

## Clinicopathological Study of Hysterectomy at PNS SHIFA Karachi

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### ABSTRACT

**Objectives:** To analyse the clinical indication of abdominal hysterectomy with the histopathological findings.

**Study Design:** Cross-sectional study.

**Place and Duration of Study:** Department of Gynecology and Obstetrics, PNS Shifa, Karachi Pakistan, from Jul 2017 to Jun 2019.

**Methodology:** During the study period, we obtained data of patients' age, parity, presenting complaint, clinical features, indication and type of hysterectomy and histopathology reports of all hysterectomy specimens. A comparison between clinical indication and histopathological findings was made.

**Results:** During the study period, 180 hysterectomies were performed. Heavy menstrual bleeding due to fibroid uterus was seen in 76(42.22%) cases, followed by menstrual irregularities without organic pathology in 39(21.80%) cases. The commonest histopathological diagnosis was leiomyoma/fibroid in 78 cases (43.33%), followed by chronic cervicitis in 59 cases (32.77%). Preoperatively, 76 cases (42.22%) were diagnosed with fibroid uterus, but histopathology of 78(43.33%) showed fibroid uterus. Moreover, 39(21.80%) cases had a pre-operative diagnosis of abnormal uterine bleeding without organic pathology. However, histopathology confirmed only 22(12.22%) cases. Incidentally, on histopathology, we observed chronic cervicitis in 59(32.77%) cases.

**Conclusion:** The fibroid uterus is the most commonly identified pathology. 79.44% of cases confirmed the clinical diagnosis with histopathological diagnosis. The clinical and histopathological correlation was 100% in cases of leiomyoma, cervical and endometrial polyp.

**Keywords:** Hysterectomy, Menstrual irregularities, Uterine histopathology.

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## INTRODUCTION

Hysterectomy is a definitive treatment of pelvic pathologies like fibroid, abnormal uterine bleeding, chronic pelvic pain, endometriosis, adenomyosis, uterine prolapse, pelvic inflammatory disease and cancer of reproductive organs.<sup>1,2</sup> It is also considered a life-saving procedure in case of obstetric hemorrhage.<sup>3</sup> Improved hospital care, availability of blood products, and advancement in anaesthesia and antibiotics have broadened the indications of hysterectomy with little postoperative morbidity and mortality.<sup>4,5</sup> However, this procedure should be justified, and pathology should be confirmed on histopathology.<sup>6</sup>

Histopathological examination of surgical specimens has ethical, legal, diagnostic, and therapeutic significance.<sup>7</sup> Adenomyosis is a disease which is diagnosed only on histopathological examination, while dysfunctional uterine bleeding is a diagnosis of exclusion.<sup>8</sup> The histopathological examination confirms or refutes our diagnosis if malignancy is suspected on pre-operative assessment. Moreover, its importance

cannot be denied in the management of genital tract malignancy as adjuvant treatment such as chemotherapy and radiotherapy greatly depends on grade as well as the extent of cancer invasion.<sup>9</sup>

The incidence of various uterine and adnexal pathologies varies from region to region and nation to nation.<sup>10</sup> Our study aimed to review the clinical indication and distribution of various types of pathologies in hysterectomy specimens of our population and to analyse the clinical indication of hysterectomy with postoperative histopathological findings of specimens. This will help in the optimal care and management of patients, particularly those suffering from malignancy. Unfortunately, available data on histopathological analysis of hysterectomies in our region is limited.

## METHODOLOGY

The cross-sectional study was carried out at the Department of Gynaecology/Obstetrics, PNS Shifa, Karachi Pakistan, for two years, from July 2017 to June 2019. The study was approved by the Ethical Committee of the Hospital (ERC/2020/Gynae/13). The sample size was calculated using the WHO sample size calculator, taking a hysterectomy rate of 4.4/1000.<sup>11</sup>

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**Inclusion Criteria:** Patients presenting with menstrual irregularity with or without lower abdominal pain and mass lower abdomen were included in our study.

**Exclusion Criteria:** Abdominal hysterectomies for uterine malignancies and due to emergency conditions, like obstetrical haemorrhage, were excluded.

