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FREQUENCY AND MORPHOLOGY OF BENIGN HISTOPATHOLOGICAL LESIONS IN TOTAL ABDOMINAL HYSTERECTOMY SPECIMENS.

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ABSTRACT: Objectives: To determine the frequency and morphology of different benign histopathological lesions in total abdominal hysterectomy specimens. **Study Design:** Descriptive cross-sectional study. **Setting:** Department of Pathology Fatima Jinnah Medical College. **Period:** From Jan 2015 to June 2015. **Material & Methods:** The gross and histopathological findings of uterus and cervix in one hundred Total Abdominal hysterectomy specimens were studied. Non-probability, purposive sampling was done. Total abdominal hysterectomy specimens with or without salpingoophorectomy of patients aged between 20 to 70 years were included. While Total abdominal hysterectomy done in mentally retarded patients and for malignancies were excluded. Patient's data, presenting complaints and preoperative diagnosis was recorded on predesigned proforma. SPSS version 17 was used as an analytical tool. **Results:** Age of the patients ranged from 30-55 years with 72% between 41-50 years. The microscopic examination of the cervix revealed features of chronic cervicitis in 75% cases. The commonest neoplastic lesion was leiomyoma present in 66% of cases. Myometrium revealed foci of adenomyosis in 21% cases. Endometrial histology showed hyperplasia in 25% of cases(simple hyperplasia 20%, cystic hyperplasia 4% and complex hyperplasia 1%), hormonal imbalance in 21%, pressure atrophy in 11%, atrophic endometrium in 6% , cystic atrophy in 2% while acute and chronic endometritis in 1% and 2% of cases respectively. **Conclusion:** The commonest cervical lesion was chronic cervicitis (75%). The commonest benign neoplastic lesion was leiomyoma, present in 66% of cases. Other common pathologies on histology were hyperplasia in 25% of cases, adenomyosis and hormonal imbalance in 21 % of cases each, pressure atrophy in 11%, atrophic endometrium in 6% while endometritis (acute & chronic) in 3% of cases mainly. Histopathological examination of hysterectomy specimens helps to detect the exact cause and underlined pathology.

Key words: Adenomyosis, Hysterectomy, Leiomyoma, Uterus Benign Lesions.

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INTRODUCTION

Hysterectomy is a Greek word meaning surgical removal of uterus.[1] Charles Clay was the pioneer of this procedure, in 1843.[2]

Hystrectomy is undertaken for varying indications and is among those gynecological surgeries that are carried out very often all over the globe, to effectively cure many gynecological conditions or save life of women suffering from postpartum hemorrhage in case of obstetrical hystrectomy.[3,4]

Hystrectomy is a major surgical procedure enabling increased satisfaction and improved quality of life post-surgery despite its associated complications.[5,6]

According to literature by age of sixty around 20% of women had underwent surgical removal of uterus and almost 40% among them diagnosed with abnormal uterine bleeding.[7] The expected life time prevalence of hystrectomy is 10%.[8] High order parity, ailments, obesity, tobbaco intake, poverty and use of hormonal therapy are indicators related with greater probability of undergoing hystrectomy.[9] Hysterectomy may be performed via abdominal or vaginal routes, depending on pathology, indication for undergoing procedure

and surgeon's expertise.[8,10] It is considered important that women should be counseled by her health care provider in detail regarding available treatment modalities and alternate treatment options should be informed to involve her in decision making before undergoing such major surgical procedure.[11]

Hysterectomy is a major surgical procedure in terms of both morbidity and mortality. Major surgical complications during procedure and debility in recovery period after surgery were observed in 3% and 1% of women respectively.[12] Minimally invasive procedures are now available as alternate option of hystrectomy but not widely used due to untrained staff, expenses and non availability in many health centers.[13,14]

Histopathological analysis of the hysterectomy specimens should be undertaken for justification of procedure and diagnostic purposes.[15] This research was aimed to ascertain frequency and morphology of different benign histopathological lesions in TAH specimens.

MATERIAL AND METHODS

This Descriptive cross sectional study was conducted in department of Pathology of Fatima Jinnah Medical College/ Sir Ganga Ram Hospital, Lahore, from January 2015 till June 2015. Ethical approval was taken from Institutional Ethical committee.

Sample size of 100 specimens was calculated with 95% confidence level. 10% margin of error and taking expected percentage of adenomyosis i.e. 47% (least among both) morphology of different benign histpathological lesions in total abdominal hysterectomy specimens.

Non-probability, purposive sampling was done. Total abdominal hysterectomy specimens with or without salpingoophorectomy of patients aged between 20 to 70 years were included. While Total abdominal hysterectomy done in mentally retarded patients and Total abdominal hysterectomy (TAH) done for malignancies were excluded. Patient's data, presenting complaints and preoperative diagnosis was recorded on predesigned proforma.

