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CLINICOPATHOLOGICAL STUDY OF UTERUS AND CERVIX IN HYSTERECTOMY SPECIMENS IN AJMER REGION

Pathology

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ABSTRACT

Introduction: Hysterectomy is the most common major gynecological procedure in the world for diagnosis of various diseases. Aim of this study was to study various uterine lesions in hysterectomy specimens and to correlate the findings with clinical indications.

Material and Methods: Present study included 600 hysterectomy specimens done in the Dept of pathology at J.L.N. medical college Ajmer over the period of January 2017 to December 2017.

Results and Conclusions: The commonest benign lesion was leiomyoma (50%) followed by adenomyosis (34.5%), endometrial polyp (6.67%), cervical polyp (2.17%). In premalignant lesions 15 cases of endometrial hyperplasia and 5 cases of cervical dysplasia were observed. In malignant lesions endometrial carcinoma (1.5%, 9cases) was most common followed by cervical carcinoma (0.5%, 3cases), 1 case was leiomyosarcoma and low-grade endometrial stromal sarcoma each. The ultimate diagnosis and prognosis depends on the histopathological examination, therefore every operated specimen must be subjected to histopathology.

KEYWORDS

Hysterectomy,Leiomyoma,Adenomyosis, Endometrial polyp

INTRODUCTION

The female reproductive system is affected by various abnormalities and diseases and hence has been the subject of interest and the basis for the gynecological practice.[1]

Most common complaints of patients were per vaginal bleeding, vaginal discharge, pain in abdomen, menstrual irregularity, difficulty in micturition, postmenopausal bleeding and sensations of something coming out of vagina etc.[2] Many treatment options are available nowadays including medical and conservative surgical procedures but hysterectomy remains the most preferred method to manage gynecological disorders. Hysterectomy is the commonest gynecological procedure.[3] Hysterectomy is usually performed by: a) Abdominal b) Vaginal and c) Laparoscopic methods.[4]

The most frequent indications of hysterectomy are uterine leiomyoma (or fibroid), abnormal uterine bleeding (AUB), pelvic support defects and endometriosis. The other indications are malignancies and endometrial hyperplasia, adenomyosis, cervical dysplasia, infections, postpartum bleeding and abnormal placental site.[5]

Histopathological study of hysterectomy specimens is of great importance not only to detect and confirm the diagnosis even if it grossly appears to be normal, and also for the prognosis and further follow up of the patients.[6]

The purpose of this study is to correlate various indications of hysterectomy with the histopathological findings of the specimens, thus determining the percentage of the pre-operative clinical diagnosis and frequency of unexpected disease that will be confirmed on histopathological examination.

MATERIAL AND METHODS

The present study on hysterectomy specimens was a prospective study conducted in the Department of Pathology, Jawaharlal Nehru Medical College and associated group of Hospitals, Ajmer for a period of one year (January 2017 to December 2017). Hysterectomy specimens were examined grossly and microscopically for various pathology. Clinical data of the study subjects were received along with hysterectomy specimens. After overnight fixation of specimen in 10% buffered formalin, gross examination was done which includes its size, shape, weight and appearance of cut surface especially pertaining to areas of haemorrhage and necrosis. Multiple sections were taken from representative areas includes cervix, endometrium and myometrium, additional sections taken from any growth and abnormal areas. Sections were processed and stained with routine Hematoxylin & Eosin and examined under microscope.

RESULT

The present study was conducted on 600 cases of hysterectomy specimens. The age ranged from 21-80 yrs with a mean age of 45.16 ±9.3 years. The youngest patient in the study was 21 years and the oldest was 80 years of age. The maximum numbers of hysterectomies were noted in the 5th decade with 265 cases (44.17%).

