

SHORT ARTICLE

Pattern and frequency of uterine pathologies among hysterectomy specimens in rural part of northern India: a retrospective secondary data analysisVineet Chaturvedi¹, Seema Dayal², Dhiraj Srivastava³, Vivek Gupta⁴, Anju Chandra⁵^{1,2}Assistant Professor, ^{4,5}Lecturer, Department of Pathology, ³Assistant Professor, Department of Community Medicine, Rural Institute of Medical Sciences & Research, Saifai, Etawah, Uttar Pradesh, India

Abstract	Introduction	Methodology	Results	Conclusion	References	Citation	Tables / Figures
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Abstract

Background: Hysterectomy is the most commonly performed gynecological surgery throughout the world. Over the last several years reported cases of hysterectomy was increasing in numbers. However, similar studies from Etawah district with high prevalence of hysterectomy are lacking. Therefore, we have conducted this study to identify the pattern of pathologies identified in hysterectomy specimen and to correlate the pathological findings with the age group of the patient along with frequency of benign, malignant pathologies identified. **Material and method:** This study was conducted on 870 hysterectomy specimen who reported to pathology department. They were compared in terms of age of the patients and pathology of hysterectomy specimens. **Result:** Out of the hysterectomy specimens, pathological findings were seen in 850 hysterectomies. Most common lesion was leiomyoma (22.47%) followed by Adenomyosis (21.76%), Endometrial hyperplasia (14.00%), ovarian cyst (9.29%), Endometrial atrophy (8.70%), Endometritis (7.76%), Endo cervical polyp (5.64%), Carcinoma intra epithelial neoplasm (3.52%), Endometrial polyp (3.17%), Carcinoma cervix (1.17%), Carcinoma ovary (1.05%), Benign ovarian tumor (0.58%), Carcinoma endometrium (0.35%), Myometritis (0.35%), Chorio carcinoma (0.11%) The most common age group was (40-49) years. **Conclusion:** Our data suggest that leiomyoma was the most common pathology seen in hysterectomy. The common age group for hysterectomy was (40 -49) years. Benign pathologies are more frequent in hysterectomy than malignant. Histopathology is mandatory for ensuring diagnosis and thus management, in particular of malignant disease.

Key Words

Hysterectomy; Histopathology; Leiomyoma; Adenomyosis

Introduction

Hysterectomy is the most commonly performed surgical procedure in peri and post-menopausal women. It is the second most common surgical procedure in USA (1). In India hysterectomy rate is (6%) as compared to western countries (10 -20 %) (2).

Since early 20 century, hysterectomy is a definite treatment of pelvic pathology including fibroid, adenomyosis, endometriosis, pelvic inflammatory disease and cancer of reproductive organs (3). Hysterectomy is considered as life-saving procedure in women with certain type of cancer and in acute uterine hemorrhage. It also improves the life for women with certain uterine pathologies such as fibroid, endometriosis and prolapse. With accurate selection

of patients and the route of hysterectomy, morbidity and mortality is low (4). Histo-pathological examination of hysterectomy specimens carries diagnostic and therapeutic significance. Prevalence of uterine and adnexal pathologies varies from nation to nation and from region to region with in the nation⁵. Since, very less data is available regarding the pathologies in hysterectomy especially from this part of India. Therefore, this study has been planned with the following objectives.

Aims & Objectives

1. To assess the pattern and frequency of uterine pathologies in hysterectomy.

2. To study the correlation of uterine pathologies with different age groups.
3. To identify frequency of benign and malignant uterine pathologies in hysterectomy specimens.

Material and Methods

Rural institute of medical science and research is 750 bedded tertiary care institute serving the population of Etawah and nearby districts. This is a retrospective study (January 2008 - September 2012) in which data of all hysterectomy specimens who attended the pathology department was taken. In this duration out of 870 hysterectomy specimens, on the basis of histopathological examination definite pathologies was seen in 850. Hence, analysis is on these 850 hysterectomy specimens was done.

All these formalin fixed hysterectomy specimens were routinely processed and 4-5 μ thick sections were cut from paraffin block. These sections were stained by routine haematoxylin and eosin stains. Additional special stain if required were also taken.

Age and pathology of the hysterectomy specimens were also recorded and association between variables and hysterectomy specimens were observed. Statistical analysis was done by percentage and chi-square test.

Results

Between January 2008 to September 2012, 870 hysterectomy specimens were received in department of pathology. On the basis of histopathology definite pathological diagnosis was observed in 850 specimens. In this study leiomyoma 191 (22.47%) was the most common pathology detected in hysterectomy specimens followed by Adenomyosis 185 (21.76%) and Endometrial hyperplasia 119 (14.00%) ([Table 1](#)). The patient's age ranged from 18 to 81 years, but high prevalence encountered in (40-49) years. The frequency of benign pathology was 827 (97.29%) in comparison to malignant pathology 23 (2.70%) in hysterectomy specimens. ([Table 1](#)).

