

Clinicopathological Analysis of Hysterectomy Specimen at Tertiary Care Centre: A Retrospective Study

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Received: 25-10-2024 / Revised: 03-11-2024 / Accepted: 07-11-2024

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Conflict of interest: Nil

Abstract:

Background: female in their life prone to developed various pathological condition in hormone responsive genital tract system. This study aims to identify various pathological lesions in hysterectomy specimen along with clinical correlation.

Materials and Methods: the present study was retrospective study conducted at GMERS medical college and hospital, Himmatnagar during October 2023 to September 2024. All form of hysterectomy specimens received were examined. Routine gross examination done and representative sections were taken and stained with haematoxylin and eosin stain. Various histopathological and clinical data were collected and analysed.

Results: this study include total 150 hysterectomy cases. Various clinical complains were noted including menorrhagia and abnormal uterine bleeding was common complaint followed by dysmenorrhea, pelvic organ prolapse. Most of the patients were in age range of 41-50 years. The proliferative phase was most common finding in endometrium. Leiomyoma was most prevalent findings in myometrium followed by adenomyosis. Chronic cervicitis was common incidental finding seen in cervix. Most of ovaries had non-specific pathology.

Conclusion: hysterectomy is most common gynaecological surgery perform under elective condition. This study shine light on the histopathological lesions in hysterectomy specimens. Various finding was accidentally found in microscopic examination therefor all hysterectomy specimen should undergo histopathological examination.

Keywords: Hysterectomy, Leiomyoma, Menorrhagia, Endometrial Hyperplasia, Adenomyosis.

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Introduction

The female reproductive tract is a mechanism that responds to hormones. Throughout life, the uterus's structure drastically changes. It is an essential reproductive organ that is prone to several benign and malignant diseases as a result of different hormone imbalances. Women all over the world suffer from various gynaecological disorders which need hysterectomy as a treatment option and this may include total or partial oophorectomy depending on clinical status, age and parity status of the woman [1].

Hysterectomy is most common gynaecological procedure performed worldwide for gynaecological indication [2]. One definitive treatment for pelvic pathologies like endometriosis, adenomyosis, uterine prolapse, abnormally uterine bleeding, fibroid, chronic pelvic pain, and cancer of the reproductive organs is hysterectomy. Various types of hysterectomy done include subtotal or total

abdominal hysterectomy with or without salpingo-oophorectomy, vaginal hysterectomy or laparoscopic hysterectomy. Vaginal hysterectomy is preferred method for uterovaginal prolapse whereas abdominal hysterectomy with or without salpingo-oophorectomy preferred for fibroids and abnormal uterine bleeding [3]. The various endometrial lesions include endometrial polyps, chronic endometritis, hyperplasia and malignancies. Adenomyosis and leiomyomas are frequent condition involving the myometrium [4].

In India, the cervical cancer ranking first among all the gynaecological malignancies. The incidence of endometrial carcinoma has been trending upward in recent years, likely due to a decline in cervical cancer due to early detection through screening modalities like pap smears, vili, and colposcopies, as well as an increase in endometrial carcinoma risk factors such as obesity, changing lifestyles,

increased incidence of diabetes and hypertension, and use of postmenopausal hormone therapy. [5]. Ovary is a vital female reproductive organ and a variety of lesions can arise from it. Ovarian diseases requiring surgical intervention can be broadly divided into non-neoplastic cysts, inflammations and neoplasms.

Histopathological examination of each hysterectomy specimen despite of clinical diagnosis is the most accurate way to differentiate between benign and malignant lesions, thus playing a major role in making the correct diagnosis, which has a profound impact on the further management of the patient[6].

In view of the wide range of lesions seen in the hysterectomy specimens, the current work aimed to identify various lesions along with detail clinical and histopathological study.

Material and Methods

The study was carried out at GMERS medical college and hospital, Himmatnagar in the department of pathology, during October 2023 to September 2024.

A retrospective study was conducted on hysterectomy specimen, which was received in 10% formalin from the department of obstetrics

and gynaecology, along with requisition form containing pertinent clinical features, age, radiological findings, and provisional diagnosis. The representative tissue sections were taken and were processed by routine paraffin techniques and sections stained with haematoxylin and eosin were taken for microscopic examination.

Inclusion criteria: this study include total or subtotal hysterectomy specimen received with proper fixative.

Exclusion criteria: obstetric hysterectomy was not included in this study.