The most common clinical indication for hysterectomy was fibroid uterus (43.50%) followed by AUB (30.00%) and prolapsed uterus (18.50%). Other indications included PID (2.00%), adenomyosis (1.33%), rupture uterus (1.00%), cervical polyp (0.84%), endometrial polyp (0.67%), carcinoma endometrium (0.67%), cervical dysplasia (0.50%), endometrial hyperplasia (0.33%), atonic PPH (0.33%) and carcinoma cervix (0.33%).

Most common presenting symptom was excessive bleeding per vaginum in 235 cases (39.17%) followed by lower abdomen pain in 201 cases (33.50%) and something coming out of introitus in 109 cases (18.17%). Irregular cycle was seen in 78 cases (13.00%), post menopausal bleeding in 52 cases (8.67%), mass abdomen in 23 cases (3.83%), pain during menstruation in 21 cases (3.50%), white discharge per vagina in 14 cases (2.33%), post coital bleeding in 12 cases (2.00%) and burning micturition in 6 cases (1.00%).

In uterus, most common gross finding was fibroid (298 cases) followed by polyp (50 cases) and atrophic uterus (31 cases). Endometrial growth was present in 12 cases.

Out of 600 cases frequency of benign lesions was 94.34%, 20 cases (3.33%) of premalignant lesions and malignant lesions were 2.33%.

Table 1 – Incidence Of Non Neoplastic And Neoplastic Findings In This Study Group

Type of lesion		Histopathological findings	No of cases	Percentage
Non neoplastic		**Chronic cervicitis**	**587**	**97.83%**
		Endometritis	09	01.50%
		TB endometrium	01	00.17%
		Adenomyosis	207	34.50%
		Decubitus ulcer	01	00.17%
		Product of conception	03	00.50%
		Placental site trophoblastic reaction	01	00.17%
Neoplastic	**Benign**	**Leiomyoma**	**300**	**50.00%**
		Nabothian cyst	204	34.00%
		Squamous metaplasia	72	12.00%
		Endometrial polyp	40	06.67%
		Cervical polyp	13	02.16%
		Benign endometrial stromal nodule	02	00.33%
	Precursor lesions	Endometrial hyperplasia	15	02.50%
		Cervical dysplasia	05	00.83%
	Malignant	Endometrial stromal sarcoma	01	00.17%
		Endometrial carcinoma	**09**	**01.50%**
		Leiomyosarcoma	01	00.17%
		Cervical carcinoma	**03**	**00.50%**

In present study chronic cervicitis in 587 cases (97.83%) was most common non neoplastic lesion followed by adenomyosis 207 cases (34.50%) & 9 cases of endometritis. In benign neoplastic lesions 300 cases (50%) of leiomyoma was most common followed by nabothian cyst 204 cases (34%),72 cases of squamous metaplasia,40 cases of endometrial polyp, 13 cases of cervical polyp and 2 cases of benign endometrial stromal nodule.

Out of total 600 cases 9 cases (1.5%) were endometrial carcinoma followed by cervical carcinoma 3 cases (0.5%), 1 case of endometrial stromal sarcoma and 1case of leiomyosarcoma. In Endometrial Carcinoma 8 cases were adenocarcinoma and 1 case was adenocarcinoma with focal squamous differentiation. In Carcinoma of Cervix out of 3 cases, 1 case was large cell keratinizing squamous cell carcinoma of cervix, 1 case was moderately differentiated SCC of cervix and 1 case was cervical adenocarcinoma of usual type.Out of total 300 cases of leiomyoma, intramural leiomyomas were the commonest in 213 cases (71.0%), followed by mixed location in 41cases (13.67%), subserosal in 27 cases (09.0%)and submucosal in 19 cases (6.33%). leiomyoma was present in 275 cases (57.90%) in parity group 1-3, 25 cases (21.37%) in parity group 4-6. There was seen decrease in the incidence of leiomyoma with increasing parity. 150 cases (56.60 %) out of 265 cases in the age group 41-50 years and 109 cases (53.69%) out of 203 cases in the age group 31-40 years age group were diagnosed with leiomyoma.
All cases with parity >6 (100.0%) presented with prolapse, while 58.12% of cases in parity group 4-6 presented with prolapse. Incidence of prolapse in parity group 1-3 was 7.37% suggesting increase in risk of prolapse with increasing parity.

