MVP Journal of Medical Sciences, *Vol 2(1), 26–29, January-June 2015* DOI: 10.15306/mvpjms/2015/v2i1/58635

Histopathological Findings in Uterus and Cervix of Hysterectomy Specimens

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Abstract

Background: For centuries, the female reproductive system has been affected by various abnormalities and diseases and hence has been the subject of interest and the basis for the gynaecological practice. The uterus being a vital reproductive and hormone-responsive organ, is subjected to a variety of physiological changes and benign and malignant disorders[2]. **Aims and Objectives:** To study the indications of hysterectomy, to study gross and histopathological features of uterus and cervix in hysterectomy specimens and correlate with clinical findings. **Material and Methods:** This was a descriptive study of the gross and histopathological findings of uterus and cervix in 150 hysterectomy specimens received in the department. The hysterectomy specimens received were fixed in 10% formalin for 24 hours, were examined grossly and necessary sections were obtained. The tissue pieces were then processed in automated tissue processor, well labelled paraffin blocks were made. Approximately 2-3μ thickness sections were cut with the help of microtome and were stained routinely by Hematoxylin & Eosin stain and special stains like PAS or other were used wherever necessary. The histopathological findings of uterus and cervix were noted and these findings were then correlated with clinical diagnosis. **Results:** Overall clinicopathological correlation was noted in all 150 cases. In cases of uterine fibroid it was 69.7% and 100% in case of endometrial carcinoma and cervical dysplasia. Most common pathology found was uterine leiomyomas in 48 cases and next to it was adenomyosis in 30 cases. **Conclusion:** It can be concluded that clinico-pathological correlation in case of endometrial cancer and uterine fibroid is excellent, but in case of DUB and prolapse uterus it varies. This signifies the importance of clinico-pathological correlation in all cases of hysterectomy to improve the clinical outcome and post-operative management.

Keywords: Hysterectomy, Histopathology of Uterus and Cervix, Leiomyoma

1. Introduction

The female genital tract includes the uterine corpus and cervix. The uterus consists of the endometrium and myometrium[1] which are continuously stimulated by hormones, denuded monthly of its endometrial mucosa and inhabited periodically by foetuses.

Together with the lesions that affect the cervix, the lesions of the corpus of the uterus and the endometrium account for most patient visits to gynaecologists[1].

Many treatment options are available nowadays including medical and conservative surgical procedures but hysterectomy remains the most preferred method to manage gynaecological disorders[2].

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Hysterectomy is the commonly performed gynaecological surgical procedure and provides the whole uterus and cervix with associated pathology. This helps in adequate sampling of the required and suspected areas and thus helps in diagnosis of various lesions without any error of sampling.

This study is entitled to study various gross and histopathological findings in uterus and cervix of the hysterectomy specimens received and their clinicopathological correlation.

2. Material and Methods

The present study is the descriptive study of the gross and histopathological findings of uterus and cervix in 150 hysterectomy specimens received in the department of pathology of a tertiary health care centre over a period of 2 years that is from August 2011 to August 2013. Hysterectomy specimens of female patients with age more than 30 years and with uterine and cervical indications for hysterectomy irrespective of route and type of surgery were included in the study. On the other side, any obstetrical specimens or specimens with tubal or ovarian pathology were excluded from the study.

The hysterectomy specimens received were immediately transferred into 10% fresh formalin in the ratio of 1:10. After 24 hours fixation, the specimen was examined grossly and necessary sections were obtained from uterus that includes endometrium, myometrium and serosa from fundus, body and lower uterine segment. Additional bits were taken depending on the pathology present, if any, which included a minimum of 3 sections from the lesion.

Similarly, minimum 2 bits were obtained from cervix that includes endocervix and ectocervix from both lips of cervix. Minimum 3 sections from the lesion, if any, were also obtained. The tissue pieces were then processed in automated tissue processor and then paraffin blocks were made and care was taken to ensure proper labelling of the paraffin blocks.

