SPECTRUM OF LESIONS IN HYSTERECTOMY SPECIMENS- A ONE YEAR RETROSPECTIVE STUDY

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ABSTRACT

BACKGROUND
Hysterectomy is the most commonly performed gynaecological surgery throughout the world. The prevalence varies from country to country, region to region. This study was conducted to identify the most common pathologies in hysterectomy specimens and also to know the most common age group undergoing hysterectomies. In this study, the most common pathologies were atrophic endometrium in endometrium, leiomyoma in myometrium, chronic cervicitis in cervix, ovarian cysts in ovaries and salpingitis in fallopian tubes. The most common age group was 40-49 years followed by 50-59 years group. Type of hysterectomy performed most commonly in this study was trans abdominal hysterectomy (TAH). Abnormal uterine bleeding, fibroid and uterovaginal prolapse were the most common clinical indications of hysterectomy. The pathological examination confirmed the clinical diagnosis in majority of the cases. Hysterectomy still remains the widely used treatment modality in developed and developing countries.

MATERIALS AND METHODS
This is a retrospective study consisting of 160 cases of hysterectomy specimens received in the department of Pathology, Oxford Medical College and Hospital, Bangalore, Karnataka. Total duration of study was one year i.e. From January 2017 to December 2017. Gross features were examined in detail and multiple bits were taken from representative sites, processed and paraffin blocks were made. After thorough microscopic examination a histopathological diagnosis was given.

RESULTS
A total of 160 cases were studied. Most common age group underwent hysterectomy was 40-49 years group and least was done in age group 70-79 age group. The most common type of hysterectomy was total abdominal hysterectomy comprising of 57 cases (35.62%) followed by total abdominal hysterectomy with bilateral salpingo oophorectomy comprising of 48 cases (30%) followed by vaginal hysterectomy comprising of 36 cases (22.5%).

CONCLUSION
Hysterectomy is a very commonly performed gynaecological surgery with AUB with underlying pathology being the most important indication for surgery. Therefore, it is mandatory that all hysterectomy specimens be subject to histopathological examination even if it grossly appears to be normal.

KEYWORDS
Hysterectomy, Endometroid Cancer, Abnormal Uterine Bleeding, Endometriosis.

BACKGROUND

Hysterectomy is the surgical removal of the uterus performed by a gynaecologist to remove all or part of uterus. It may also involve removal of the cervix ovaries, fallopian tubes and other surrounding structures. Hysterectomy may be total (removing the body, fundus and cervix of the uterus) or partial (removal of the uterine body while leaving the cervix intact called supracervical). It is the most commonly performed gynaecological surgical procedure worldwide and is associated with both risk and benefits. The procedure can cause hormonal imbalance and affect a woman's overall health. Hysterectomy is therefore usually recommended in cases where reproductive conditions cannot be treated in any alternative way.

The indications are abnormal uterine bleeding, fibroids, uterovaginal prolapse, adenomyosis, endometriosis, pelvic inflammatory disease, gynaecological cancers and other obstetric complications. All hysterectomy specimens should be sent for histopathological examination regardless of the pre-operative diagnosis especially in malignant cases.

Aim of the Study
To know the most common age group undergoing hysterectomies and to know the most common pathology leading to hysterectomy.

MATERIALS AND METHODS

This is a retrospective study consisted of 160 cases of hysterectomy specimens received in the department of Pathology, Oxford Medical College and Hospital, Bangalore, Karnataka. Total duration of study was one year i.e. From January 2017 to December 2017. The usual procedure of receiving the specimens as per protocol were followed and then they were fixed in 10% buffered formalin. Gross features were examined in detail and multiple bits were taken from representative sites, processed and paraffin blocks were made. After thorough microscopic examination a histopathological diagnosis was given. The lesions were categorized as 1) Lesions of the uterine corpus which included lesions of the endometrium and the myometrium 2) Lesions of the cervix 3) Lesions of the ovary 4) Lesions of the fallopian tube.

Inclusion Criteria

1. At least 18 years of age and
2. Signed written informed consent.

RESULTS

A total of 160 cases were studied. Most common age group underwent hysterectomy was 40-49 years group and least was done in age group 70-79 age group. The most common type of hysterectomy was total abdominal hysterectomy comprising of 57 cases (35.62%) followed by total abdominal hysterectomy with bilateral salpingo oophorectomy comprising of 48 cases (30%) followed by vaginal hysterectomy comprising of 36 cases (22.5%) and the least was total abdominal hysterectomy with unilateral salpingo oophorectomy comprising of 19 cases (11.87%). Of these 10 cases included right salpingo oophorectomy whereas 9 cases included left salpingo oophorectomy.

