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### RESEARCH ARTICLE

#### HISTOMORPHOLOGICAL PATTERNS OF HYSTERECTOMY SPECIMENS IN A TERTIARY CARE HOSPITAL: A TWO-YEAR STUDY

Laltlanzovi<sup>1</sup>, Hmingthanzuali Ralte<sup>2</sup>, Lalrinzuali Sailo<sup>3</sup> and Chawngthu Vanlalhlua<sup>4</sup>

1. Associate Professor, Department of Pathology, Zoram Medical College.
2. Assistant Professor, Department of Pathology, Zoram Medical College.
3. Demonstrator, Department of Pathology, Zoram Medical College.
4. Associate Professor, Department of Surgery, Zoram Medical College.

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#### Abstract

**Introduction:** Hysterectomy is the second most common gynecological surgery next to caesarean section. The indications for hysterectomy may vary from one region to another and histomorphological pattern may also vary.

**Aim:** The aim of the study is to analyze the various histomorphological patterns of uterine and adnexal pathology in the hysterectomy specimens.

**Material and Methods:** This is a retrospective study done over a period of two years at the department of Pathology, Zoram Medical College, Mizoram. Data of all hysterectomy specimens during this period were analyzed.

**Results:** Out of the 142 cases, Leiomyoma was the most common uterine pathology seen followed by adenomyosis, 63% and 13% respectively. Chronic cervicitis was the most common cervical pathology and, in the ovaries, tumor-like lesions functional cysts were the most common pathology seen. The most common indication for hysterectomy was fibroid followed by dysfunctional uterine bleeding.

**Conclusion:** The histopathological findings correlate with the pre-operative clinical indications; however, a number of lesions were incidental findings. Therefore, it is important that every hysterectomy specimen be subjected for histopathological examination for better post-operative management.

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#### Introduction:-

Hysterectomy is one of the most common gynecological procedures performed all over the world. The most frequent indications for hysterectomy are fibroids, abnormal uterine bleeding, uterovaginal prolapse and endometriosis [1]. Although histopathology correlates well with clinic-radiological diagnosis, various lesions have been discovered on microscopy only. Adenomyosis remains the most commonly missed preoperative diagnosis and getting diagnosed on histopathological examination [2]. Grossly unremarkable many specimens may reveal pathologies on histological examination. Similarly, many non-neoplastic lesions may show malignant foci on microscopy.[3] Hence, all hysterectomy specimens must undergo proper histopathological examination. In our study, hysterectomy specimens were studied and results compared with their clinical diagnosis. The primary aim of our study was to correlate the

**Corresponding Author:- Chawngthu Vanlalhlua**

Address:- Associate Professor, Department of Surgery, Zoram Medical College.

histopathological features of the disease with its clinical diagnosis. This is especially useful when the patient is not improving on symptoms-based treatment plan, reflecting the importance of histopathology in clinical practice.

### Materials and Methods:-

This is a retrospective study done in the department of Pathology, Zoram Medical College, Mizoram, over a period of two years from January 2018 to December 2019.

All hysterectomy specimens irrespective of the type of surgery and indication for hysterectomy were included in the study. There are no exclusion criteria. Total 142 hysterectomy specimens were included and evaluated for this study.

Clinical details and relevant history of the patients were obtained from the requisition forms received along with the specimens. Details were entered in the proforma for the study and analyzed.