Approximately 2-3µ thickness sections were cut with the help of microtome and were stained routinely by Hematoxylin & Eosin stain and special stains like PAS or other were used wherever necessary.

The histopathological findings of uterus and cervix were then noted and these findings were then correlated with clinical diagnosis.

3. Results

Total of 150 cases were studied in the study period. Age of patients ranged from 31 to 73 years. Vaginal bleeding was the commonest presenting symptom (Figure 1).

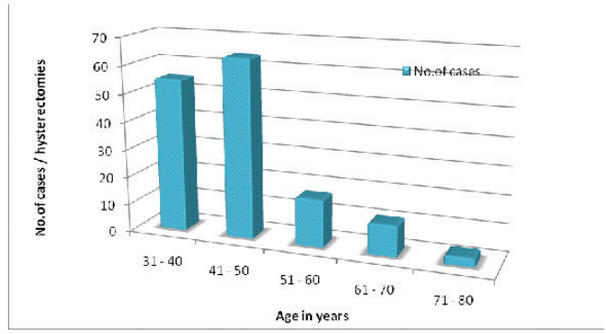

Figure 1. Age distribution of all hysterectomies.

The peak age incidence of hysterectomy was noted in the 5th decade in 64cases (42.7%).

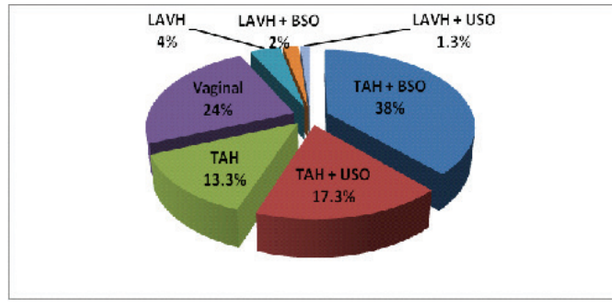

Figure 2. Distribution cases as per type of hysterectomy.

The most common type of hysterectomy was total abdominal hysterectomy with bilateral salpingo-ophorectomy with 57 cases (38.0%). Least number of cases were of laparoscopy assisted vaginal hysterectomy with unilateral salpingo-ophorectomy in 2 cases (1.3%) (Figure 2).

Table 1. Clinical indications provided for hysterectomy

Sr No.	Clinical Indication or diagnosis	No.of cases	Percentage (%)
1	Fibroid Uterus	**56**	**37.3**
2	Prolapse Uterus	42	28.0
3	Dysfunctional Uterine Bleeding	28	18.7
4	Ca Cervix	3	2.0
5	Ca Endometrium	2	1.3
6	Cervical dysplasia	1	0.7
7	Pyometra	1	0.7
8	No diagnosis offered	17	11.3
	Total	**150**	**100**

The most common clinical indication included Fibroid uterus in 56 cases (40%) (Table 1).

Table 2. Endometrial change in all 150 specimens

Sr No.	Endometrial Changes	No.	%
1	PP(Proliferative Phase)	77	51.3
2	Simple hyperplasia	18	12.0
3	Complex hyperplasia	4	2.7
4	Atrophy/Cystic atrophy	29	19.3
5	SP (Secretory Phase)	18	12.0
6	Progestational activity(Iatrogenic change)	2	1.3
7	Carcinoma Endometrium	2	1.3
	Total	**150**	**100**

In case of endometrial findings, proliferative phase of endometrium was the commonest finding in 77 cases (51.3%), followed by atrophy or cystic atrophy in 29 cases (19.3%). Iatrogenic change in endometrium was also noted. Two cases (1.3%) of endometrial carcinoma were also noted. Endometrial polyp was seen in 4 cases (Table 2).

