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Original Research Article

Histopathological Spectrum of Lesions of Hysterectomy Specimens – A Study of 200 Cases

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Abstract: Hysterectomy is the most commonly performed major gynecological surgery worldwide and prevalence of hysterectomy varies from country to country, region to region. Hysterectomy may be total -removing the body, fundus, and cervix of the uterus; often called complete hysterectomy or partial hysterectomy/subtotal hysterectomy - removal of the uterine body while leaving the cervix intact; also called supracervical hysterectomy. The objective of this study is to know the most common pathology causing abnormal uterine bleeding by studying histopathological findings in hysterectomy specimens and also to know the commonest age group undergoing hysterectomies. In our study involving 200 cases most common age group underwent hysterectomy was 40-49 years followed by 30-39 years group and least hysterectomies done in group 70-79 years. Type of hysterectomy performed most commonly in this study was supracervical or subtotal hysterectomy. Most of lesions were seen in the endometrium 84 cases (42%), Myometrium 59 cases (29.5%), cervix 33 cases (16.5%) and ovary 24 cases (12%). Hysterectomy still remains the widely used treatment modality in developed and developing countries. All hysterectomy specimens should be sent for histopathological examination regardless of the pre-operative microscopic assessment, especially in malignant disease.

Keywords: Hysterectomy, Endometrioid Cancer, Carcinoma Cervix, Benign, Malignant, Abnormal Uterine Bleeding, Leiomyoma.

INTRODUCTION

Hysterectomy is the surgical removal of the uterus and is performed by a gynecologist. Historically Charles Clay performed the first subtotal hysterectomy in Manchester England in 1843 and the first Total abdominal hysterectomy was done in 1929 [1]. Hysterectomy may be total -removing the body, fundus, and cervix of the uterus; often called complete hysterectomy or partial hysterectomy/subtotal hysterectomy - removal of the uterine body while leaving the cervix intact; also called supracervical hysterectomy. Hysterectomy is the most commonly performed gynecological surgical procedure. It may also involve removal of the cervix, ovaries, fallopian tubes and other surrounding structures. Oophorectomy is unilateral or bilateral removal of ovaries is frequently done together with hysterectomy to decrease the risk of ovarian cancer. Hysterectomy is usually performed by a) Abdominal b) Vaginal and c) Laparoscopic routes [2]. Removal of the uterus renders the patient unable to bear children and has surgical risks as well as long-term effects, so the surgery is normally recommended when other treatment options are not available or have failed or the patient had completed her family. According to the research, it is expected that the frequency of hysterectomies for non-malignant indications will fall as there are good alternatives treatment modalities are coming up in many cases in future [3]. Few of the common reasons for hysterectomy are dysfunctional or abnormal uterine bleeding (DUB/AUB), painful uterine fibroids, uterine prolapse, endometriosis and adenomyosis.

AIM OF THE STUDY

To know the most common pathology causing abnormal uterine bleeding by studying histopathological findings in hysterectomy specimens and also to know the commonest age group undergoing hysterectomies.

MATERIALS AND METHODS

This study consisted of 200 cases of hysterectomy specimens received in department of Pathology, Bhaskar Medical College and Satya Diagnostic Centre, Hyderabad, Telangana State. Total duration of study was 2 years i.e from June 2014 to May 2016. On receiving the hysterectomy specimen as per protocol they were fixed in 10% buffered formalin, large specimens were cut and left for fixation. Gross features were recorded and representative samples were after proper fixation of the specimen. Multiple representative bits were processed and paraffin blocks made, sections were then stained with Hematoxylin and Eosin stains (H & E Staining). After thorough microscopic examination a histopathological diagnosis was given.

