

A Histopathological Study of Hysterectomy Specimens in Gujrat – Pakistan

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ABSTRACT

Objective: To study the pattern of histopathological lesions in hysterectomy specimens.

Study Design: Observational study.

Place and Duration of Study: This study was conducted at the Department of Pathology, Nawaz Sharif Medical College, University of Gujrat, Pakistan from Jan 2015 to August 2017.

Materials and Methods: The study consisted of 150 uterus specimens that were studied grossly and histologically. These specimens were received at department of Pathology and in a private hospital in Gujrat. The data of all the cases was retrieved from registers of histopathology. It was compiled and analyzed with the help of Microsoft Excel software.

Results: Mean age of the patients was 44.7 years in this study. Most (44%) patients were in fifth decade of their life. Chronic cervicitis was the most common finding in the cervix with a frequency of 88.7%. The other lesions were far less common in cervix. Carcinoma cervix was seen in 2.7% of the specimens. Atrophic endometrium, Endometrial Hyperplasia, Endometrial polyp were the three most frequent lesions in endometrium with frequencies of 8.0%, 7.3%, 6.7% respectively. Carcinoma of endometrium was found in 1.3% of cases. Leiomyomas were the most common (44.7%) lesions in myometrium followed by adenomyosis (29.3%). No case of malignancy was found in the myometrium.

Conclusion: The findings in our study corroborated well with most studies within as well as outside the country. Among the significant lesions, leiomyomas and adenomyosis were the most common ones.

Key Words: Uterus, Hysterectomy, Leiomyoma, Adenomyosis, Cervix.

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INTRODUCTION

Hysterectomy is the most common major surgical procedure done for gynecological problems.¹ Hysterectomy provides a definitive and acceptable form of treatment as well as ultimate diagnosis for several gynecological disorders that do not respond to medical treatment.^{2,3} Hysterectomy is best form of treatment for most Pakistani women because they present late in the course of their gynecological problems and new modalities of treatment like endometrial laser ablation (ELA), transcervical resection of endometrium (TCRE) and uterine artery embolization are not widely available.¹ Abnormal uterine bleeding/ dysfunctional uterine bleeding (DUB) and abdominal mass/ fibroid are the most common indications.^{4,5,6} Other indications include prolapsed uterus, polyp uterus, fibroid polyp, cervical polyp, cervical dysplasia, pelvic inflammatory disease (PID), adenomyosis, carcinomas of cervix and endometrium etc.^{1,6}

A majority of these procedures are done for benign indications.³ Peak age of incidence of hysterectomy is in the 5th decade. Total abdominal hysterectomy is the most common type of procedure employed for removal of uterus.⁷ The most common histopathological diagnosis is chronic cervicitis in cervix, leiomyoma in myometrium and atrophic endometrium in endometrium.⁸ The correlation of clinical features with histopathological findings is good when the preoperative diagnosis is fibroid and poor in cases of abnormal uterine bleeding.⁹

Several incidental pathological lesions are likely to be found in the hysterectomy specimens. Therefore all the uterine specimens should be subjected to histopathological analysis.¹⁰

MATERIALS AND METHODS

The present study is based on gross and microscopic examination of the uterine specimens received for histopathology from Jan 2015 to August 2017 in Pathology department, Nawaz Sharif Medical College in University of Gujrat and at a private hospital in Gujrat city. Incomplete or partial hysterectomy specimens were excluded from the study. All the specimens were examined grossly and representative sections were taken for processing. Slides were prepared and stained with hematoxylin and eosin. The records of all the patients were retrieved, compiled and

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analyzed with the help of Microsoft Excel software. The findings were compared with similar national and international studies.

RESULTS

The study consisted of 150 patients. Age of 147 patients was known. Mean age was 44.7 years and age ranged from 24-80 years. Most of the patients were in fifth decade i.e. 44% followed by 39% in fourth decade (Table 1).

Table No.1: Age distribution of cases (n=147).

Age group	#	%
21-30 years	2	1.4
31-40 years	58	39
41-50 years	64	44
51-60 years	18	12
61-70 years	3	2
71-80 years	2	1.4

The cervix was most commonly affected site numerically with 96.1% (133) of the cases (Table 2). However, most of these cases (n=130, 88.7%) were that of microscopic finding of chronic nonspecific cervicitis (Figure 1).

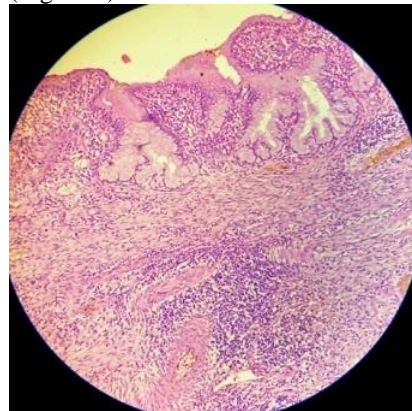


Figure No. 1: Chronic cervicitis. Endocervical lining, glands and chronic inflammatory cell infiltrate are evident.

Table No.2: Distribution of pathological findings in cervix.

