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Original Research Article

A histopathological study of hysterectomy specimens and their clinical correlation in patients at tertiary health care setup in Bundelkhand region of Uttar Pradesh

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ABSTRACT

Background: Women in their life time are prone to develop several neoplastic and non-neoplastic lesions in her uterus and cervix basically due to hormone responsiveness of female genital tract system. The aim of the study was to evaluate all hysterectomy specimens and to study the pattern of pathological changes of different lesions occurring in cervix and uterus associated with different age groups.

Methods: This retrospective cross-sectional, study was conducted on patients undergoing hysterectomy in department of obstetrics and gynecology in MLB Medical College Jhansi and hysterectomized specimens reported to department of pathology for further evaluation. Total 35 hysterectomy specimens were included in the study with age of patients varying from 30 years to 60 years. Detailed clinical and other relevant history were taken followed by thorough gross examination and histopathological evaluation.

Results: Majority of hysterectomy specimens were sent for histopathological examination in the department of pathology, out of these 30 (85%) were total abdominal hysterectomy specimen, 5 (14.28%) were of vaginal hysterectomy specimens. Out of all these cases, in 7 (20%) cases bilateral or unilateral salpingophorectomy done.

Conclusions: In our study, most common surgical procedure for hysterectomy was abdominal hysterectomy 30 (85.7%) followed vaginal hysterectomy 5 (14.28%) All the vaginal hysterectomy was done for second- and third-degree utero-vaginal prolapse. Most prevalent endometrial histopathological finding in our study is non-secretive 15 (42.8%), secretive 7 (20%) followed by atrophic 6 (17.1%) as most of the patients in our study presents with abnormal uterine bleeding and menorrhagia 23 (65.7%).

Keywords: Adenomyosis, Fibroid, Hysterectomy, Menorrhagia, Neoplastic

INTRODUCTION

Women in her life time is prone to develop several neoplastic and non-neoplastic lesions in her uterus and cervix basically due to hormone responsiveness of female genital tract system. The aim of the study was to evaluate all hysterectomy specimens and to study the pattern of pathological changes of different lesions occurring in uterus and cervix associated with different age groups.¹ Hysterectomy is one of the most common surgical procedures performed in gynecology. According to the

National Hospital Discharge Survey, the rate of inpatient Hysterectomy between 1998 and 2010 decreased.² Hysterectomy rates are higher in Black women. Bilateral salpingo-oophorectomy decreased significantly, while bilateral salpingectomy increased significantly between 1998 and 2011.³ Most common lesion found in hysterectomy specimen is fibroid, decision to perform hysterectomy in leiomyoma is to treat symptoms-AUB, pelvic pain, abdominal or pelvic pressure.in case of PID, hysterectomy indicated if refractory to intravenous

antibiotic therapy, and patients having acute abdominal findings and sign of sepsis.⁴

METHODS

A retrospective cross-sectional, study was conducted on patients undergoing hysterectomy in department of obstetrics and gynecology in MLB Medical College Jhansi and hysterectomized specimens reported to department of pathology for further evaluation. This study included 35 hysterectomy cases conducted in department of obstetrics and gynecology done over a period of 6 months from July 2021 to December 2021.

Inclusion criteria

The patients of age group 30-70 years, admitted with complaint of menorrhagia, dysfunctional uterine bleeding (DUB), and abnormal uterine bleeding (AUB), postmenopausal bleeding, lump abdomen, pelvic organ prolapse and chronic vaginal discharge and not willing for fertility to tertiary care centre in obstetrics and gynecology department are included in the study.

Procedure

A valid written consent was taken from patients after explaining study to them. Brief essential clinical history and abdominal and pelvic examination and finding recorded from case paper with respect to age, parity, clinical manifestation, sonographic findings and diagnosis. After hysterectomy, the specimens were sent to Pathology Department of Maharani Laxmi Bai Medical College Jhansi (UP). Hysterectomy specimen were allowed to fix in 10% formalin for 24-48 hours at the department of pathology.

A detailed gross examination including size, shape, consistency and external surface of uterus and cervix with or without bilateral adnexa were recorded by the pathologist. Blocks were made and sections were cut into 4-micron thickness in the microtome. These sections were stained by the histotechnicians by routine stain of hematoxylin and eosin. Each slide was then meticulously examined by pathologists.

For e.g. in a fibroid uterus, a detailed morphology and histopathological examination of leiomyomas (whorled pattern with interlacing muscles) were noted, which include the number, location, size and secondary changes like haemorrhage, necrosis and calcification.

Ethical approval

Study was approved by institutional ethical committee.