Informed consent was obtained from all the participants, and their confidentiality of all of them was maintained. A detailed history was taken, including demographic characteristics (age, parity), presenting complaint, and medical, obstetrical and gynaecological history. A thorough general physical, abdominal and pelvic examination was done. A pap smear was taken for cervical screening. From the radiology department, detailed abdominal and pelvic ultrasonography was carried out. Laboratory tests such as haemoglobin percentage, platelet counts, bleeding and clotting time, random blood sugar level, blood group and Rh factor, and liver and renal function tests were done. Investigations included thyroid function tests, intravenous pyelography, barium enema, computed tomography, and magnetic resonance imaging. Indication for hysterectomy and type of hysterectomy was noted. Hysterectomy specimens were preserved in 10% formalin and sent for histopathological study to the department of pathology PNS Shifa Karachi. We recorded data such as demographic characteristics (age, parity), presenting complaints, clinical features, laboratory and radiological findings, indication for hysterectomy, type of hysterectomy and histopathological report on predesigned proforma. Clinical indications for hysterectomy and histopathological study reports were reviewed and critically analysed.

Statistical Package for Social Sciences (SPSS) version 23.0 was used for the data analysis. Quantitative variables were expressed as mean±SD and qualitative variables were expressed as frequency and percentages. Differences in pre-operative clinical diagnosis and histopathological diagnosis were analysed using the Pearson Chi-square test. The *p*-value of ≤0.05 was considered significant.

**RESULTS**

During the study period, a total of 180 hysterectomies were performed. 3% were nulliparous, and 72% had a parity of ≥5 (grand multipara). Heavy menstrual bleeding due to fibroid was the most common presenting complaint in 76(42.22%) cases, followed by abnormal uterine bleeding without organic pathology in 39(21.80%) cases. In addition, some reported dysmenorrhoea, low backache and something coming

out of the vagina. Table-I shows indications of hysterectomy in these 180 cases. All were benign conditions. Leiomyoma was the most common indication for hysterectomy, followed by abnormal uterine bleeding without organic pathology.

**Table-I: Clinical Indications for Hysterectomy (n=180)**

Clinical Indications	No of Cases	Percentage
Uterine leiomyoma	76	42.22%
AUB without organic pathology	39	21.80%
Endometrial polyp	8	4.44%
Adenomyosis	8	4.44%
Endometrial hyperplasia	12	6.66%
Uterine prolapsed	12	6.66%
Chronic pelvic pain	3	1.66%
Postmenopausal bleeding	12	6.66%
Ovarian cyst	7	3.80%
Cervical polyp	3	1.66%

Among the types of hysterectomy, total abdominal hysterectomy with bilateral salpingoophorectomy (TAH & BSO) was the most common type in 147(82%) cases, followed by total abdominal hysterectomy (TAH) in 18%(33) cases. Table-II depicts the histopathology report of all hysterectomy specimens. The most common lesion observed in histopathology was leiomyoma in 78 females (43.33%), followed by chronic cervicitis in 59(32.77%), while endometrial hyperplasia was revealed in 18(10%).

**Table-II: Frequency and Pattern of Histopathological Diagnosis of Hysterectomy Specimens (n=180)**

Histopathological Diagnosis	Number	Percentage
Leiomyoma	78	43.33%
Adenomyosis	6	3.33%
Endometrial hyperplasia	18	10%
Endometrial polyp	7	3.88%
Chronic cervicitis	59	32.77%
Benign serous cyst adenoma	2	1.11%
Cervical polyp	2	1.11%
Atrophic endometrium	8	4.44%

Preoperatively, out of 180 cases, 76 cases were diagnosed as having fibroid, but the histopathology report of 78 cases showed uterine fibroid. Preoperatively, 39 cases were suspected of having abnormal uterine bleeding without organic pathology, but as per the histopathology report, we confirmed only 22 cases. When compared, there was a significant difference between pre-operative and histopathology-confirmed diagnoses in patients with AUB without organic pathology (*p*=0.014). In all the rest cases, pre-operative and histopathological diagnoses had no statistically significant difference. Adenomyosis was suspected in 8 preoperatively, though it was confirmed in 6 cases

only. Furthermore, the endometrial polyp was a pre-operative diagnosis in 8 cases, but the histopathology report confirmed endometrial polyp in 7 cases (Table-III).

