



### RESEARCH ARTICLE

## HISTOPATHOLOGICAL SPECTRUM OF HYSTERECTOMY SPECIMENS: A RETROSPECTIVE STUDY IN A TERTIARY CARE HOSPITAL

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### Abstract

**Introduction:** Uterus is an important female reproductive organ that can develop many non-neoplastic to neoplastic diseases.

**Materials and method:** This retrospective study was conducted at Shija Academy of Health Sciences (SAHS), Langol, Imphal, Manipur from January 2023 to February 2024.

**Results:** Out of 110 cases, maximum age range being 35-45 years (42-72%) with leiomyoma being the commonest myometrial lesion 52 (47.28%) followed by adenomyosis 23 (20.19%).

**Conclusion:** Hysterectomy is considered to be commonest gynaecological surgery and leiomyoma being the commonest cause for doing hysterectomy.

**Categories:** Pathology.

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### Introduction:-

The intriguing structures that is included in the female reproductive system includes the external and internal genitalia, uterus, ovaries, fallopian tubes and vagina and among them the most significant organ being uterus which can develop wide ranges of non-neoplastic to neoplastic diseases. The endometrium are constantly driven by different hormones, inhabited by fetuses and undergo monthly endometrial shedding {1}. Along with cervical lesions, corpus of the uterus are the most common cause of gynecological visits {2}. Amongst the various gynecological procedures performed globally, hysterectomy remains the most common {3}. The first total abdominal hysterectomy was done in the year 1929 and the first partial hysterectomy was done in Manchester, England, in 1843 by Charles Clay {4}. The various range of non-neoplastic to neoplastic lesions comprises of abnormal uterine bleeding (AUB), pelvic inflammatory disease (PID), prolapsed of uterus, adenomyosis, endometriosis, fibroids (leiomyoma), gynecological malignancies and other obstetric problems. As a mandate every hysterectomy specimens should be examined histopathologically for arriving into the final diagnosis and treatment accordingly {5}.

The present study was carried out to identify the various clinical indications, analyze the clinicopathological correlation in every hysterectomy specimens and analyse the different histopathological spectrum of it.

### Materials and Methods:-

#### Study design :

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A hospital-based retrospective study.

#### Place and duration of study:

This study was carried out in the Department of Pathology at Shija Academy of Health Sciences (SAHS),Langol ,Imphal,Manipur,from January 2024 to February 2025.

#### Sample size

Total of 110 women presented to Obstetrics and Gynecology Department of the Shija Academy of Health Sciences,Langol,Imphal,Manipur with a clinical diagnosis of female genital tract lesions,were enrolled in the study.

#### Inclusion criteria

This study included all forms of hysterectomy including abdominal,vaginal.laposcopic and total abdominal hysterectomy with or without bilateral salpingo-oophorectomy.

#### Exclusion criteria

Obstetric hysterectomy is excluded for this study.

#### Data collection

The documentation included the patients's name,age,gender,Lab .no.,clinical presentation,differential diagnosis along with detailed clinical history and information from the gynecological request form.

#### Study procedure

All hysterectomy specimens were sent to histopathology section of the Department of Pathology.From the test requisition form (TRF) a summary of pertinent clinical history and results were obtained. Samples were fixed in 10% neutral buffered formaline.The specimens were grossly examined and kept for fixation whenever required and representative sections were taken accordingly. Haematoxylin and Eosin(H&E)staining were done on the sections after they have been embedded and processed.Whenever applicable,special stains like ZN stain,PAS stain were done. All the stained slides were examined under the microscope and reported. Statistics were conducted after considering the results obtained.

#### Ethical consideration

As this study was retrospective rather than interventional,there were no risk variables. Patient details were collected from TRF and histopathological findings from the main histopathology records. Ethical clearance were obtained from the Institutional Ethics Committee.The identities of patients and doctors were not noted.

#### Statistical analysis

The tabulated results were subjected to statistical analyses.Statistical analysis was used to determine the type of lesion,the incidence rate and the percentage in each age group.Statistical analysis were performed using Microsoft Excel( Microsoft Corporation,Redmond,Washington,United States).

#### Results:-

A total of 110 patients were included.The age-wise distribution of hysterectomy specimens is presented in Table 1. Hysterectomy procedure was performed in women aged between 25 to 75 years of age.The majority of cases,47(42.72%) out of 110 cases,occurred between the ages of 35 and 45 years ,followed by 32(29.09%) cases between the ages of 45 and 55 years.The least number of cases,four(3.64%),were between the ages of 65 and 75 years.