The hysterectomy specimens were kept in 10% formal saline for fixation. Each specimen was comprehensively studied and obvious findings noted. 3-4mm thickness sections were undertaken. Sections were processed in an automatic tissue processor through ascending grades of alcohol and cleared in xylene. Embedding was done in paraffin using L-shaped metal moulds. Each block was cut into multiple sections 3-4 micrometer thick on a rotary microtome. Sections were taken on albumenized slides. Haematoxylin and eosin staining was carried out on all sections. Histopathological examination of all sections was carried out under microscope.

Data Analysis

Statistical Package for social sciences software version 17 was utilized for performing statistical operations. Mean standard deviations for quantitative variable like age were calculated. Descriptive Analysis frequency and percentages were calculated for qualitative variables like benign conditions, i.e., leiomyoma, adenomyosis.

RESULTS

The ages of the women extended from 30-55 years who underwent hysterectomy. Maximum number of cases were between 41-50 years i.e 72. Mean age was 44.64 years with standard deviation of 4.52. The descriptive statistics of age of patients are given in Table-I.

The presenting complaints of the patients are given in Figure-1. The commonest presenting complaint was menorrhagia (58 cases, 58%). The gross dimensions of uterus are expressed in Table-II. Most common benign lesion seen in total abdominal hysterectomy specimens was leiomyoma present in 66% cases. The incidence of leiomyomas was maximum in the age group 41-50 years, i.e. 45 cases.

Adenomyosis was present in 21% of hysterectomy specimens, and it was found to be maximum in the age group 41-50 years, i.e 13 cases, among 21 total cases of adenomyosis. Frequency of leiomyoma and adenomyosis is revealed in

Table-III.

Table-IV shows distribution of age of patients who underwent total abdominal hystrectomy, leiomyoma's and adenomyosis in hysterectomy samples with respect to different age groups.

Regarding endometrial histology hyperplasia observed in 25% of cases (simple hyperplasia 20%, cystic hyperplasia 4% and complex hyperplasia 1%), hormonal imbalance in 21%, proliferative phase in 29%, secretory phase in 2%, late secretory phase in 1%, pressure atrophy in 11%, atrophic endometritis in 6%, cystic atrophy in 2% while acute and chronic endometritis in 1% and 2% of cases respectively expressed in Figure-2.

	Minimum	Maximum	Mean	Standard Deviation
AGE (Years)	30	55	44.64	4.52

Table-I. Age distribution.

Dimensions of Uterus	Minimum	Maximum	Mean	Standard Deviation
Length of uterus	7	18	11.67	2.217
Breadth of uterus	4	14	7.7	2.3668
Width of uterus	2	9	4.38	1.8424

Table-II. Gross dimensions of uterus (cm).

	Present %	Absent %	Total
Leiomyoma	66	34	100
Adenomyosis	21	79	100

Table-III. Distribution of leiomyoma and adenomyosis.

	30-40 years	41-50 years	>50 years	TOTAL	P-value
Number of patients	18	72	10	100	-
Number of leiomyoma	11	45	10	66	0.289 Chi sq=2.483
Number of adenomyosis	6	13	2	21	0.362 Chi sq=2.033

Table-IV. Distribution according to different age groups.

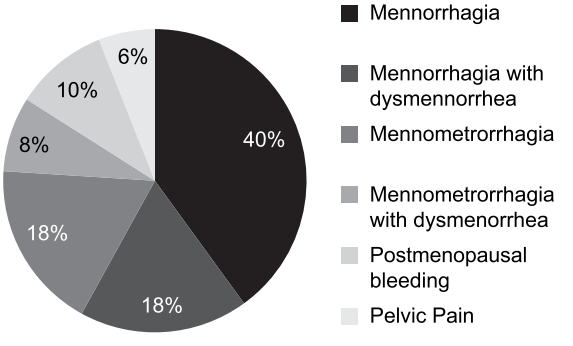

Figure-1. Presenting complaints of patients.

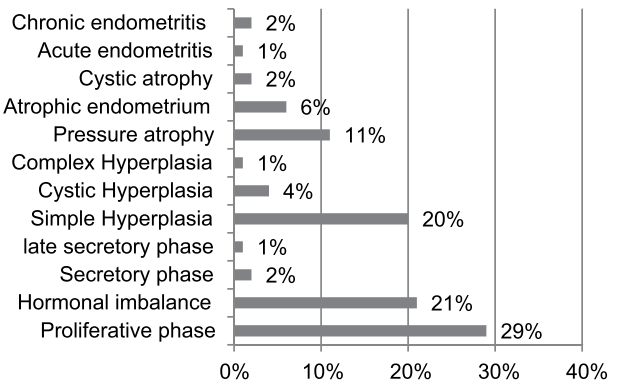

Figure-2. Distribution of endometrial changes.