Indications of hysterectomy varied from menstrual abnormalities to suspected pelvic malignancy. The majority of the patients presented with abnormal uterine bleeding (30.62%) followed by fibroid uterus (28.12%) and utero vaginal prolapse (20.62%). 28 cases presented with more than one symptom. Endometrium was unremarkable in most of the cases (46.25%). Atrophic endometrium was the most common endometrial pathology seen in 23.1% cases followed by endometrial polyp as shown in table 2 the malignant tumor comprised only 0.6% cases. The myometrium was also histologically normal in majority of the cases (39.37%). The most common pathology encountered was leiomyoma (30%) followed by adenomyosis (18.12%) shown in table 3. Chronic cervicitis was the most common cervical pathology encountered (51.8%) followed by chronic cervicitis with squamous metaplasia (26.87%).

Least encountered cases were endocervical polyps and cervical intra epithelial changes and malignant tumor of the cervix. The ovaries and fallopian tubes were also unremarkable in most of the cases. The most common ovarian lesion seen was ovarian cyst and most common fallopian tube lesion observed was salpingitis. Pre-operative diagnosis was available in about 62 cases (38.75%). The final pathological diagnosis confirmed the clinical diagnosis in most of the cases.

DISCUSSION

Hysterectomy is the most commonly performed gynaecological surgery throughout the world. A woman may have hysterectomy for different reasons including abnormal uterine bleeding, fibroids, uterovaginal prolapse, carcinoma of the cervix, endometrium or ovaries and other problems. Most woman who undergo hysterectomy have no serious problems or complications from the surgery. However, hysterectomy is considered a major surgery and is associated with risk s including urinary incontinence, vaginal prolapse, chronic pain etc. This study was conducted to analyse the different patterns of lesions in hysterectomy specimens in our institution and compare with those of other workers. The commonest age group is 40-49 years. Similar age group range of most common age group of 40 -49 years was also seen in one other study.[1]

Commonest surgical approach was abdominal hysterectomy (77.5%) followed by vaginal hysterectomy (22.5%) which was also the similar approach in another study conducted.[2] Many of the cases included bilateral salpingo oophorectomy along with hysterectomy. Abnormal uterine bleeding was the most common indication in our study followed by fibroid uterus. Many studies indicate abnormal uterine bleeding as the most common clinical indication of hysterectomy.[3]

Abnormal uterine bleeding is common sign of a number of different uterine disorders ranging from dysfunctional (non-organic) abnormalities or complications of pregnancy to organic lesions such as polyps, hyperplasia, or carcinoma. The prevalence of the various abnormalities that lead to abnormal bleeding is difficult to determine precisely, varying with the patient population. A practical approach to the possible diagnoses associated with abnormal bleeding takes age into account.

Leiomyomas constituted the second most common indication in our study. The prevalence of leiomyoma as the cause of AUB is also quite common histopathological finding in hysterectomy specimens. In one such study[4] it was found that adenomyosis and leiomyoma was the main cause of AUB and as AUB is a common presentation in both the entities and the fact that these cannot be differentiated solely on clinical ground, necessitates the need of histopathological examination for confirmation. Vaginal hysterectomy is the method of choice for gynaecologists who carry out hysterectomies.

Undertaking this procedure will enhance the gynaecologists' level of skill and enable conditions such as ovarian cysts, broad ligament fibroids and other adnexal pathology to be dealt with vaginally during hysterectomy without abdominal invasion.[5] Vaginal route allows access to the posterior cul-de- sac which can facilitate surgery to achieve the desired outcome.

In India carcinoma and other malignancies of the body of uterus are not as frequently encountered as other gynaecological malignancies. We observed only one case of

malignant tumor of endometrium which was endometroid carcinoma. Carcinoma of the endometrium is the most common gynaecologic malignancy in developed countries. It typically occurs in elderly individuals, 80% of the patients being postmenopausal at the time of diagnosis.[6] Other studies have reported a slightly higher incidence of malignant endometrial tumor which could possibly be because of smaller sample size.[7,8,9]

Ovarian tumours are tumours arising from the ovary. They can be benign or malignant. Cysts of variable morphology are the most common lesions in our study. Similar results were reported in other studies.[10,11] Persistent simple ovarian cysts larger than 5-10 cms, if symptomatic and complex ovarian cysts should be considered for surgical removal.