Statistical analysis

Raw data were entered into Microsoft Excel. Statistical analysis was conducted using IBM SPSS Statistics 21.0

(IBM Corp., Armonk, NY). Statistical analysis outputs were presented in form of tables and graphs.

RESULTS

During this study period, total 35 hysterectomy specimens were sent for histopathological examination in the department of pathology, out of these 30 (85%) were total abdominal hysterectomy specimen, 5 (14.28%) were of vaginal hysterectomy specimens out all these cases in 7 (20%) cases bilateral or unilateral salpingo-oophorectomy done.

Table 1: Distribution of patients according to age group.

| Age group (years) | No. of patients | Percentage |
|-------------------|-----------------|------------|
| 30-40 | 10 | 28.5 |
| 41-50 | 20 | 57.1 |
| 51-60 | 4 | 11.4 |
| 61-70 | 1 | 2.8 |
| Total | 35 | 100 |

This study includes 23 (65.7%) cases of hysterectomy in those menorrhagia and abnormal uterine bleeding was the chief complaint.

Patient who underwent hysterectomy for menorrhagia were between 3rd to 5th decade of life.

Majority of patients were between 41-50 years 20 (57.14%) followed by 10 (28.5%) cases between 31-40 years of age, 4 (11.4%) cases were between 51-60 years. Between 61-70 years 1 (2.8%) case was found (Table 1). Out of 35 hysterectomized patients, all are parous and parity of patients ranges from 1 to 6.

Table 2: Distribution of patients according to uterine size.

| Uterine size | No. of patients | Percentage |
|-----------------------|-----------------|------------|
| Normal | 5 | 14.28 |
| Slightly bulky | 20 | 57.14 |
| Bulky | 8 | 22.8 |
| Atrophic | 2 | 5.7 |
| Total | 35 | 100 |

Table 3: Distribution of patients according to clinical symptoms.

| Symptoms | No. of patients | Percentage |
|--|-----------------|------------|
| Menorrhagia and AUB | 23 | 65.7 |
| Chronic PID (pain abdomen with vaginal discharge) | 7 | 20 |
| Pelvic organ prolapses | 5 | 14.28 |

Out of total 35 specimens in which menorrhagia, AUB and fibroid was cause for hysterectomy uterine morphology

showed as follows-Slight bulky- 20 (57.14%) and bulky-8 (22.8%) normal- 5 (14.28%), atrophic- 2 (5.7%) (Table 2).

Table 4: Prevalence of various lesions in cervix.

| Histopathological findings | No. of cases | Percentage |
|---------------------------------------|--------------|------------|
| Chronic cervicitis | 23 | 65.7 |
| Cervical polyp | 3 | 8.57 |
| Cervical intraepithelial neoplasia I | 0 | 0 |
| Cervical intraepithelial neoplasia II | 0 | 0 |
| Squamous cell carcinoma | 1 | 2.8 |
| Squamous cell metaplasia | 8 | 22.8 |

Table 5: Prevalence of lesions in endometrium.

| Histopathological findings | No. of cases | Percentage |
|------------------------------|--------------|------------|
| Proliferative, | 2 | 5.7 |
| Secretive | 7 | 20 |
| Non-secretive | 15 | 42.8 |
| Atrophic | 6 | 17.1 |
| Cystic glandular hyperplasia | 1 | 2.8 |
| Chronic endometritis I | 0 | 0 |
| Hyperplasia without atypia | 1 | 2.8 |
| Endometrial polyp | 2 | 5.7 |
| Adenocarcinoma endometrium | 1 | 2.8 |
| Endometrial stromal sarcoma | 0 | 0 |

Histopathological lesion in the form of leiomyoma (fibroid uterus) was seen in 15 (42.8%) specimens, adenomyosis was diagnosed in 13 (7.1%) specimens whereas leiomyoma associated with adenomyosis was diagnosed in 4 cases (11.4%) and polyp was diagnosed in 2 (5.7%) cases (Table 4).

The commonest clinical diagnosis present in our study was fibroid (leiomyoma) in 15 (42.8%) cases followed by dysfunctional uterine bleeding/abnormal uterine bleeding/adenomyosis in 13 (37.1%) cases followed by polyps which is seen in 5 (8.5%) patients, pelvic inflammatory disease as chronic cervicitis was the clinical diagnosis given in 23 (65.7%).