**Table 1:-** Age-wise distribution of hysterectomy specimens.

Age group(years)	Number of cases(n)	Percentage(%)
25-35	14	12.72
35-45	47	42.72
45-55	32	29.0
55-65	13	11.81
65-75	4	3.64

According to Table 2, vaginal hysterectomy was the second most prevalent type of hysterectomy, with 32 cases (28.19%), while the most frequent type being total abdominal hysterectomy with unilateral/bilateral salpingo-oophorectomy which represented 79 cases (71.82%).

The indications for hysterectomies range from irregular menstruation to possible pelvic malignancies.

Table 2 shows the number of hysterectomy indications. Most of the patients had fibroid uterus which accounted for 33 (30%) cases, followed by uterovaginal prolapse, comprising 31 (28.19%) and dysfunctional uterine bleeding comprising of 25 (22.73%) cases.

**Table 2:-** Hysterectomy type and indication. (n=110)

Hysterectomy type	Indication	Number of cases(n)	Percentage(%)
Total abdominal hysterectomy(TAH) with unilateral or bilateral salpingo-oophorectomy	Fibroid	33	30
-----‘-----	Dysfunctional uterine bleeding(DUB)	25	22.73
-----‘-----	Ovarian mass	18	16.37
-----‘-----	Cervical fibroid	3	2.73
Vaginal hysterectomy	Uterovaginal prolapse	31	28.19

Table 3 shows histological findings of the endometrium. Most common finding was the endometrium. Most common findings were endometrium of proliferative phase was 43 (39.09%) cases and secretory phase in 21 cases (19.10%) respectively. In two (1.82%) cases, the endometrium showed a polyp. In seven (6.37%) cases, simple endometrial hyperplasia was observed. Out of 110 cases, a single case (0.91%) was diagnosed as endometrial endometrioid carcinoma which on microscopy showed back-to-back arrangement of endometrial glands with significant cytologic atypia along with stromal invasion.

**Table 3:-** Distribution of histopathological findings of endometrium (n=110)

Histopathological diagnosis	Number of cases(n)	Percentage(%)
Proliferative phase	43	39.09
Secretory phase	21	19.10
Endometrial hyperplasia without atypia	7	6.37
Endometrial hyperplasia with atypia	1	0.91
Endometrial polyp	2	1.82
Atrophic endometrium	35	31.82
Endometrial carcinoma	1	0.91

**Table 4:-**

Histopathological diagnosis	Number of cases(n)	Percentage(%)
Leiomyoma	52	47.28
Adenomyosis	23	20.91
Leiomyoma+Adenomyosis	20	18.19
Normal histology	21	19.10

Table-4 illustrates that leiomyoma was the commonest histopathological finding in 52 cases (47.28%) followed by adenomyosis which was observed in 23 (20.91%) cases. Few showed combination of leiomyoma and adenomyosis in 20 (19.10%) cases.

**Table 5:-** Distribution of cervical lesions diagnosed on histopathology(n=110)

Histopathological diagnosis	Number of cases(n)	Percentage(%)
Chronic cervicitis	85	77.28
Chronic cervicitis with squamous metaplasia	13	11.82
Papillary endocervicitis	6	5.46
Cervical fibroid	3	2.73
Normal histology	3	2.73

As shown in Table-5 ,chronic cervicitis was the commonest cervical lesion,comprising 85(77.28%)cases followed by Chronic cervicitis with squamous metaplasia in 13 patients(11.82%)cases.Six(5.46%)cases were papillary endocervicitis and three(2.73%)cases were cervical fibroids.

**Table 6:-** Distribution of different histopathological ovarian lesions (n=110)

Histopathological diagnosis	Number of cases(n)	Percentage(%)
Follicular cyst	22	20
Luteal cyst	6	5.46
Serous cystadenoma	7	6.37
Mucinous cystadenoma	1	0.91
Mucinous cystadenocarcinoma	1	0.91
Mature teratoma	1	0.91
Normal histology	72	65.46

Table-6 showed maximum number of cases(72out of 110)showed normal ovarian histology.There were 28(25.46%)cases of non-neoplastic lesions and 10(9.10%)cases of neoplastic lesions in the ovaries.Commonest among the non-neoplastic lesion being follicular cyst 22(20%)cases and under neoplastic lesion,serous cystadenoma as commonest 7(6.37%)cases,followed by one(0.91%) case each of mature teratoma,mucinous cystadenoma and mucinous cystadenocarcinoma.

