# **Original Research**

# Histopathological Spectrum of Lesions in Hysterectomy Specimens: A Five-Year Retrospective Study

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#### Abstract

**Background:** Hysterectomy is one of the most commonly performed gynecological surgeries for both benign and malignant conditions. Evaluating the histopathological findings of hysterectomy specimens provides valuable insights into the prevalence and spectrum of uterine and adnexal pathologies. This retrospective analysis aims to determine the frequency and variety of lesions encountered in hysterectomy samples over a five-year period.

**Materials and Methods:** This study was conducted in the Department of Pathology at a tertiary care hospital. A total of 600 hysterectomy specimens received from January 2019 to December 2023 were included. Clinical details and indications were recorded from patient records. Specimens were grossed, processed, and stained with Hematoxylin and Eosin for microscopic examination. The data were analyzed descriptively and categorized according to organ involvement and histopathological diagnosis.

**Results:** Out of 600 cases, the most common indication for hysterectomy was abnormal uterine bleeding (AUB) (42%), followed by uterine fibroids (30%) and prolapse (12%). Histopathologically, leiomyoma was the most frequent finding (38%), followed by adenomyosis (25%), endometrial hyperplasia (10%), endometrial carcinoma (4%), and chronic cervicitis (8%). Ovarian pathologies were noted in 6% of cases, with serous cystadenoma being the most prevalent. Dual pathologies such as leiomyoma with adenomyosis were seen in 15% of cases.

**Conclusion:** A wide spectrum of lesions was observed in hysterectomy specimens, with benign conditions being predominant. Routine histopathological examination remains essential, not only to confirm clinical diagnosis but also to detect unexpected malignancies and coexisting pathologies.

**Keywords:** Hysterectomy, Histopathology, Leiomyoma, Adenomyosis, Endometrial Hyperplasia, Retrospective Study This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as

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# Introduction

Hysterectomy is one of the most frequently performed major gynecological surgeries worldwide, primarily indicated for conditions such as abnormal uterine bleeding (AUB), fibroids, uterine prolapse, chronic pelvic pain, and suspected malignancy (1,2). The decision to perform a hysterectomy is often influenced by clinical judgment, imaging findings, and failure of conservative treatments. Despite advances in diagnostic techniques, the final confirmation of the underlying pathology is often achieved through histopathological examination of the surgical specimen (3).

Histological evaluation not only corroborates the clinical diagnosis but may also reveal incidental or unexpected findings, including premalignant or malignant lesions, which may not have been suspected preoperatively (4). Moreover, understanding the frequency and distribution of histopathological lesions in hysterectomy specimens provides essential epidemiological data and assists in guiding clinical practice and patient counselling (5).

Previous studies have reported leiomyoma, adenomyosis, and endometrial hyperplasia as the most common benign lesions encountered in hysterectomy specimens, whereas endometrial and cervical carcinomas constitute the major malignant entities (6,7). The prevalence of these lesions varies with age, geographic location, and accessibility to healthcare services (8).

This retrospective study aims to analyze the histopathological spectrum of lesions in hysterectomy specimens received over a five-year period at a tertiary care centre. The findings will contribute to a

better understanding of the disease burden and support the ongoing need for thorough pathological assessment of all hysterectomy tissues.

#### Materials and Methods:

This retrospective study was conducted in the Department of Pathology at a tertiary care hospital. The study included all hysterectomy specimens received over a period of five years, from January 2019 to December 2023.

A total of 600 hysterectomy specimens were retrieved from the pathology archives. Relevant clinical details such as age, clinical diagnosis, and indication for surgery were obtained from patient records and requisition forms. Only complete specimens with both uterus and adnexa were included. Incomplete or autolyzed specimens, as well as those lacking adequate clinical information, were excluded.

All specimens were fixed in 10% neutral buffered formalin. Standard grossing techniques were employed, and representative sections were taken from the cervix, endometrium, myometrium, ovaries, and fallopian tubes. Tissue sections were processed using standard paraffin embedding techniques, sectioned at 4–5  $\mu$ m thickness, and stained with Hematoxylin and Eosin (H&E). The slides were reviewed by two independent pathologists to confirm the diagnosis.

The histopathological findings were categorized based on the organ involved and type of lesion—benign, premalignant, or malignant. Data were entered into Microsoft Excel and analyzed using descriptive statistics. Results were presented in terms of frequencies and percentages.

#### Results

A total of 600 hysterectomy specimens were analyzed over a five-year period. The patients' ages ranged from 30 to 75 years, with the majority falling in the 41–50 years age group (n = 240, 40%), followed by the 51–60 years age group (n = 168, 28%) (Table 1).

