atrophic of the endometrium with thinning of blood vessels and sensitivity to even minor injury and responsible for postmenopausal bleeding.[29] We observed four women with atrophic endometrium (3.2%). The incidence was similar 3% and 3.1% in studies conducted by Khan et al., and Dhakhwa et al., respectively.[12,18] We observed three cases (2.4%) of endometrial hyperplasia, one with atypia and two without atypia. Endometrial hyperplasia without atypia is a proliferation of endometrial glands of irregular size and shape without significant cytological atypia. It is a result of prolonged estrogen exposure unopposed by progesterone or progestational agents acting on entire endometrial field.[19] Literature review showed quite variable incidence of endometrial hyperplasia, Roy M et al., and Khan S et al., reported 32% and 12.6% respectively.[24,12] Carcinoma is a major differential diagnosis in Perimenopausal women presenting with Abnormal uterine bleeding. Endometrial carcinoma was the very rare finding in histopathology of AUB. In our study, we have two cases (1.6%) of endometrial carcinoma. Similar results of 1.4% and 1.5% were observed by Qureshi et al. and Thapa S et al., respectively.[17,25]

In our study we observed proliferative endometrium was associated with menorrhagia and menometrorrhagia and secretory endometrium was associated with metrorrhagia and menorrhagia. This was similar to the study done by Chapagain S et al.[7] Hormonal imbalance pattern was associated with metrorrhagia and menorrhagia which was similar to the study conducted by Thapa S et al.[21] In our study, endometrial hyperplasia was associated with menorrhagia and menometrorrhagia which was similar to the result of Thapa S et al.[21] In 72.8% women with Abnormal uterine bleeding, medical management was done. Medical management includes use of antifibrinolytic drugs like tranexamic acid, Progestins like medroxyprogesterone acetate and norethisterone acetate. In cases of Disordered proliferative endometrium, Ormeloxifene was used. 24.8% women underwent surgery in the form of total abdominal hysterectomy with unilateral or bilateral salpingo-oophorectomy. Two cases of endometrial carcinoma and one case of atypical endometrial hyperplasia were referred to cancer hospital for further management.

## CONCLUSIONS

Menorrhagia followed by metrorrhagia are the commonest presentation in perimenopausal women with abnormal uterine bleeding. Histopathological examination of endometrial tissue following dilatation and curettage showed a wide spectrum of changes ranging from normal cyclical pattern (proliferative and secretory endometrium) to endometrial carcinoma. After normal cyclical endometrium, disordered proliferative endometrium was the commonest histopathological finding. Endometrial hyperplasia and endometrial carcinoma constituted a small fraction of perimenopausal abnormal uterine bleeding. This emphasizes dilatation and curettage as a useful and cost effective diagnostic tool in management of abnormal uterine bleeding, it offers conservative treatment and avoid unnecessary surgery.

## ACKNOWLEDGEMENTS

We want to express our sincere gratitude to Mr. Hari Prasad Upadhyay for helping in manuscript writing and Mrs. Sharada Devi Upadhaya from Pathology Department for data collection of histopathological findings of endometrium. We are forever grateful to our patients for trusting us and our study.

**Conflict of interest:** None

**Funding**: None

## REFERENCES

1. Soules MR, Sherman S, Parrott E, Rebar R, Santoro N, Utian W, Woods N. Stages of reproductive aging workshop (STRAW). Journal of women's health & gender-based medicine. 2001 Nov 1;10(9):843-8. [DOI]
2. Fraser IS, Critchley HO, Munro MG, Broder M. A process designed to lead to international

agreement on terminologies and definitions used to describe abnormalities of menstrual bleeding∗. Fertility and sterility. 2007 Mar 1;87(3):466-76. [PubMed]