**Table 7:-** Correlation between pre-operative clinical diagnosis and histopathological diagnosis.

Pre-operative diagnosis	Number of cases(n)	Histopathological diagnosis:number of cases(n)	Histopathological diagnosis:percentage(%)
Fibroid	33	28	84.85
Adenomyosis	3	3	100
Serous cystadenoma	10	7	70
Dermoid cyst	1	1	100
Uterovaginal prolapse	31	31	100
Cervical fibroid	3	3	100

Table-7 shows correlation between the preoperative clinical diagnosis and the histopathological diagnosis.In most cases,ranging from 70% to100%.the final histopathological diagnosis supports the preoperative clinical diagnosis.

## Discussion:-

Globally,hysterectomy is the most prevalent gynecological procedure.It is an effective procedure to alleviate symptoms and offers permanent solution for manydisorders affecting uterus and adnexa.{6}In our present study,the age range of the patients was 25 to 75 years with a mean age of 50.86+/-6.9years.According to Verma et.al{7}the mean age of patients was 50.1 years,while Adelusola et.al{8},the mean age was 49.1years.

In our present study,women between the ages of 35 and 45 years were the most frequently subjected to hysterectomies,which is similar to other studies{9-12}.In present study,abdominal hysterectomy represented 79(71.82%)cases and vaginal hysterectomy accounted for 31(28.19%)cases. In a study by MacKenzie et al.{13},abdominal hysterectomy was preferred in 79% of the cases and vaginal hysterectomy in 17% of cases.

Studies by Sachin et.al[14],Pandey et.al[15] ,Sujata et.al {16}and Gupta et.al{17} revealed that the most common hysterectomy procedure was total abdominal hysterectomy.Data from the United Kingdom reveal that abdominal

hysterectomy procedures are 5-6 times more common than vaginal hysterectomies. In a study by Pandya et al. {18}, vaginal hysterectomy was the surgical procedure

In our study, fibroids were the most frequent indication of hysterectomy, followed by uterovaginal prolapse. According to Broder et al. {19} fibroids and prolapse were the two most common indications. Similar results were found in studies conducted by Jandial {20} and Ullah et al. {21}. Even according to studies by Butt et al. {22}, Tiwana et al. {23}, Abe et al. {24} and Leung et al. {25}. However, Toma et al. {26} found that dysfunctional uterine bleeding was the most common indication.

In our present study, proliferative endometrium (39.7%) is the most frequently observed endometrial lesion followed by atrophic endometrium (32%) in postmenopausal women. These findings are similar with those of Patil et al. {27}. In a study by Kleeboew et al. {28}, atrophic endometrium was the most prevalent endometrial lesion who estimated its frequency to be 3.8% which has similar findings observed by Awale et al. {29}.

In our study, leiomyoma was the most frequent than adenomyosis, which has also been observed in studies by Neelgund et al. {30} and Khurshid et al. {31}. Most of the preoperative clinical diagnosis in our study were supported by histopathological reports, with a proportion ranging from 70% to 100%. Jallel et al. {32} reported similar findings. The preoperative diagnosis of adenomyosis, dermoid cyst, uterovaginal prolapse, and cervical fibroid shows 100% correlation with histopathological reports. The only limitation of the present study was lack of follow-up.

### Conclusion:-

The present study provides a platform to understand the various histopathological patterns of hysterectomy specimens from our Institute. The most prevalent uterine pathology being Leiomyoma, the most prevalent ovarian lesion being follicular cyst and chronic cervicitis as incidental findings in hysterectomy specimens. A total of two malignant tumors were noted: one case of endometrial carcinoma and one case of mucinous cystadenocarcinoma of the ovary. To ensure better postoperative management, it is imperative that every hysterectomy specimen be subjected to a thorough histopathological examination.

### Additional Information

#### Author Contribution

Concept and design: Thangjam Shitalmala, Purnika

Drafting of the manuscript: Thangjam Shitalmala

Critical review: Shitalmala, Karuna

Supervision: Shitalmala, Karuna

### Disclosure

Conflict of interest: NIL

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