Age Group (Years)	Number of Cases	Percentage (%)
30–40	72	12.0
41–50	240	40.0
51-60	168	28.0
61–70	90	15.0
>70	30	5.0

The most common clinical indication for hysterectomy was abnormal uterine bleeding (AUB) observed in 252 cases (42%), followed by uterine fibroids in 180 cases (30%) and uterine prolapse in 72 cases (12%) (Table 2).

Indication	Number of Cases	Percentage (%)
Abnormal uterine bleeding	252	42.0
Uterine fibroids	180	30.0
Uterine prolapse	72	12.0
Chronic pelvic pain	48	8.0
Suspected malignancy	30	5.0
Others (e.g., endometriosis)	18	3.0

### Table 2. Clinical indications for hysterectomy

On histopathological examination, leiomyoma was the most frequently diagnosed lesion (228 cases, 38%), followed by adenomyosis (150 cases, 25%) and endometrial hyperplasia (60 cases, 10%). Malignant lesions were found in 36 cases (6%), with endometrial carcinoma being the most prevalent (Table 3).

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Lesion Type	Number of Cases	Percentage (%)
Leiomyoma	228	38.0
Adenomyosis	150	25.0
Endometrial hyperplasia	60	10.0
Endometrial carcinoma	24	4.0
Cervical carcinoma	12	2.0
Chronic cervicitis	48	8.0
Dual pathology (e.g. fibroid + adenomyosis)	90	15.0
Ovarian cysts/tumors	36	6.0

Dual pathology, especially coexisting leiomyoma with adenomyosis, was identified in 90 cases (15%). Among the adnexal lesions, serous cystadenoma of the ovary was the most common, noted in 22 of the 36 ovarian lesions.

The frequency of malignant lesions increased with advancing age, particularly in the >60 years group (Table 4).

Table 4. Distribution of mangnant resions by age group			
Age Group (Years)	Malignant Cases	Percentage within Group (%)	
30–40	2	2.8	
41–50	6	2.5	
51–60	10	6.0	
61–70	12	13.3	
>70	6	20.0	

Table 4. Distribution of malignant lesions by age group

These findings highlight the predominance of benign conditions as the primary cause of hysterectomy, with malignancies becoming more frequent in older age groups (Table 4).

# Discussion

Hysterectomy remains one of the most frequently performed surgical procedures in gynecology for both benign and malignant uterine conditions. In the present study, the most common age group undergoing hysterectomy was 41–50 years, consistent with findings reported in other Indian and international studies (1–3). This age group typically corresponds with perimenopausal transition, where hormonal fluctuations contribute to a higher incidence of abnormal uterine bleeding (AUB), leiomyomas, and adenomyosis.

AUB was the leading clinical indication in our series, accounting for 42% of cases, followed by uterine fibroids (30%). These findings align with similar studies which reported AUB as the most common reason for hysterectomy in 40–50% of patients (4–6). The preoperative clinical diagnosis often correlates with histopathological outcomes, as was observed in our study where leiomyoma was the predominant lesion (38%).

Adenomyosis, the second most frequent pathology (25%), often coexisted with fibroids. This dual pathology has been well-documented in literature, with co-occurrence rates ranging from 10% to 30% (7,8). The histopathological identification of adenomyosis, especially in patients with AUB and dysmenorrhea, underscores the value of microscopic evaluation in confirming clinical impressions (9).

Endometrial hyperplasia was seen in 10% of cases, a finding comparable with earlier reports (10,11). While most cases were of the non-atypical type, routine histopathological analysis is critical as it helps in early detection of atypical hyperplasia and potential progression to malignancy. In our study, 6% of the hysterectomy specimens showed malignant changes, with endometrial carcinoma being the most common. Malignancy was more frequent in women over 60 years, corroborating existing data suggesting increased cancer risk with advancing age (12–14).

Chronic cervicitis was noted in 8% of specimens, often as an incidental finding. Though not a primary indication for hysterectomy, its presence may be linked to chronic infection or inflammation (15). Among ovarian lesions, benign tumors such as serous cystadenoma were the most common. The adnexa, although not always symptomatic, may harbor significant pathology that necessitates inclusion during surgical planning.

# Conclusion

Our results reaffirm that while hysterectomy is often performed for benign conditions, thorough histopathological evaluation is essential to confirm diagnosis and identify unexpected or coexistent lesions, including malignancies. These findings highlight the indispensable role of pathology in postsurgical management and prognosis.