On comparison of the frequencies of benign lesion and malignant lesions on different age groups, it was noted that there is a significant difference in the frequencies of benign lesion and malignant lesions on different age groups ([Table 2](#)).

Discussion

Hysterectomy is the most commonly performed gynecological surgery throughout the world. Histopathological examination of surgical specimen's carries ethical, legal, diagnostic and therapeutic significance (5).

In this study the most common pathologies noted in hysterectomy specimens on histo-pathological examination were Leiomyoma (22.47%), followed by Adenomyosis (21.76%), and Endometrial hyperplasia

(14%). The total malignant lesions account for nearly 7.15%. These findings are similar to the studies carried out by researchers like Layla S et al (4), Ranabat SK et al (6) and Gupta G (5). These differences in the frequencies of benign malignant lesion is important from public health aspect as it create awareness among the patients about the different types of histological pathologies and relieves the tension associated with the fear of having a malignant lesions. On in-depth analysis of the different lesions, it was noted that the Leiomyoma was the most common lesion however its frequencies varied in the different age group. The difference in frequencies in different population may be due to difference in prevalence of the risk factors in terms of quantities and type. Early menarche, delayed menopause, delayed parity, obesity and lack of exercise are some risk factors of leiomyoma (6).

Adenomyosis is next common uterine pathology in this study. It is also similar to other studies (7,8). The frequencies of other uterine pathologies were also similar to the studies carried out by different researchers around the globe (5-14)

On comparison of the frequencies of Benign and malignant lesion in the different age group, it was noted that the frequencies of malignant lesions increase significantly among the women in the age group of 40 years and above. It is again important as regular screening programmes in the women in the age group of 40 year and above can lead to early detection of any malignant lesions.

On the analysis of different malignant lesions, it was noted that Carcinoma endometrium account for nearly 0.35% This is against the frequencies noted in the different developed countries where it is the fifth most common cancer in women (15) In India, it is still remain much less compared to carcinoma cervix (14) This could be attributed to the fact that increased frequency in US due to longevity of women life to develop this cancer of older females as peak incidence 6th – 7th decade and rare below 40 years (9).

In the present study, carcinoma intra epithelial neoplasm was the most common benign lesion noted (3.52%). This in line with the findings of the other researchers who noted Carcinoma cervix as the most common uterine pathology in their studies.

Conclusion

Hysterectomy is widely used treatment modality. Mean age at hysterectomy falls between 40 and 49 years in all studies done throughout the world. This proves that cumulative numbers of various uterine pathologies is maximum in this age group.

The most common pathology identified in hysterectomy is leiomyoma. Benign pathologies are more frequent than malignant one. It is important to note that the above finding as it create awareness among the patients about the different type of uterine pathologies and also remove the fear associated with having malignant lesions. The present study also concludes that frequencies of malignant lesion increases with the age especially after 40 years.

Recommendation

The present study recommends that regular screening programme should be started for early detection of these lesions especially in the aging women.

Authors

Authors from Pathology Department were involved in diagnosis of Hysterectomy specimens. Author from Community Medicine was involved in the statistics.

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Tables

TABLE NO. 1 AGE & PATHOLOGY WISE DISTRIBUTION OF HYSTERECTOMY SPECIMENS

Age	Leiomyoma (%)	Adenomyosis (%)	Endometrium Hyperplasia (%)	Ovarian cyst (%)	Endometrial Atrophy (%)	Endometritis (%)	Endo CX Polyp (%)	CIN (%)	Benign Ovarian Tumors (%)	Endometrium Polyp (%)	Carcinomatous condition (%)	Myometritis (%)
<20	50	0	0	50	0	0	0	0	0	0	0	0
20-29	11.11	13.88	5.55	30.55	0	22.22	5.55%	2.77	0	2.77	5.54	0
30-39	28.79	20.94	14.36	11.04	0	11.0	6.62	1.10	0	4.97	0.55	0.55
40-49	27.46	23.57	13.98	10.36	4.04	5.69	6.47	2.59	0.77	2.84	1.53	0.25
50-59	12.96	25.30	19.13	2.46	14.81	6.17	4.93	4.32	1.23	3.08	5.54	0
60-69	7.93	14.28	7.93	1.58	36.50	6.34	1.58	14.3	0	1.58	6.36	1.58
70-79	7.14	7.14	7.14	7.14	57.14	7.14	0	0	0	0	7.14	0
80>	0	0	0	0	50	25	0	25	0	0	0	0

TABLE NO. 2 AGE GROUP AND PATHOLOGY WISE DISTRIBUTION OF HYSTERECTOMY SPECIMENS

Group	Leiomyoma	Adenomyosis	Endometrium Hyperplasia	Ovarian cyst	Endometrial Atrophy	Endometritis	Endo CX Polyp	CIN	others
<40	58	43	28	33	0	28	14	3	14
40-59	127	132	85	44	41	32	33	17	37
>60&above	6	10	6	2	33	6	1	10	8

$\chi^2 = 180$ df=16, $p < 0.000$