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Original Research Article

HISTOPATHOLOGICAL SPECTRUM OF HYSTERECTOMY SPECIMENS: A RETROSPECTIVE STUDY IN A TERTIARY CARE HOSPITAL IN NORTH-EAST INDIA

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ABSTRACT

Background: Uterus is an important female reproductive organ that can develop many non-neoplastic to neoplastic diseases. As a mandate, every hysterectomy specimen should be examined histopathologically for arriving into the final diagnosis and treatment accordingly. The aim is to identify the various clinical indications, analyze the clinicopathological correlation in every hysterectomy specimen and analyse the different histopathological spectrum of it. **Materials and Methods:** A retrospective study was conducted at Shija Academy of Health Sciences (SAHS), Langol, Imphal, Manipur from January 2023 to February 2024. The study participants were women who presented to the Obstetrics and Gynecology Department of SAHS, Langol, Imphal, Manipur during the study period with a clinical diagnosis of female genital tract lesions. Data were collected by using a re-tested, semi-structured interview schedule. It had sections on demography, clinical history and features, and relevant information provided in the gynecological request form. All hysterectomy specimens were sent to histopathology section of the Department of Pathology. **Results:** Out of 110 cases, a majority (42.7%) belonged to the age-range of 35-45 years. Leiomyoma was the commonest myometrial lesion 52 (47.28%) followed by adenomyosis 23(20.19%). **Conclusion:** The most prevalent uterine pathology being Leiomyoma, the most prevalent ovarian lesion being follicular cyst and chronic cervicitis as incidental findings in hysterectomy specimens. To ensure better postoperative management, it is imperative that every hysterectomy specimen, be subjected to a thorough histopathological examination.

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 endomyometrium are constantly driven by different hormones, inhabited by fetuses and undergo monthly endometrial shedding.[1] Along with cervical lesions, corpus of the uterus is 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), prolapse of uterus, adenomyosis, endometriosis, fibroids (leiomyoma) gynecological malignancies and other obstetric problems. As a mandate, every hysterectomy specimen should be examined histopathologically for arriving into the final diagnosis and treatment accordingly.[5]

Aim

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

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MATERIALS AND METHODS

A hospital-based retrospective study was carried out in the Department of Pathology at Shija Academy of Health Sciences (SAHS), Langol, Imphal, Manipur during the period January 2024 to February 2025. The study participants were women who presented to the Obstetrics and Gynecology Department of SAHS, Langol, Imphal, Manipur during the study period with a clinical diagnosis of female genital tract lesions. This study included all forms of hysterectomy including abdominal, vaginal. laproscopic or total abdominal hysterectomy with or without bilateral salpingo-oophorectomy. Obstetric hysterectomy was excluded for this study.

After getting written informed consent, data were collected by using a re-tested, semi-structured interview schedule. It had sections on demography, clinical history and features, and relevant information provided in the gynecological request form.

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 and PAS stain were done. All the stained slides were examined under the microscope and reported.

Collected data was entered in MS Excel which was later transported to SPSSv23.0 for statistical analysis. Descriptive analysis was presented by using mean, standard deviation and proportions. Ethical clearance of the study was obtained from the Institutional Ethics Committee of SAHS. Confidentiality of data was strictly maintained.

RESULTS

A total of 110 patients were included in the study. 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; 42.7%) occurred in the age-group of 35-45 years, which was followed by (32; 29.1%) cases in the age-group of 45-55 years. The least number of cases (04;3.6%) were from the age-group of 65-75years.

Table 1: Age-wise distribution of hysterectomy patients

Age group (years)	Frequency (%)
25-35	14 (12.7)
35-45	47 (42.7)
45-55	32 (29.0)
55-65	13 (11.8)
65-75	04 (3.6)

Vaginal hysterectomy was the second most prevalent type pf 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 ranged from irregular menstruation to possible pelvic malignancies. Most of the patients had fibroid uterus which accounted for 33 (30%) cases, followed by uterovaginal prolapse comprising 31 (28.2%) and dysfunctional uterine bleeding comprising of 25 (22.7%) cases. [Table 2]

Table 2: Distribution by hysterectomy type and indication

Hysterectomy type	Indication	Number of cases (%)
Total abdominal hysterectomy (TAH) with unilateral or bilateral salpingo-oophorectomy	Fibroid	33 (30.0)
	Dysfunctional uterine bleeding	25 (22.7)
	Ovarian mass	18 (16.4)
	Cervical fibroid	03 (2.7)
Vaginal hysterectomy	Uterovaginal prolapse	31 (28.2)

Table 3 shows histological findings of the specimens. Most common findings in the endometrium were endometrium of proliferative phase 43 (39.1%) cases and secretory phase in 21 cases (19.1%) respectively. In two (1.8%) cases, the endometrium showed a polyp. In seven (6.4%) cases, simple endometrial hyperplasia was observed. Out of 110 cases, a single case (0.9%) was diagnosed as endometrial endometriod carcinoma which on microscopy showed back-to-back arrangement of endometrial glands with significant cytologic atypia along with stromal invasion.