Table 3. Myometrial change in specimens

Sr No.	Myometrial change	No.of cases	Percentage (%)
1	Unremarkable*	75	50
2	Leiomyoma(LM)	36	24
3	Adenomyosis*	20	13.3
4	LM / LM Polyp + Adenomyosis*	9	6
5	Adenomyosis + Calcific Sclerosis	1	0.7
6	Monckebergs' Calcific sclerosis	5	3.3
7	Adenomyoma	2	1.3
8	LMS(Leiomyosarcoma)	1	0.7
9	Involvement by endometrioid adenocarcinoma	1	0.7
	Total	**150**	**100**

In case of myometrium, 48 leiomyomas were noted, out of which, 3 cases were of leiomyomatous polyp arising from endometrial canal. Next to it was adenomyosis in 30 cases.

In case of leiomyomas, 6 were benign cellular leiomyomas and eight cases showed degenerative changes.

Two cases of adenomyomas were also studied.

One interesting case of low grade leiomyosarcoma in a 38 year old patient was also studied, as it is unusual to find leiomyosarcoma in a reproductive age group.

In one case, myometrium was invaded by endometrioid adenocarcinoma.

Table 4. Histopathological findings in cervix

Sr No	Cervical Changes	No. of cases	Percentage (%)
1	Chronic nonspecific Cervicitis	116	77.3
2	Chronic Papillary Endocervicitis	27	18
3	Cervical dysplasia	4	2.7
4	Condyloma acuminata	1	0.7
5	Squamous Cell Carcinoma	1	0.7
6	Metastatsis of adenocarcinoma	1	0.7
	Total	**150**	**100**

On histomorphological study of cervical lesions, chronic nonspecific cervicitis was commonest finding in 116(77.3%) cases.

One case of condyloma acuminatum was also studied.

Endocervical polyp was seen in 4(2.7%) cases.

Mild cervical dysplasia (CIN – I) was noted in 4 (2.7%) cases (Table 3,4).

In one case invasive non keratinizing squamous cell carcinoma of cervix was noted whereas metastasis of endometrioid adenocarcinoma was seen in one case.

4. Discussion

Hysterectomy is the most commonly performed surgery in gynaecological practice. It provides definitive cure and accurate diagnosis. In present study, commonest age group involved was 41–50 years. It was similar to other studies[2,3].

In the present study, commonest type of hysterectomy performed was abdominal followed by vaginal and laparoscopy assisted vaginal hysterectomy type. In a study by, Ajmera et al[3]. and Abdullah et al[4]. comparable findings were studied. Uterine fibroid was the commonest indication for hysterectomy in our study. It was similar to studies done by Ajmera et al.[3], Gupta et al.[5], Khan R et al[6].

Endometrial hyperplasia was seen in 14.7% cases in present study. This finding is similar to study by Ranabhat et al[7].

In the present study, endometrial cancer was noted in two cases.

Leiomyoma is the most common myometrial lesion in our study which is similar to other studies. Qamar UR Nisa et al.[1] noted lower occurrence i.e. 17.2%.

Adenomyosis is the 2nd most common myometrial pathology in our study. It is comparable to the study done by Bhide et al. i.e. in 19%[8].

In 9 cases (6%), both leiomyoma and adenomyosis were revealed.

Leiomyosarcoma is the most common pure sarcoma of the uterus. One case of leiomyosarcoma was seen in our study. The distribution was similar to study done by Watts et al. in 0.4%[2].

Chronic cervicitis was the commonest finding in 116 cases.

Four cases of cervical dysplasia (CIN – 1) were studied in the present study. It is similar to the study done by Ramachandran et al[9].

Three cases of cervical leiomyoma were also studied. Similar studies were also done by Tian J et al[10].

One case of condyloma acuminatum was also studied.

One case (0.7%) of squamous cell carcinoma of cervix was also seen. This distribution was similar to studies by Watts et al., Ranabhat et al[2,7].

5. Conclusion

The present study provides a limelight on various histopathological changes in hysterectomy specimens. Various types of lesions are encountered when hysterectomy specimens are subjected to histopathological examination. Thus, it is mandatory to study each hysterectomy specimen to ensure better postoperative management.

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