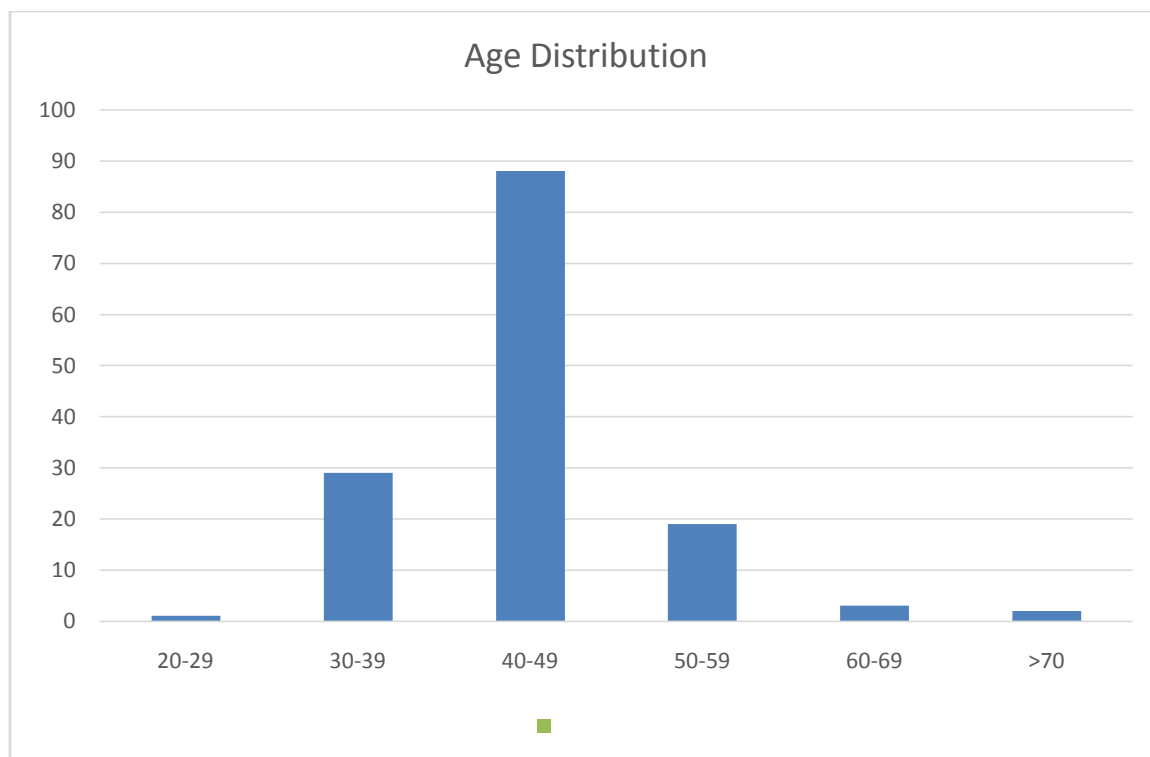
All hysterectomy specimens received were immediately checked and transferred into a 10% buffered formalin and kept for fixation. After 24 hours fixation, gross examination of the specimen was done and checked for size, wall thickness and any mass present. Necessary sections were taken from uterus that includes endometrium, myometrium and serosa. Depending on the gross examination, an additional minimum of 3 sections were taken from any grossly visible lesion. Similarly, sections from endocervix and ectocervix from both lips of cervix were taken. Additional minimum of 3 sections were taken from any grossly visible lesion if present. After proper labeling and recording of the gross findings, tissue pieces were kept in tissue cassettes and further kept for processing by an automated tissue processor. After processing, paraffin blocks were made and sections were cut at approximately 3-5  $\mu$  in thickness using a microtome and stained with H&E stain followed by light microscopic examination.

### Results:-

A total of 142 cases of all hysterectomy specimens submitted to Pathology department of Zoram Medical College irrespective of the type of surgery and indication for hysterectomy over a period of two years were included in the study.

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

Sl no.	Age group (in years)	Total no. of cases (N)	Percentage (%)
1	20-29	1	0.70%
2	30-39	29	20.4%
3	40-49	88	61.97%
4	50-59	19	13.39%
5	60-69	3	2.11%
6	$\geq 70$	2	1.40%
	TOTAL	142	100%

**Table 2:-** Distribution of various types of uterine lesions.

Sl no.	Uterine lesions	Total no. of cases (N)	Percentage (%)
1	Leiomyoma	63	44.37%
2	Adenomyosis	16	11.27%
3	Leiomyoma + Adenomyosis	13	9.15%
4	Disordered proliferative endometrium	4	2.82%
5	Endometrial polyp	3	2.11%
6	Endometrial hyperplasia	1	0.7%
7	Atrophic	14	9.86%
8	Endometrial carcinoma	3	2.11%
9	Prolapse	1	0.7%
Sl no.	Cervical lesions	Total no. of cases (N)	Percentage (%)
1	Chronic cervicitis	59	41.54%
2	LSIL	1	0.7%
3	HSIL	1	0.7%
4	Cervical carcinoma	3	2.11%
SL no.	Adnexal lesions	Total no. of cases (N)	Percentage (%)
1	Endometriotic cyst	5	3.52%
2	Serous cystadenoma	6	4.23%
3	Serous borderline tumour	1	0.7%
4	Mucinous cystadenoma	1	0.7%
5	Brenner tumour	1	0.7%
6	Sex-cord stromal tumours	1	0.7%
7	Tumour like lesions	23	16.2%
8	Acute salpingitis	1	0.7%
9	Hydrosalpinx	5	3.52%

10	Hemosalpinx	3	2.11%
11	Paratubal cyst	6	4.23%

Out of the 142 cases, Leiomyoma was the most common uterine pathology seen followed by adenomyosis, 63% and 13% respectively. Chronic cervicitis was the most common cervical pathology and, in the ovaries, tumor-like lesions functional cysts were the most common pathology seen. The most common indication for hysterectomy was fibroid followed by dysfunctional uterine bleeding.