In this study all the 3 cases with carcinoma were aged more than 40 years. Out of 3 cases of carcinoma cervix diagnosed, 2 cases (66.7%) were in 5th decade, 1 case (33.3%) was in the 6th decade.

Of the total l9 cases of carcinoma endometrium encountered, 5 cases (55.56%) were in the 6thdecade, 2 cases (22.22%) in the 7thand 1 case (11.11%) each in 5thand 8th decade.

TABLE 2 - CORRELATION OF CLINICAL INDICATION WITH HISTOPATHOLOGICAL FINDINGS

S. No.	Clinical indications	No. of cases	No. of cases confirmed by histopathology	Percentage of correlation
1	Leiomyoma	261	228	87.36%
2	Cervical dysplasia	03	01	33.33%
3	Cervical polyp	05	04	80.0%
4	PID	12	12	100%
5	Adenomyosis	08	06	75%
6	Endometrial hyperplasia	02	02	100%
7	Ca cervix	02	02	100%
8	Ca Endometrium	04	02	50%
9	Endometrial polyp	04	03	75%

In the present study, clinical indication of leiomyoma was confirmed by histopathology in 87.36% cases, whereas that of carcinoma cervix, pelvic inflammatory disease and endometrial hyperplasia was confirmed in 100% cases.

Carcinoma endometrium shows correlation in 2 out of 4 cases. One case showed benign endometrial stromal nodule and other showed products of conception. One case of endometrial polyp turned out as a well differentiated adenocarcinoma of endometrium.

Most of the cases in which hysterectomy was done due to leiomyoma revealed leiomyoma with adenomyosis on histopathology. The commonest incidental histopathological finding seen in hysterectomy specimens was adenomyosis followed by fibroid, endometrial polyp and endometrial hyperplasia.

DISCUSSION

In the present study, the patient's age ranged from 21-80 years with a mean age of the patients was 45.16±9.3 years. This was comparable to that found by **Modupeola et al [7] (2009), Yasmin et al [8] (2011), Sirpurkar and Patne[9] (2013), Verma[10] (2016)** and other studies.

The most common presenting symptom was excessive bleeding per vagina (39.17%) which was similar to that seen by **Sobande et al[11] (2005) and Simratjit kaur et al[6](2018).** Most common clinical indication for hysterectomy was leiomyoma (43.50%) which was comparable to that found by **Adelusola and Ogunniyi[12](2001).**

In the present study, benign and malignant lesions in uterus and cervix were 97.67% and 2.33% respectively. This was comparable to the study done by **Saima Bashir et al[13] (2014), Harshal A Patil et al[14] (2015) and Simrat Jit Kaur et al[6] (2018)**.

In the present study, overall incidence of chronic cervicitis was 97.83%. Incidence of cervical dysplasia was 0.83% and squamous cell carcinoma 0.5%. The results were comparable to that found by **Jha et al[15](2006) and Rather et al[16](2013).**

In the present study, the peak age incidence of carcinoma cervix was noted between 41 and 50 years with 2 cases (66.7%) and between 51 and 60 years with 1 case (33.3%) which is comparable to that of the **Ankur Gupta et al[17](2016)** series in which it was between 41 and 50 years.

The incidence of endometrial polyps varied in different studies. In the present study, it was 6.67%, whereas in **Veena S. Naik et al[18](2005)** series, it was 2.88% and in **Ankur Gupta et al[17](2016)** series, it was 5.25%and a low incidence in **John J. Molitor[19](1971)** series.

In the present study, of the total 9 cases of carcinoma endometrium encountered, 5 cases (55.57%) were in the 6th decade and 2 cases (22.22%) were in the 7th and 1 case (11.11%) was in 5th decade. The peak age incidence in the present study was between 51 and 60 years,

whereas in the study by **Pellerin and Finan[20] (2005),** the peak age incidence was between 50 and 59 years and in **Henry CF et al[21] (1973)**series; it was between 60 and 69years.