Lesion/ Finding	#	%
Cervicitis	133	88.7
Squamous Metaplasia	8	5.3
Carcinoma	4	2.7
Endocervical Polyp	3	2
HSIL	2	1.3
LSIL	1	0.7
Ectopic Gestation	1	0.7
Total	144	96.1

Of the remaining three cases of cervicitis, there were two cases of papillary endocervicitis (1.3%) and one cases of ulcerative cervicitis (0.7%). The four cases of carcinoma contained one case of each of the following:

Large cell keratinizing squamous cell carcinoma, well differentiated adenocarcinoma, well differentiated papillary adenocarcinoma and small cell non keratinizing (poorly differentiated) squamous cell carcinoma (Figure 2). The case of well differentiated adenocarcinoma actually involved lower uterine segment also.



Figure No. 2: Gross picture of a squamous cell carcinoma in cervical canal.

There were 41 endometrial pathological findings in the study (Table 3). Majority of these cases were that of atrophic endometrium, hyperplasia and polyp (Figure 3).

Table No.3: Distribution of pathological findings in endometrium.

Lesion/ Finding	#	%
Atrophic endometrium	12	8
Endometrial Hyperplasia	11	7.3
Endometrial polyp	10	6.7
Endometritis	3	2
Carcinoma	2	1.3
Cystic atrophy	1	0.7
Organizing Products of conception	1	0.7
Decidual change	1	0.7
Total	41	27.4

Among the 7.3% cases of hyperplasia, most i.e. 4.7% (7) were that of simple hyperplasia. There were 1.3% cases of complex hyperplasia without atypia, 0.7% cases of complex hyperplasia with atypia and 0.7% of cystic hyperplasia. Further division of three cases of endometritis is as follows: two cases of chronic nonspecific endometritis (1.3%) and one case of acute endometritis (0.7%). Only two neoplastic cases of carcinoma were found. One of these was a grade I

adenocarcinoma of endometrioid type and other was a moderately differentiated papillary adenocarcinoma.



Figure No. 3: A pedunculated endometrial polyp extending into the cervical canal.



Figure No.4: A specimen of uterus with an adenocarcinoma filling the entire endometrial cavity.

The myometrium is the most common site of mass lesions and least affected site with **malignancies** (Table 4).

Table No.4: Distribution of pathological lesions of myometrium.

Lesion/ Finding	#	%
Leiomyomatous masses (All)	67	44.7
Adenomyomatous lesions (All)	44	29.3
Leiomyoma + Adenomyosis	8	5.3
Caseating Granulomatous Inflammation	1	0.7
Total	120	80

Most of the mass lesions are benign neoplasms of smooth muscles (Fig 5). These leiomyomatous lesions were further subdivided into single leiomyomas (26.7%, n=40), multiple leiomyomas (13.3%, n=20) and leiomyomatous polyps (or polypoidal leiomyomas) projecting into endometrial cavity (4.7%, n=7).

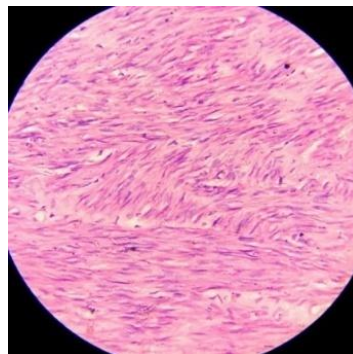


Figure No. 5: A photomicrograph of a leiomyoma, the most common mass lesion in the uterus.

Adenomyomatous lesions were further subdivided into adenomyosis (Figure 6), adenomyomas and adenomyomatous polypi comprising 26.7%, 1.3% and 1.3% of the cases respectively. One case of caseating granulomatous inflammation involved serosal surface of uterus as a part of widespread peritoneal disease.

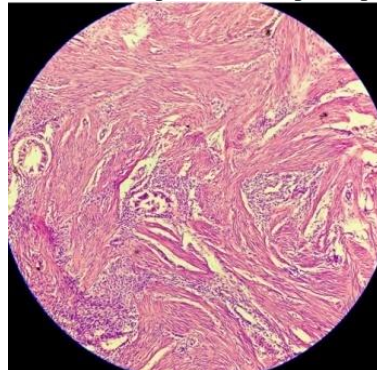


Figure No. 6: Adenomyosis showing endometrial glands along with stroma penetrating in deeper areas of myometrium.

As a whole, cervicitis was the most common finding followed by leiomyomatous lesions and adenomyomatous lesions comprising 88.7%, 44.7% and 29.3% of specimens respectively.

There were six malignant cases in the study (4%) and all of these were carcinomas. Cervix contained four of these cases (2.6%) and endometrium contained two (1.3%).

Table No.5: Comparison of age distribution with other studies.