3. Liu Z, Doan QV, Blumenthal P, Dubois RW. A systematic review evaluating health-related quality of life, work impairment, and health-care costs and utilization in abnormal uterine bleeding. Value in health. 2007 May;10(3):183-94. [Link]
4. Sharma A, Dogra Y. Trends of AUB in tertiary centre of Shimla hills. Journal of Mid-life Health. 2013 Jan 1;4(1):67-8. [PubMed]
5. Tian Y, Bai B, Wang L, Zhou Z, Tang J. Contributing factors related to abnormal uterine bleeding in perimenopausal women: a case–control study. Journal of Health, Population and Nutrition. 2024 Apr 18;43(1):52. [DOI]
6. Shrestha D, Aryal S, Tiwari A, Sharma R. Abnormal Uterine Bleeding among Women Visiting Gynecology Out- patient Department of a Tertiary Care Hospital: A Descriptive Cross- sectional Study. JNMA J Nepal Med Assoc. 2022;60(246):121-125. [PubMed]
7. Chapagain S, Dangal G. Clinical and histopathological presentation of abnormal uterine bleeding in perimenopausal women in tertiary center of Nepal. [DOI]
8. Bayer SR, DeCherney AH. Clinical manifestations and treatment of dysfunctional uterine bleeding. Jama. 1993 Apr 14;269(14):1823-8. [DOI]
9. Khare A, Bansal R, Sharma S, Elhence P, Makkar N, Tyagi Y. Morphological spectrum of endometrium in patients presenting with dysfunctional uterine bleeding. People's J Sci Res. 2012;5(2):13-6.[Link]
10. Shukla M, Fonseca MN, Kharat D, Tekale P. A study to correlate histopathological findings in patients with abnormal uterine bleeding. Int J Reprod Contracept Obstet Gynecol. 2017 Jan 31;6(2):654-7. [DOI]
11. CHAMBERS JT, CHAMBERS SK. Endometrial sampling: when? where? why? with what?. Clinical obstetrics and gynecology. 1992 Mar 1;35(1):28-39. [DOI]
12. Khan R, Haiyat S, Maheshwari V, Hakim S. Clinico-Pathological Spectrum of Endometrial Lesions in Patients with Abnormal Uterine Bleeding in Accordance with PALM-COEIN Classification: A Prospective Study of 3 Years in a Tertiary Care Hospital of Western Uttar Pradesh. Ann Pathol Lab Med. 2019;6(2):A76-83. [DOI]
13. Bindhuja J. Histopathologic study of endometrium in cases of abnormal uterine bleeding. Journal of Pathology of Nepal. 2023 Jul 12;13(1):1983-6. [DOI]
14. Sreelakshmi U, Subhashini T. Abnormal uterine bleeding in perimenopausal age group women: a study on clinicopathological evaluation and management. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2018 Jan 1;7(1):192-8. [DOI]
15. Chodankar R, Critchley HO. Abnormal uterine bleeding (including PALM COEIN classification). Obstetrics, Gynaecology & Reproductive Medicine. 2019 Apr 1;29(4):98-104. [DOI]
16. Valson H, Kulkarni C, Mukerjee S, Gowda SN. The role of diagnostic hysteroscopy in abnormal uterine bleeding and its histopathological correlation following blind dilatation and curettage. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2016 Mar 1;5(3):609-15. [DOI]
17. Qureshi AI, Shafi S, Khan M, Munir A, Sahar B, Malik A. Analysis of Histopathological Findings in Endometrium of Peri-Menopausal Women Presenting with Dysfunctional Uterine Bleeding. Pakistan Journal of Medical & Health Sciences. 2022 Aug 17;16(07):263-. [DOI]
18. Dhakhwa R, Bhattarai R, Shah J, Shakya A, Pradhan S. Benign histopathologic findings of endometrium among perimenopausal women presenting with abnormal uterine bleeding:

a descriptive cross-sectional study. JNMA: Journal of the Nepal Medical Association. 2021 Nov 30;59(243):1141. [DOI]

19. Sheeja J, Begum R. Histopathological evaluation of endometrial curettings in women with abnormal uterine bleeding: A retrospective analysis. IP Archives of Cytology and Histopathology Research. 2022 Sep 15;7(3):177-82. [DOI]
20. Bhatiyani BR, Dhumale S, Bashani D. Correlation between ultrasonographic, hysteroscopic and histopathological findings in patients with abnormal uterine bleeding. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2018 Aug 1;7(8):3250-7. [DOI]
21. Thapa S, Joshi A, Basnet S, Shrestha MR, Tamang N. A Retrospective Cross-Sectional Study on Histopathological Findings of Abnormal Uterine Bleeding in Females Visiting a Paramilitary Tertiary Care Hospital. Nepal Medical Journal. 2024;7(2):45-52. [DOI]
22. Lotha L, Borah A. Clinicopathological evaluation of abnormal uterine bleeding in perimenopausal women. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2016 Sep 1;5(9):3072-5. [DOI]
23. Abid M, Hashmi AA, Malik B, Haroon S, Faridi N, Edhi MM, Khan M. Clinical pattern and spectrum of endometrial pathologies in patients with abnormal uterine bleeding in Pakistan: need to adopt a more conservative approach to treatment. BMC women's health. 2014 Dec;14:1-7. [DOI]
24. Roy M, Begum S, Ara BH. Role of Diagnostic D&C and Histopathology of Endometrium in Perimenopausal Abnormal Uterine Bleeding. Bangladesh Journal of Obstetrics & Gynaecology. 2020 Mar 31;35(1):7-14. [DOI]
25. Thapa S, Acharya I. Endometrial histopathology in abnormal uterine bleeding: A retrospective analysis. Medical Journal of Shree Birendra Hospital. 2021 Feb 2;20(1):1-5. [DOI]
26. Fakhar S, Saeed G, Khan AH, Alam AY. Validity of pipelle endometrial sampling in patients with abnormal uterine bleeding. Annals of Saudi medicine. 2008 May;28(3):188-91. [DOI]
27. Patil SG, Bhute SB, Inamdar SA, Acharya NS, Shrivastava DS. Role of diagnostic hysteroscopy in abnormal uterine bleeding and its histopathologic correlation. Journal of gynecological endoscopy and surgery. 2009 Jul;1(2):98. [DOI]
28. Cornitescu FI, Tanase F, Simionescu C, Iliescu D. Clinical, histopathological and therapeutic considerations in non-neoplastic abnormal uterine bleeding in menopause transition. Rom J Morphol Embryol. 2011 Jan 1;52(3):759-65. [PMID]
29. Sajitha K, Padma SK, Shetty JK, KishanPrasad HL, Permi HS, Hegde P. Study of histopathological patterns of endometrium in abnormal uterine bleeding. CHRISMED journal of health and Research. 2014 Apr 1;1(2):76-81. [DOI]

**Citation:** Kayastha B, Shrestha BK, Pradhan A. Histopathological Findings in Dilatation and Curettage in Perimenopausal Age Group Women with Abnormal Uterine Bleeding in Tertiary Care Centre. JCMS Nepal. 2025; 21(2): 161-167.