The incidence of endometrial carcinoma in present study was 1.5%, which was comparable to that found by **Yasmin et al[8] (2011), Zaid et al[22] (2017),** and other studies. Majority of the patients of endometrial carcinoma presented with post-menopausal bleeding.

The most common histopathological diagnosis in myometrium was leiomyoma (50.0%) followed by adenomyosis in 34.5% cases. Incidence of leiomyoma was comparable to that found by **Bhosle and Fonseca[23](2010).**

The peak age incidence was in the 5th decade with 150 cases (50.0%) followed by 109 cases (36.33%) in the 4th decade. In **Fabio Parazzini et al[24] (1998)** series, the peak age incidence was in the 5th decade with 170 cases (61.8%). This was comparable to that found by **Ankur Gupta et al[17] (2016)** and other studies.

In the present study, clinical indication of leiomyoma was confirmed by histopathology in 87.36% cases. This was comparable to that found by **Rather et al[16] (2013) and Gupta and Parmar[25] (2015).** Clinical indication of carcinoma cervix was confirmed in 100% cases. These results were same as that found by **Gupta and Parmar[25] (2015).** Pelvic inflammatory disease was confirmed by histopathology in 100% cases which was same as that found by **Perveen et al[26] (2014).** Percentage of confirmation of adenomyosis on histopathology was nearly same as that seen by **Perveen et al[26] (2014).**

In this study, the most common incidental findings was adenomyosis which was comparable to **Verma et al[27] (2016) and Simrat Jit Kaur et al[6](2018).**

CONCLUSION: The ultimate diagnosis and prognosis depends on the histopathological examination, therefore every operated specimen must be subjected to histopathology. Incidental diagnosis of malignancies further underlines the importance of careful histopathological examination. Cases of carcinoma cervix are less than carcinoma endometrium due to increased awareness and screening program run by the government like PAP smear.

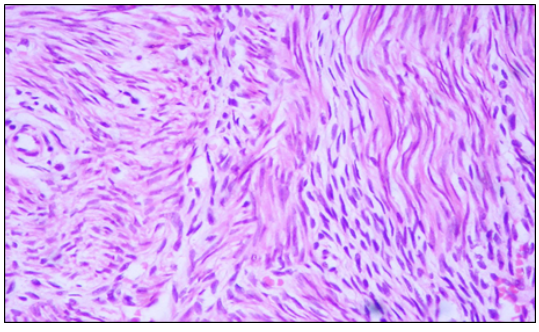

Figure-1: Leiomyoma –Microscopic picture shows spindle-shaped tumor cells have cytologically bland relatively uniform nuclei with fine chromatin and small nucleoli. The cytoplasm is abundant, eosinophilic, and fibrillar(H&E X 400).

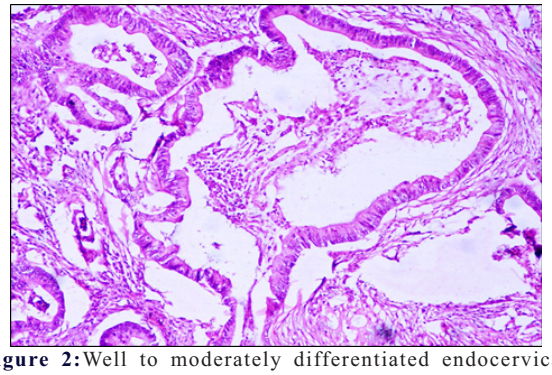

Figure 2: Well to moderately differentiated endocervical adenocarcinoma shows glandular epithelium exhibits enlarged elongated hyperchromatic nuclei, eosinophilic cytoplasm, numerous mitotic figures and apoptotic bodies.(H&E X 400).

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CONFLICT OF INTEREST: Not delared.

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