Results

This study includes total 150 cases of hysterectomy specimen. Out of which, 103 cases (68.66%) were abdominal hysterectomy specimen, 33 cases (22%) were of vaginal hysterectomy specimen and 14 cases (9.3%) of laparoscopic hysterectomy specimen.

Majority of patients, 42.7% cases presented with complaint of menorrhagia and abnormal uterine bleeding followed by dysmenorrhea (26.7%), lower abdominal pain (19.3%), pelvic organ prolapse (5.3%), vaginal discharge (4.7%) and postmenopausal bleeding (1.3%).

Table 1: distribution of cases according to clinical symptoms

Symptoms	No.	%
AUB	64	42.7
Dysmenorrhea	40	26.7
Lower abdominal pain	29	19.3
Pelvic organ prolapses	8	5.3
Whitish discharge per vagina	7	4.7
Post-menopausal bleeding	2	1.3

The age range of the study was 30 to 69 years with mean age was 44.34 years. Most of the patients were in age range of 41-50 years having 79 cases (52.6%) followed by 50 cases (33.3 %) 30-40 years of age, 18 cases (12%) were in 51-60 years of age and 3 cases (2%) having > 60 years of age.

Table 2: distribution of patients according to age group

Age group	No.	Percentage (%)
30-40	50	33.3
41-50	79	52.6
51-60	18	12
>60	3	2

Most common finding in endometrium was proliferative phase seen 82 cases (54.6%). Secretory phase and atrophic endometrium seen in 26 case (17.3%) and 20 case (13.3%), respectively. Pathological findings include benign endometrial polyp in 11 cases (7.3%), endometrial hyperplasia without atypia seen in 9 cases (6%) and chronic endometritis in one case (0.6%). There was single case of endometroid adenocarcinoma (0.6%).

Table 3: distribution of endometrial lesions diagnosed in histopathological examination

Histopathological diagnosis	No.	Percentage (%)
Proliferative phase	82	54.6
Secretory phase	26	17.3
Atrophic	20	13.3

Endometrial polyp	11	7.3
Chronic endometritis	1	0.6
Hyperplasia without atypia	9	6
Endometrial carcinoma	1	0.6

Study of myometrium sections shows lesions including leiomyoma and adenomyosis. Among them leiomyoma was most common histological findings seen in 59 cases (39.3%) followed by

adenomyosis in 32 cases (21.3%). 12 cases (8%) shown both adenomyosis and leiomyomas. Intramural leiomyomas are most commonly seen in 87.3% of all leiomyomas.

Table 4: distribution of myometrial lesions diagnosed in histopathological examination

Histopathological diagnosis	No.	Percentage (%)
Adenomyosis	32	21.3
Leiomyoma	59	39.3
Adenomyosis, leiomyoma	12	8
Normal histology	43	28.6

Various pathologies were encountered in cervix in resected specimens. Among them chronic cervicitis was most common lesion seen in 69 cases (46%) followed by papillary endo-cervicitis in 21 cases (14%), chronic cervicitis with squamous metaplasia seen in 13 cases (8.6%). Other findings include 2

cases (1.3%) of cervical leiomyoma, 12 cases (8%) nabothian cyst, one case of micro glandular hyperplasia (0.6%). Dysplasia seen in 5 cases (3.3%). There was one case (0.6%) of malignant lesion in cervix encountered in this study, which was squamous cell carcinoma.

Table 5: distribution of cervical lesions diagnosed in histopathological examination

Histopathological diagnosis	No.	Percentage (%)
Chronic cervicitis	69	46
Papillary endo-cervicitis	21	14
Chronic cervicitis with squamous metaplasia	13	8.6
Cervical leiomyoma	2	1.3
Nabothian cyst	12	8
Micro-glandular hyperplasia	1	0.6
Dysplasia	5	3.3
Squamous cell carcinoma	1	0.6
Non-specific histology	25	16.6
Total	150	100

In the present study, most of the cases (70%) shows normal histology in ovary (105 out of 150 cases). Various non-neoplastic lesion also seen includes follicular cyst seen in 23 cases (15.3%), luteal cyst in 10 cases (6.7%), 3 cases (2%) of haemorrhagic

cyst. Neoplastic lesion includes serous cyst adenoma in 4 cases (2.7%), mucinous cyst adenoma in 2 cases (1.3%), 2 cases (1.3 %) of mature teratoma. There was single case (0.7%) of adult granulosa cell tumor.