**Table-III: Comparison of Cases having Histopathological Reports inconsistent with Preoperative Diagnosis (n=180)**

Disease	Preoperative Diagnosis	Histopathological Report	p-value
AUB without organic pathology	39	22 AUB without organic pathology 17 chronic cervicitis	0.014
Endometrial hyperplasia	12	10 endometrial hyperplasia 1 endometrial polyp 1 chronic cervicitis	0.657
Fibroid uterus/ Leiomyoma	76	78 fibroid	0.812
Adenomyosis	8	6 adenomyosis 2 fibroid	0.584
Endometrial polyp	8	7 endometrial polyp 1 cervical polyp	0.791

## DISCUSSION

The indication to perform this major surgery should be justified whenever this procedure is carried out, as it has its own physical, emotional, sexual and medical significance for women. The most common route of hysterectomy is abdominal, although the vaginal route may be used by the experienced surgeon when needed.<sup>12</sup> A vaginal hysterectomy has less risk and complications than an abdominal one. The vaginal route is preferred in case of uterine prolapse. It can be done if the disease is confined to the uterus and the size of the uterus is less than 12 weeks.<sup>13</sup>

In our study, the commonest range of age of hysterectomy patients was 41-50 years. The same range of age in hysterectomy patients was observed by previous study.<sup>14</sup>

Heavy menstrual bleeding (42.22%) was the commonest presenting complaint, followed by irregular menstrual bleeding (21.80%). Twelve cases (6.66%) had uterovaginal prolapse as presenting complaint. One study found that 35.43% of the patient presented with heavy menstrual bleeding, 29.53% with fibroid uterus and 23.75% with UV prolapse.<sup>15</sup> Another study also observed heavy menstrual bleeding as the leading presenting symptom. She noticed heavy menstrual bleeding in 44.67% of cases.<sup>16</sup>

In our study, leiomyoma was the most common pathology. We observed that 37.77% had leiomyoma. Similar results have been reported from several national and international studies.<sup>6,11,17</sup>

Chronic cervicitis is very common in women. We found chronic cervicitis as the second most common pathology. Nevertheless, one study found chronic cervicitis as the most common histopathological diagnosis.<sup>18</sup> In our study, it was an incidental finding on histopathology in about 32.77% of cases. Rather *et al.* observed chronic cervicitis in 42% of cases.<sup>8</sup> We observed endometrial hyperplasia in 15.55% of cases and adenomyosis in 3.33% of cases.

Only a few studies have compared pre-operative clinical diagnosis with histopathology of hysterectomy specimens.<sup>19,20</sup> In our study, the fibroid was the most common indication for hysterectomy. We had a pre-operative indication of fibroid in 76 cases, but it was confirmed in 78 cases. In our study, preoperatively, we suspect adenomyosis in 8 cases. During the study, the least correlated diagnosis was of AUB. We diagnosed AUB in 39 cases clinically, but on histopathology, only 22 cases were confirmed to have no organic lesion. 79.44% of our pre-operative diagnoses were confirmed on histopathology like fibroid uterus, polyp, DUB etc. The diagnosis was 100% confirmed on histopathology for cervical polyp and fibroid.

## CONCLUSION

While confirming the pre-operative diagnoses by histopathological examination, high confirmation rates were found for leiomyomas, adenomyosis, endometrial polyps and hyperplasia. Most patients preoperatively diagnosed with abnormal uterine bleeding without organic pathology had chronic cervicitis. Therefore, histopathology of surgical specimens should be mandatory to confirm the diagnosis and optimise further management of malignancies if detected.

**Conflict of Interest:** None.

### Author's Contribution

Following authors have made substantial contributions to the manuscript as under:

RA: Conception, data acquisition, drafting the manuscript, critical review, approval of the final version to be published.

AS & SA: Study design, data analysis, data interpretation, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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## Clinicopathological Study of Hysterectomy

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