Table 6: Prevalence of lesions in myometrium.

| Histopathological findings | No. of cases | Percentage |
|----------------------------|--------------|------------|
| Leiomyoma | 15 | 42.8 |
| Adenomyosis | 13 | 37.1 |
| Leiomyoma with adenomyosis | 4 | 11.4 |
| Leiomyoma with polyp | 3 | 8.5 |

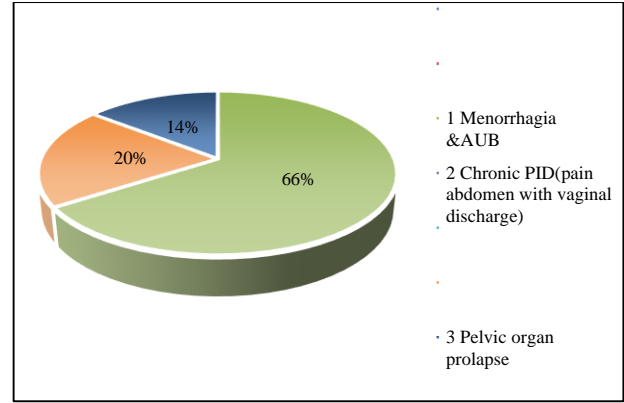


Figure 1: Distribution of patients according to clinical symptoms.

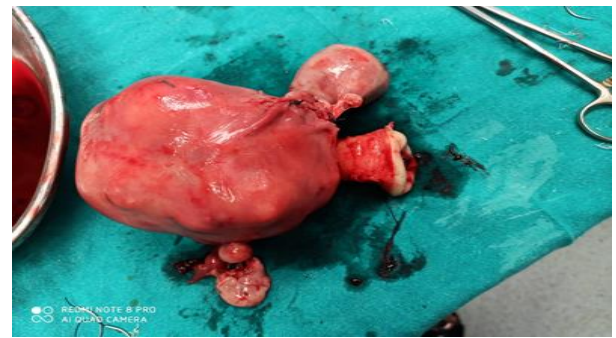


Figure 2: Multiple leiomyoma on gross examination.



Figure 3: Bulky uterus with multiple leiomyoma on cut section.



Figure 4: Cut section of uterus showing endometrial polyp.



Figure 5: Cut section of uterus with intramural fibroid and adenomyosis.

DISCUSSION

In our 6 months of study from July 2021 to December 2021 at tertiary care centre 35 cases of hysterectomy were studied. This study was to analyse the patterns of lesions in hysterectomy specimens in our institution, correlate the findings with the clinical indications and to compare our findings with those of other workers.

In the present study, majority of patients were between 41-50 years i.e. 20 (57.14%) Similar to analysis of 150 cases by Harshal et al most cases were of age group of 41-50 years.⁵

Various studies done by Rather et al, Ramchandran et al and Ajmera et al had similar findings.⁶⁻⁸

In our study, most common surgical procedure for hysterectomy was abdominal hysterectomy 30 (85.7%) followed vaginal hysterectomy 5 (14.28%). All the vaginal hysterectomy was done for second- and third-degree utero-vaginal prolapse. Similar to study done by Domblae et al in India.⁹

Most prevalent endometrium histopathological finding in our study is non-secretive 15 (42.8%), secretive 7 (20%) followed by atrophic 6 (17.1%) as most of the patients in our study presents with abnormal uterine bleeding and menorrhagia 23 (65.7%).

Most prevalent myometrial histopathological finding in our study is leiomyoma in 41 to 50 years (perimenopausal females) of age presenting with menorrhagia 23 (65.7%) and all of them are parous women correlate well with the observations made by Sawke et al and Sajjad et al, who reported most of the patients with menorrhagia were above 40 years.^{2,10} Chronic cervicitis is the most common finding in the cervix histopathologically.

In our study 23 (65.7%) of the cases were chronic cervicitis, followed by squamous metaplasia 8 (22.8%). One case showing hyperkeratotic and parakeratotic cervical changes, as second common indication in our study for hysterectomy was chronic PID.¹¹

In our study out of 30 abdominal hysterectomy 7 (20%) patients were in which unilateral 2 (28.5%) or bilateral 5 (71.4%) salpingo-oophorectomy was done majority of the specimen shows unremarkable findings.

Chronic cervicitis is the most common finding in the cervix histopathologically similar to Lee et al and Meikle et al.^{12,13}

The key limitation of the study was retrospective study design. The study was single centred, duration of study is also short and our sample size also limited the external validity of the study. Further studies must include large sample size follow up studies to increase the validity of study findings.

CONCLUSION

Most prevalent endometrium histopathological finding in our study is non-secretive 15 (42.8%), secretive 7 (20%) followed by atrophic 6 (17.1%) as most of the patients in our study presents with abnormal uterine bleeding and menorrhagia 23 (65.7%).

Most prevalent myometrial histopathological finding in our study is leiomyoma in 41 to 50 years (perimenopausal females) of age presenting with menorrhagia 23 (65.7%) and all of them are parous women. In our study 23 (65.7%) of the cases were chronic cervicitis, followed by squamous metaplasia (22.8%).

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