Table 6: distribution of ovarian lesions diagnosed in histopathological examination

Histopathological diagnosis	No.	Percentage (%)
Follicular cyst	23	15.3
Luteal cyst	10	6.7
Haemorrhagic cyst	3	2.0
Mature teratoma	2	1.3
Adult granulosa cell tumor	1	0.7
Serous cyst adenoma	4	2.7
Mucinous cystadenoma	2	1.3
Non-specific histology	105	70.0

Discussion: Hysterectomy is the most commonly performed gynaecological surgery done in female and successful operation in terms of symptomatic relief, patient satisfaction as well as provides definitive cure to many diseases involving uterus

and adnexa like fibroids, menorrhagia, adenomyosis, endometriosis, pelvic inflammatory disease, uterovaginal prolapse and malignancy. In present study, 150 hysterectomy specimens were evaluated with regards to age distribution and

histopathological spectrum at tertiary care centre. In our study, the commonest age group of hysterectomy was 41-50 years followed by 30-40 years. The mean age of the patient who had undergone hysterectomy was 44.34 years. These findings are similar with study conducted by Deepthi Verma et al. [7] and Ranabhat et al. [8]. In this study, abdominal hysterectomy represented 68.66% cases and was most frequently performed surgical procedure while 22% cases of vaginal hysterectomy. This finding similar to study done by Mackenzie et al. [9] and Sachin et al. [10].

In present study, the most common clinical presentation was menorrhagia and abnormal uterine bleeding (42.7%) followed by dysmenorrhea (26.7%), lower abdominal pain (19.3%), and pelvic organ prolapses (5.3%). Similar findings seen in study done by Agrawal S et al. [11]. Similar to study by Patil et al. [12], the present study also shows proliferative phase of endometrium as most common findings (54.6%).

This is frequent endometrial lesion identified associated with adenomyosis and leiomyoma. Atrophic endometrium (13.3%) was commonly seen in postmenopausal women with uterine prolapse. Present study endometrial polyp seen in 7.3% and 6% cases of endometrial hyperplasia without atypia. Both were clinically associated with abnormal uterine bleeding. Overall incidence of endometrial carcinoma in hysterectomy specimens was found to be 0.6% that is similar comparable to Subrata et al. [13].

Leiomyoma of the uterus is the most common neoplasm of the female genital tract, estimated to occur in 20-40% of women in their reproductive years. Many of these tumours are small and so remain undetected and often identified as incidental findings [14]. Incidence of leiomyoma (39.3%) is more frequent than adenomyosis (21.3%). Both adenomyosis and leiomyomas seen in 8% cases. These findings were correlated with study done by Neelgund et al. [15]. Chronic cervicitis is an extremely common condition in adult females at least at microscopic level. In our study, the most frequent incidental finding, chronic cervicitis was observed in 46% of the patients which was nearly similar with incidence reported by Jamal et al [16] and, which was 41.5% and to that reported by Zaid et al. [17] which was 53.6%.

In present study papillary endo-cervicitis found in 14% cases and with squamous metaplasia seen in 8.6% cases. Incidence of cervical malignancy was 0.6% in present study, which was squamous cell carcinoma.

While dysplasia encountered in 3.3% of cases. The most frequent ovarian lesion observed was follicular cyst, which is consistent with other studies by Nausheen et al. [18], Pandey et al. [19], and Perveen

et al. [3]. The most frequent benign tumor was a simple serous cystadenoma. The mature cystic teratoma and the mucinous cystadenoma had two cases each. There was a case adult granulosa cell tumor in present study.

Conclusion

This study provides a fair insight into the histopathological patterns of lesions in hysterectomy specimens.

A wide range of lesions is encountered when hysterectomy specimens are subjected to histopathological examination. In this study, the most common lesion observed in histopathological analysis of hysterectomy specimen was leiomyoma in myometrium and chronic cervicitis in cervix. In our study two malignant lesions were noted includes endometrial carcinoma and squamous cell carcinoma of cervix.

Identification of premalignant lesions and incidental malignant lesions can improve the treatment outcome of patients. Increased the awareness among peri-menopausal and post-menopausal women to seek medical care immediately in case of any abnormal bleeding or vaginal discharge can reduce incidence of lesion in female genital tract.

Few lesions like chronic cervicitis and adenomyosis encountered as pure incidental findings. Therefore, in order to guarantee improved postoperative care, every hysterectomy specimen, even ones that superficially seem to be normal, must undergo a thorough histological examination.

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