Leiomyoma was the commonest histopathological finding in 52 cases (47.3%) followed by adenomyosis which was observed in 23 (20.91%) cases. A few showed combination of leiomyoma and adenomyosis in 20 (19.10%) cases.

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Table 3: Distribution of histopathological findings

Histopathological diagnosis	Number of cases (%)
In endometrium	
Proliferative phase	43 (39.1)
Secretory phase	21 (19.1)
Hyperplasia without atypia	7 (6.4)
Hyperplasia with atypia	1 (0.9)
Polyp	2 (1.8)
Atrophic endometrium	35 (31.8)
Endometrial carcinoma	1 (0.9)
In myometrium	
Leiomyoma	52 (47.3)
Adenomyosis	23 (20.9)
Leiomyoma + Adenomyosis	20 (18.2)
Normal histology	21 (19.1)
In the cervix	
Chronic cervicitis	85 (77.3)
Chr cervicitis with squamous metaplasia	13 (11.8)
Papillary endocervicitis	06 (5.5)
Cervical fibroid	03 (2.7)
Normal histology	03 (2.7)

In the cervix, chronic cervicitis was the commonest cervical lesion, comprising 8 5(77.3%) cases followed by Chronic cervicitis with squamous metaplasia in 13 patients (11.8%) cases. Six (5.46%) cases were papillary endocervicitis and three (2.73%) cases were cervical fibroids. [Table 3]

Table 4: Distribution of different histopathological ovarian lesions

Histopathological diagnosis	Number of cases (%)
Follicular cyst	22 (20.0)
Luteal cyst	6 (5.5)
Serous cystadenoma	6 (5.5)
Serous cystadenocarcinoma	1 (0.9)
Mucinous cystadenoma	1 (0.9)
Mucinous cystadenocarcinoma	1 (0.9)
Mature teratoma	1 (0.9)
Normal histology	72 (65.5)

A maximum number of cases (72; 65.5%) showed normal ovarian histology. There were 28 (25.5%) cases of non-neoplastic lesions and 10 (9.1%) cases of neoplastic lesions in the ovaries. The commonest among the non-neoplastic lesion being follicular cyst 22 (20%) cases and under neoplastic lesion, serous cystadenoma as the commonest 7 (6.4%) cases, followed by one (0.9%) case each of mature teratoma, mucinous cystadenoma and mucinous cystadenocarcinoma. [Table 4]

Table 5: Correlation between pre-operative clinical diagnosis and histopathological diagnosis

Pre-operative diagnosis	Clinical diagnosis	Histopathological diagnosis	Matching (%)
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 5] shows the 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 many disorders affecting uterus and adnexa.[6] In our present study, the age range of the patients was 25 to 75 years with a mean (SD) age of 50.86 (6.9) years. According to Verma et al, the mean age of patients was 50.1 years, while Adelusola et al found the mean age was 49.1 years.[7,8]

In our present study, women between the ages of 35 and 45 years were most frequently subjected to hysterectomies, which is similar to other studies.[9-12]

In present study, abdominal hysterectomy represented 79 (71.8%)cases and vaginal hysterectomy accounted for 31(28.2%) cases. In a study by MacKenzie et al, abdominal hysterectomy was preferred in 79% of the cases and vaginal hysterectomy in 17% of cases.[13]

Studies by Sachin et al, Pandey et al, Sujata et al and Gupta e al revealed that, the most common hysterectomy procedure was total abdominal hysterectomy.[14-17]

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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, vaginal hysterectomy was the surgical procedure.[18]

In our study, fibroids were the most frequent indication of hysterectomy, followed by uterovaginal prolapse. According to Broder et al fibroids and prolapse were the two most common indication.[19] Similar results were found in studies conducted by Jandial and Ullah et al.[20,21] Even according to studies by Butt et al, Tiwana et al. Abe et al and Leung et al.[22-25]

However, Toma et al found that dysfunctional uterine bleeding was the most common indication.[26]

The disparity might be because of difference in study settings.

In the present study, proliferative endometrium (39.7%) is the most frequently observed endometrial lesion followed by atrophic andometrium (32%) in postmenopausal women.T his findings are similar with those of Patil et al.[27]

In a study by Kleebkaow et al, 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.[28,29]

In our study, leiomyoma was the most frequent than adenomyosis, which has also been observed in studies by Neelgund et al and Khurshid et al.[30,31]

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 reported similar findings. The preoperative diagnosis of adenomyosis, dermoid cyst, uterovaginal prolapse and cervical fibroid shows 100% corelation with histopathological reports.

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.

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