### Discussion:-

Hysterectomy is a major surgery having physical, emotional, medical, and sexual significance to the women.[2] Hysterectomy is the surgical procedure for deduction of the uterus with one or both ovaries and fallopian tubes.[6] The surgery is normally done wherein no other management is possible or has failed or the female has completed her family.[7] However, since early 20<sup>th</sup> century, it is considered as a definitive treatment for pathologies such as leiomyoma, adenomyosis, dysfunctional uterine bleeding, prolapse, and malignancies[2,8] despite availability of medical and lesser invasive surgeries.[3] It is a successful operation in terms of symptomatic relief and patient satisfaction and provides definitive cure to many diseases affecting uterus as well as adnexal tissue.[9] This study was conducted to analyse the pattern of lesions in hysterectomy specimens, to correlate the histopathological findings with the clinical indications, and to compare our findings with those of other studies. One hundred and forty-two hysterectomy specimens were studied in this study. Most frequent clinical presentation was Abnormal Uterine Bleeding. We can correlate these findings with the studies by Lodha and Bharti.[7] and Medhiet al.[8] AUB is irregular uterine bleeding occurring without any pelvic pathology, pregnancy, or any medical conditions. The cause is disrupted normal ovulatory pattern due to abnormal hormonal imbalance.[9] Many women with AUB may undergo unwarranted hysterectomy without a definite diagnosis.[10]

Vaginal discharge was a common overlapping clinical complaint in the most of patients and it usually gets untreated because patients do not seek clinical advice. As reported by Singh [11] in their study, vaginal discharge was considered as one of the most common health problem of women in their reproductive age group. In our area, females do not seek medical advice for white discharge per vagina until it gets complicated with other lesions of the uterus and come very late when superadded symptoms develop. Total abdominal hysterectomy (74.8%) was the most commonly performed type of hysterectomy in our study which was in accordance with studies by Baralet al.,[1] Lodha and Bharti,[7] Patel et al.,[12] and Vaidya et al.,[13] but was not seen in study by Gupta et al where vaginal hysterectomy was the most common method[14] Abdominal route is associated with prolonged hospital stay, more cost and more complications as compared to the vaginal route which is encouraged only if the disease is confined to the uterus and uterus weighs <280 g.[7] In our study, majority of patients were undergone Total abdominal hysterectomy for better compliance. Ovarian neoplasm is the most fascinating tumour of women in terms of its histogenesis, clinical behaviour, and malignant potential.[15] In our study, the most common ovarian pathology was found simple serous cyst in 46 of the cases followed by dermoid cyst in 12 cases.

Most common age group found to undergo hysterectomy in our study was 40–49 years (61.97%), which was similar to findings by Baralet al.,[1] Nyirahabimana et al. [3] Lodha and Bharti,[7] Medhiet al.,[8] and Patel et al. [12] Carcinoma uterine cervix is one of the leading causes of cancer death among women worldwide.[16] In our study, out of two cases of CIN, one case was of CIN-I (LSIL) grade and one was CIN-III (HSIL). Out of three cases of squamous cell carcinoma of cervix, two cases were invasive and one case was microinvasive type. Chronic cervicitis was the most common uterine lesion in our study (41.54%). It was not an indication for hysterectomy, but was an incidental finding in large number of cases. Chronic cervicitis was also a most common histopathological finding in the study done by Rather et al. [17] Leiomyoma was the most common myometrial lesion in our study. Most of the studies done on the histopathological study of hysterectomy specimen until date reveals uterine leiomyoma as the most common tumor noted in the uterus. Most of the cases of leiomyoma affected the child bearing age group. Leiomyoma has a 70–80% cumulative incidence in childbearing years.[18] Leiomyoma usually presents with dysmenorrhea, bleeding per vaginum, and lower abdominal mass, but adenomyosis has vague symptoms and is diagnosed majorly on histopathology; hence, histopathological diagnosis holds great importance in uterine lesions.[19]

**Conclusion:-**

Though the histopathological examination correlates well with the pre-operative clinical diagnosis, a number of lesions were also encountered as pure incidental findings. Hence, it is mandatory that every hysterectomy specimen should be subjected to histopathological examination so as to ensure better post-operative management.

**Compliance of Ethical Standards:**

This study has the approval of Institutional Ethics Committee.

**Conflict of Interest:**

The authors declare no conflict of interest.

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