Cervical cancer is still the most common malignant tumor of the female genital tract in most countries and the most frequent neoplasm among women in many of them.[6] In recent years, the crucial role of HPV in the pathogenesis of cervical carcinoma has become obvious and is found in about 99% of cervical cancer. Most cervical cancers are squamous cell cancers followed by adenocarcinoma which develops from the glands in endocervix. In this study there were 2 cases of cervical lesions, one with CIN changes and the other was 54-year-old with cervical carcinoma. Incidences were also reported by Treloar et al in their study.[12]

Fallopian tubes are complex structures and with the exception of a few relatively rare tubal neoplasms, the significance of pathologic changes in fallopian tube is related to the possible effect on fertility.[13] In the present study most of the cases revealed no pathological lesion in the fallopian tube. The only significant lesions were Hydrosalpinx (8 cases), salpingitis (3 cases), fimbrial cyst (4 cases) and inclusion cyst (2 cases).

CONCLUSION

The present study gives a fair insight into the histological patterns in hysterectomy with AUB with underlying pathology being the most common indication for hysterectomy with leiomyoma being the most common pathology diagnosed. Quite a few lesions are also encountered as purely incidental findings. Therefore, it is mandatory that all hysterectomy specimens be subject to histopathological examination even if it grossly appears to be normal. Hysterectomy still remains the widely used treatment modality in developed and developing countries.

Age Group	Number of Cases
30-39 yrs.	24
40-49 yrs.	89
50-59 yrs.	32
60-69 yrs.	12
70-79 yrs.	03
	Total (n=160)

Table 1. Age Wise Distribution of Cases
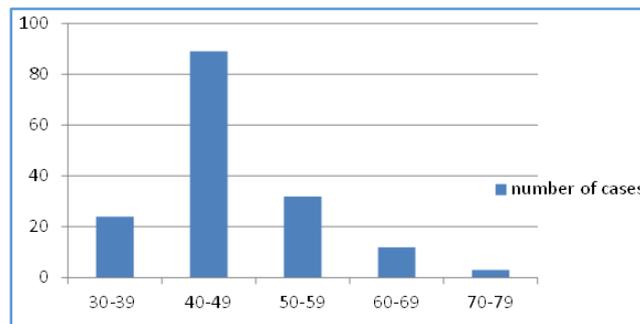
Graph 1. Age Distribution of Hysterectomies

Histopathological Diagnosis	Number of Cases (1=160)	%
Atrophic Endometrium	37	23.1
Endometrial Polyp	15	9.3
Basal Endometrium	12	7.5
Disordered Proliferative Phase	11	6.85
Simple Cystic Hyperplasia	08	5.0
Pill Endometrium	02	1.25
Endometrial Carcinoma	01	0.6
Normal Histology	74	46.25

Table 2. Histopathological Diagnosis of Endometrial Lesions

Histopathological Diagnosis	Number of Cases (n=160)	%
Leiomyoma	48	30
Adenomyosis	29	18.12
Leiomyoma and Adenomyosis	18	11.25
Adenomyosis with Monckeberg's Sclerosis	02	1.25
Normal Histology	63	39.37

Table 3. Histomorphology of Myometrial Lesions

Histopathological Diagnosis	Number of Cases (n=160)	%
Chronic Cervicitis	83	51.8
Chronic Cervicitis with Squamous Metaplasia	43	26.87
Chronic Cervicitis with Papillary Endocervicitis	18	11.25
Chronic Cervicitis focal Koilocytosis	06	3.75
Endocervical Polyp	02	1.25
Chronic Cervicitis with Cervical Fibroid	02	1.25
CIN Changes and Cervical Carcinoma	02	1.25
Normal Histology	04	2.5

Table 4. Histopathological Diagnosis of Cervical Lesions

Type of Lesion	Number of Cases	Total
Follicular Cyst	16	
Corpus Luteal Cyst	08	
Serous Cyst	04	
Mucinous Cyst	02	
Serous Cystadenoma	02	Ovary (n=67)
Mucinous Cystadenoma	01	
Normal Histology	34	

Table 5. Histopathological Diagnosis of Ovarian Lesions

Indication	Number of Cases (%)
Abnormal Uterine Bleeding	49 (30.62%)
Leiomyoma	45(28.12)
Uterovaginal Prolapse	33(20.62)
Chronic Cervicitis	12(7.5)
Adenomyosis	05(3.12)
Ovarian Cyst	04(2.5)
Post-Menopausal Bleeding	04(2.5)
Carcinoma Cervix / CIN	04(2.5)
Pelvic Inflammatory Disease (PID)	03(1.8)
Carcinoma Endometrium	01(0.6)
Total	160