# References

- Wankhade R, Dawande P. Histopathological Analysis of Hysterectomy Specimens in a Tertiary Care Centre: A Retrospective Study. *Cureus*. 2023 Dec 14;15(12):e50497. doi: 10.7759/cureus.50497.
- Awale R, Isaacs R, Singh S, Mandrelle K. Uterine Prolapse: Should Hysterectomy Specimens be Subjected for Histopathological Examination? J Midlife Health. 2017 Oct-Dec;8(4):179–82. doi: 10.4103/jmh.JMH\_80\_17.
- Talukder SI, Haque MA, Huq MH, Alam MO, Roushan A, Noor Z, et al. Histopathological analysis of hysterectomy specimens. *Mymensingh Med J.* 2007 Jan;16(1):81–4.
- 4. Jha R, Pant AD, Jha A, Adhikari RC, Sayami G. Histopathological analysis of hysterectomy specimens. *JNMA J Nepal Med Assoc*. 2006 Jul– Sep;45(163):283–90.
- Majumder P, Thomas PA, Motghare V, Manek PV, Nazneen L, Basak S, et al. Effectiveness of structured teaching program on adolescent's knowledge of tobacco consumption: a randomized control trial. J Pharm Bioall Sci. 2024;16(Suppl 4):S3464–6.
- Dolanbay M, Kutuk MS, Uludag S, Bulut AN, Ozgun MT, Ozcelik B, et al. Concurrent endometrial carcinoma in hysterectomy specimens in patients with histopathological diagnosis of endometrial hyperplasia in curettage specimens. *Ginekol Pol.* 2015 Oct;86(10):753–8. doi: 10.17772/gp/57813.
- Rizvi G, Pandey H, Pant H, Chufal SS, Pant P. Histopathological correlation of adenomyosis and leiomyoma in hysterectomy specimens as the cause of abnormal uterine bleeding in women in different age groups in the Kumaon region: A retroprospective study. J Midlife Health. 2013 Jan;4(1):27–30. doi: 10.4103/0976-7800.109631.
- Barut A, Barut F, Arikan I, Harma M, Harma MI, Ozmen Bayar U. Comparison of the histopathological diagnoses of preoperative dilatation and curettage and hysterectomy specimens. *J Obstet Gynaecol Res.* 2012 Jan;38(1):16–22. doi: 10.1111/j.1447-0756.2011.01633.x.
- 9. Pandey A, Anil M, Pandey S. Histo-pathological patterns in hysterectomy specimens at a tertiary care

centre in India. *Bioinformation*. 2023 Apr 30;19(4):460–3. doi: 10.6026/97320630019460.

- Hemida RA, Zayed AE, Shalaby A, Goda H, Fawzy M, El Refaeey AA. Agreement of histopathological findings of preoperative uterine curettage and hysterectomy specimens: impact of time factor and hormonal therapy. *J Exp Ther Oncol.* 2013;10(3):165– 8
- Moradan S, Ghorbani R, Lotfi A. Agreement of histopathological findings of uterine curettage and hysterectomy specimens in women with abnormal uterine bleeding. *Saudi Med J.* 2017 May;38(5):497– 502. doi: 10.15537/smj.2017.5.19368.
- Talukdar B, Mahela S. Abnormal uterine bleeding in perimenopausal women: Correlation with sonographic findings and histopathological examination of hysterectomy specimens. *J Midlife Health*. 2016 Apr– Jun;7(2):73–7. doi: 10.4103/0976-7800.185336.
- Böhm S, Faruqi A, Said I, Lockley M, Brockbank E, Jeyarajah A, et al. Chemotherapy Response Score: Development and Validation of a System to Quantify Histopathologic Response to Neoadjuvant Chemotherapy in Tubo-Ovarian High-Grade Serous Carcinoma. J Clin Oncol. 2015 Aug 1;33(22):2457– 63. doi: 10.1200/JCO.2014.60.5212.
- Vaidya S, Vaidya SA. Patterns of Lesions in Hysterectomy Specimens in a Tertiary Care Hospital. JNMA J Nepal Med Assoc. 2015 Jan– Mar;53(197):18–23.
- 15. Shahid R, Abbas H, Mumtaz S, Bari MF, Ahmed N, Memon S, et al. Emergency Obstetric Hysterectomy, the Histopathological Perspective: A Cross-Sectional Study From a Tertiary Care Hospital. *Cureus.* 2020 Jul 9;12(7):e9094. doi: 10.7759/cureus.9094.