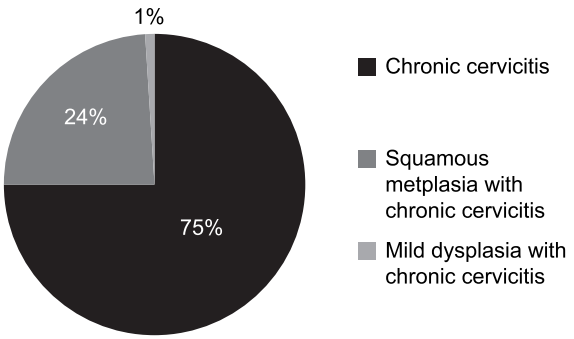

Figure-3. Histopathological changes in cervix.

Among cervical pathologies observed in total abdominal hysterectomy specimens, chronic cervicitis was the most common one, present in 75% cases. Squamous metaplasia with chronic cervicitis was present in 24% cases while mild dysplasia with chronic cervicitis was observed in one case only, graphical presentation of cervical pathologies shown in Figure-3.

DISCUSSION

Hysterectomy is considered definite treatment modality for various pelvic pathologies, it is second commonly done operation in females all over the world next to cesarean section.[16]

This is the procedure which really contributes to improving the quality of life of women.[17]

The ages of the women varied from 30 to 55 years who underwent hystrectomy, the maximum incidence of hysterectomy observed between 41 to 50 years, with a mean of 44.64. In a study carried out by Neelgund SM et al.[18] patients undergoing hysterectomy had same age range, and mean age was found to be 45 years in one of the local studies conducted by Samina Saleem Dojki et al,[19] which is in agreement with our study.

Leiomyomas are a frequent indication for hysterectomy. It is a smooth muscle tumour. The incidence of leiomyoma is about 20% in reproductive age group and increases with age.[20] In the present study, the commonest benign lesion was leiomyoma, present in 66% cases. This relatively high frequency of leiomyomas in our study is consistent with studies conducted by Pathak V et al.[14] and Baral R et al,[3] both of whom found 49.78% and 48.6% frequency of leiomyoma respectively. In contrast lower values were observed in other studies.[13,21]

Nilima G. Sawke et al, found leiomyoma in 25% hystrectomy specimens in patients presenting with menorrhagia.[22] Leiomyomas vary in size, may develop more than 11.4 kgs.[23] In our study, the leiomyomas ranged from 0.5 to 14cm in width and 0.5 to 10cm in length.

Adenomyosis is another important finding in the hysterectomy specimens for abnormal uterine bleeding, defined as presence of endometrial glands and stroma deep within the myometrium. Non-invasive diagnosis of adenomyosis is difficult and invalid, diagnosis can only be confirmed after removal of uterus and its histopathological assesment.[24] In present study adenomyosis was present in 21% of the cases. This is consistent with the study done by Neelgund SM et al[18] and Sobande A A et al[4] which reported adenomyosis in 21.7% and 22.7% of the cases respectively.

Twenty five cases (25%) of endometrial hyperplasia were observed in this study. Nearly same findings were reported in a study by Ojeda et al[25], but in contrary to it in a study by Isaoğlu U[26] endometrial hyperplasia was found lower than that reported in the present study.

Hormonal imbalance was an important finding on histopathology, after endometrial hyperplasia. Hormonal imbalance was reported in 21% of the cases in our study. Same was reported in a study conducted by Parveen Azim et al[27] and 27% by Abid M et al.[28]

Chronic inflammation of cervix was observed as frequently prevailing microscopic finding, in about 75% of the cases in present study. Another 24% had squamous metaplasia with chronic cervicitis. Mild dysplasia with chronic cervicitis was present in one case only. Other studies have also reported high incidence of chronic cervicitis in hysterectomy specimens.[13]

CONCLUSION

Women in whom hysterectomy was undertaken were aged between 30-55 years, with maximum no. of cases (72%) between 41-50 years. The commonest presenting complaint was menorrhagia present in 58% of the cases. Leiomyoma was the most common myometrial pathology, found in 66% of the cases, followed by adenomyosis present in 21% of the cases. Endometrial histology showed hyperplasia in 25% of cases, hormonal imbalance in 21%, pressure atrophy in 11%, atrophic endometrium in 6%, cystic atrophy in 2% while acute and chronic endometritis in 1% and 2% of cases respectively. Regarding cervix, cervicitis was frequently observed finding in about 75% of the cases.

Hysterectomy specimen should be assessed histopathologicaly to confirm pre-operative diagnosis and ensure better postoperative management.

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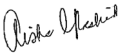
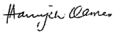
1	Aisha Rashid	Designing the project, Data collection, analysis, Literature review.	
2	Haniya Qamar	Data analysis, Literature review, Final approval.	
3	Saba Pario	Data analysis, Literature review, Manuscirpt writing.