Table 6. Clinical Indication of Hysterectomy

Figure 1. H & E. Simple Hyperplasia without Atypia
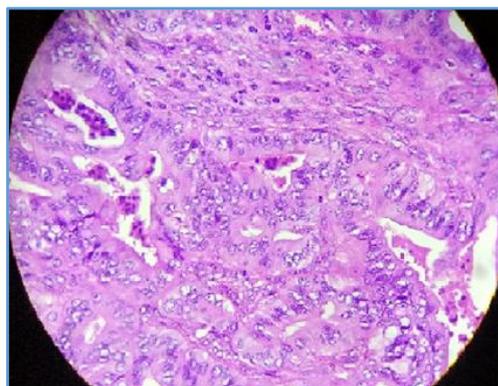

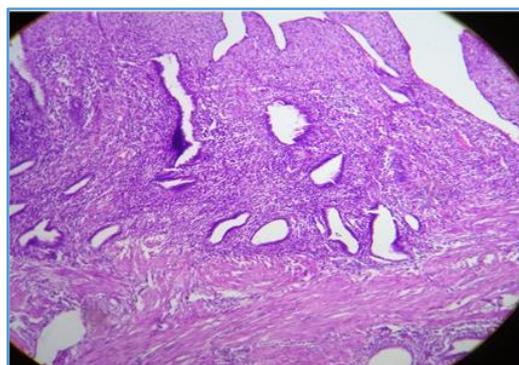**Figure 2. H & E. Endometroid Carcinoma with Tumor Cells in Glandular Pattern and Desmoplastic Stroma**

Figure 3. Disordered Proliferative Phase Pattern Endometrium with Disorganised Proliferative Glands with Focal Branching and Glandular Dilatation
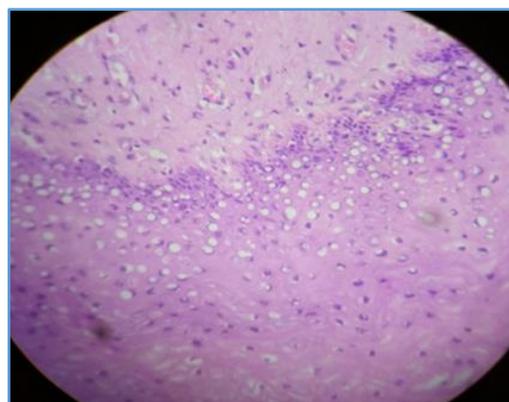

Figure 4. H & E. Cervix with Chronic Cervicitis with Focal Koilocytosis

REFERENCES

[1] Rather GR, Gupta Y, Bardhwaj S. Patterns of lesions in hysterectomy specimens: a prospective study. JK Science 2013;15(2):63-68.

[2] Gangadharan V, Prasanthi C. Hysterectomy - a clinico-pathological correlation in a rural setting. Indian Journal of Basic and Applied Medical Research 2016;5(2):8-15.

[3] Sirpurkar MS, Patne SS. A Retrospective review of hysterectomies at a tertiary care centre in central India. Asian J of Biomedical and Pharma Sciences 2013;3(21):48-50.

[4] Kaur M, Singh Y, Das C, et al. Histopathological correlation of adenomyosis, leiomyoma and dual pathology in hysterectomy specimens as the cause of abnormal uterine bleeding in women in different age groups. Annals of International Medical and Dental Research 2018;4(2):37-40.

[5] Sheth SS, Paghdiwalla KP, Hajari AR. Vaginal route: a gynaecological route for much more than hysterectomy. Best Practice and Research Clinical Obstetrics and Gynaecology 2011;25(2):115-132.

[6] Rosai J. Rosai and Ackerman's surgical pathology. 9th edn. St. Louis: Elsevier Mosby 2004:1569-1590.

[7] Jaleel R, Khan A, Soomro N. Clinicopathological study of abdominal hysterectomies. Pak J Med Sci 2009;25(4):630-634.

[8] Bukhari U, Sadiq S. Analysis of the underlying pathological lesions in hysterectomy specimens. Pak J Pathol 2007;18(4):110-112.

[9] Muezzinoglu B, Doger E. The Pathologic spectrum of prolapse uteri: histopathological evaluation of hysterectomy specimens. J Gynaecol Surg 2005;21(3):133-135.

[10] Perveen S, Tayyab S. A Clinicopathological review of elective abdominal hysterectomy. J Surg Pak 2008;13(1):26-29.

[11] Jamal S, Baqai S. A Clinicohistopathological analysis of 260 hysterectomies. Pak J Pathol 2001;12(2):11-14.

[12] Treloar SA, Do KA, O'Connor VM, et al. Predictors of hysterectomy: an Australian study. Am J Obstet Gynaecol 1999;180:945-954.

[13] Bagwan IN, Harke AB, Malpani MR, et al. Histopathological study of spectrum of lesions encountered in fallopian tube. J Obstet Gynaecol Ind 2004;54(4):379-382.