Study	Year	# of cases	Mean Age	Cases in 5th decade
Present	2017	150	44.7	44%
Majeed(11)	2013	150	45	55.30%
Medhi (12)	2016	150	40.3	49.30%
Verma R (13)	2016	200	44.6	
Rather	2013	698		47.30%
Raza (14)	2017	202		31.70%
Gupta A	2016	400	44.2	46.50%
Gupta G		500	45.6	51.40%
Sreedhar (15)	2016	200		42%

DISCUSSION

The present study is a histopathological analysis of 150 uterus specimens. Mean age of our patients was 44.7 years. This finding is similar to several studies (Table 5).^{3,6,8,11-15} Age range of our patients was 24 to 80 years. This finding is very close to the findings of Domblae at 21-75 years and Gupta G at 20-80 years.^{3,7} The fifth decade contained more cases than any other decade in our study, a finding in agreement with several other studies. Although the proportions of the cases in fifth decade varies but all studies mentioned in Table 5 contained most cases in fifth decade.^{3,6,8,11-15}

Cervicitis was the most common finding seen in 88.7% of our specimens. The finding is similar to that of Majeed at 85%, Rather at 89.4% and Verma D at 93%. (8,11,16) However there is wide variation in the reported frequency of cervicitis in literature e.g. Perveen 59.2%, Raza 34.3%, Verma R 11% and Neelgund 9.3%.^{4,13,14,17} In our opinion, the reason for this wide variation may be lack of uniformity of reporting rather than actual variation. There was a low frequency of papillary endocervicitis (1.3%) and ulcerative cervicitis (0.7%) in our study like in the study of Gupta A. with a frequency of 0.5% in each of these two findings.⁶ The frequency of squamous metaplasia (5.3%) in present study matches with that of Medhi (4.7%).¹² Cervix was the most frequent site of malignancy as 4 out of 6 carcinomas in our study were seen in it comprising 2.7% of cases. The finding is in concordance with Raza 1.9%, Gupta A 2.5% and Sreedhar at 3%.^{6,14,15}

Endocervical polypi were seen in 2% of our cases. Sreedhar and Raza have reported 2.5% and 2.9% cases of endocervical polypi.^{14,15} There were 2% cases of squamous intraepithelial lesions in our study, a proportion similar to that of Raza (1.9%).¹⁴ There were 1.3% cases of high grade squamous intraepithelial lesion that are close to a proportion reported by Neelgund.⁴ The frequency of low grade squamous intraepithelial lesion in our study (0.7%) matches that of Verma D (0.7%).¹⁶

Leiomyomas were next in frequency after the cervicitis and were found in 44.7% of cases. The finding is similar to Verma R at 40% and Baral at 48.6%.^{13,18} Multiple leiomyomas (two or more) occurred in 13.3% of our and 9.5% of cases in the study of Sreedhar.¹⁵ Leiomyomatous polypi (polypoidal leiomyomas) comprised 4.7% of our cases. The finding is in likeness with 5% reported by Perveen.¹⁷

Adenomyosis was next most common lesion after leiomyomas seen in 26.7% of our cases, a finding in correspondence with the studies of Medhi (26%), Dhuliya (25.3%) and Bhatti (24.7%).^{1,12,19} Adenomyomas, the masses consisting of smooth muscle bundles and islands of benign endometrial tissue occurred with low frequency of 1.3% in our study

and 0.2% in the study of Gupta A.⁶ Leiomyomas coexisted with adenomyosis in 5.3% of our cases. There were 6% cases of leiomyomas with adenomyosis in the study of Majeed, 6% in the study of Verma R and 4.6% in that of Baral.^{11,13,18}

Atrophic endometrium was seen in 8% of cases in present study. The nearest findings to this are 5.4% by Rather and 12.8% by Raza.^{8,14} The proportion of endometrial hyperplasia (all cases) in our study and the study of Majeed is same at 7.3%.¹¹ The percentage of our cases of simple adenomatous hyperplasia (4.7%) is lower than reported by and Medhi (14%) and Sreedhar (14.5%) while it is higher than that of Verma D (3%).^{12,15,16} The amount of our cases of complex hyperplasia without atypia (1.3%), complex hyperplasia with atypia (0.7%) and cystic Hyperplasia (0.7%) matches with that of Rather (1.14%), Verma D (1%) and Medhi (1.4%) respectively.(8,12,16) The volume of cases of endometrial polypi in our study (6.7%) is commensurate with the studies of Majeed (6.7%) and Sreedhar (6%).^{11,15} The proportion of cases of endometritis (all cases) in the study of Yadav (1.9%) is similar to ours (2%).²⁰ There were 1.3% cases of chronic endometritis in this study and Majeed has reported 2% cases in her study.¹¹

Our finding of 1.3% cases of malignancy (all carcinomas) in endometrium is matching with 1.2% of Perveen and 1.14% of Baral.^{11,18} The proportion of adenocarcinoma is same (1.3%) in studies of Dhuliya and ours.¹⁹

CONCLUSION

Chronic cervicitis, leiomyoma and adenomyosis are the three commonest findings in our study. Other lesions including malignancies are relatively less in frequency in Gujrat. The findings in our study are similar to most of the published studies.

Author's Contribution:

Concept & Design of Study:	Abdul Rauf
Drafting:	Muhammad Adnan Zaman
Data Analysis:	Muhammad Adnan Zaman
Revisiting Critically:	Abdul Rauf, Muhammad Adnan Zaman
Final Approval of version:	Abdul Rauf

Conflict of Interest: The study has no conflict of interest to declare by any author.

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