RESULTS

In our study involving 200 cases most common age group underwent hysterectomy was 40-49 years followed by 30-39 years group and least hysterectomies done in group 70-79 years (Table 1). Type of hysterectomy performed most commonly in this study was supracervical or subtotal hysterectomy in young females of reproductive age group ranging from 20-39 years constituting about 65 cases (32.5%) , next common being total abdominal hysterectomy 64 cases (32.0%) and the least performed surgery in this study was total abdominal hysterectomy with bilateral salphingo-oophorectomy (TAH + BSO) (Table 2). Most of lesions were seen in the endometrium 84 cases (42%), Myometrium 59 cases (29.5%), cervix 33 cases (16.5%) and ovary 24 cases (12%) (Table 3).

Table 1: Age Wise Distribution Of Cases

AGE GROUP	NUMBER OF CASES
20-29 Years	06
30-39 Years	46
40-49 Years	84
50-59 Years	29
60-69 Years	31
70-79 Years	04
TOTAL	**200**

Table 2: Types Of Hysterectomies

TYPE OF HYSTERECTOMY	NUMBER OF CASES (%)
Subtotal Hysterectomy / Supracervical Hysterectomy	65 (32.5 %)
Vaginal Hysterectomy	47 (23.5 %)
Total Abdominal Hysterectomy	64 (32.0 %)
Total Abdominal Hysterectomy With Bilateral Salphingo-Oophorectomy	24 (12.0 %)
Total	**200**

Table 3: Distribution Of The Lesions- Anatomical Site Wise

ANATOMICAL SITE	NUMBER OF CASES (%)
CERVIX	33 (16.5 %)
ENDOMETRIUM	84 (42.0 %)
MYOMETRIUM	59 (29.5 %)
OVARY	24 (12.0 %)
TOTAL	**200**

In this study, the incidence of chronic non-specific cervicitis with squamous metaplasia was high followed by cervical leiomyoma, carcinoma cervix, cervical polyp and cervical leiomyomatous polyp. Most common lesion among the endometrium in this study was simple endometrial hyperplasia followed by complex endometrial hyperplasia without atypia, endometrial polyp, and complex endometrial hyperplasia with atypia leading to abnormal uterine bleeding (AUB); least common lesion encountered was endometrioid adenocarcinoma. Among the myometrium lesions leiomyoma and leiomyomata (multiple leiomyomas) were more when compared to the other lesions. Among the ovarian lesions cystic lesions were more common which included serous cystadenoma, mucinous cystadenoma, simple cyst, dermoid cyst and least common was granulosa cell tumor (GCT).

Table 4: Histopathological Lesions Of Hysterectomy Specimens

ANATOMICAL SITE	TYPE OF LESION	No. OF CASES
Cervix (N=33)	Chronic Non-Specific Cervicitis With Squamous Metaplasia	12
	Cervical Polyp	05
	Cervical Leiomyoma	06
	Cervical Leiomyomatous Polyp	04
	Carcinoma Cervix	06
Endometrium (N=84)	Endometrial Polyp	12
	Simple Hyperplasia	29
	Complex Hyperplasia Without Atypia	16
	Complex Hyperplasia With Atypia	08
	Endometroid Adenocarcinoma	07
	Endometritis	12
Myometrium (N=59)	Leiomyoma	17
	Leiomyomata	19
	Myohyperplasia	03
	Myohyperplasia With Leiomyoma	05
	Adenomyosis	05
	Adenomyosis With Leiomyoma	04
	Adenomyosis With Monckeberg's Sclerosis	03
	Adenomyosis With Leiomyomatous Polyp	03
Ovary (N=24)	Simple Cyst	05
	Serous Cystadenoma	08
	Mucinous Cystadenoma	06
	Dermoid Cyst	02
	Granulosa Cell Tumor	01
	Chocolate Cyst	02

The most common clinical indication for hysterectomy in this study was abnormal uterine bleeding (AUB) constituting (42 %) and least common being cervical leiomyomatous polyp (2 %) (table 5).

Table 5: Clinical Indication Of Hysterectomy

CLINICAL DIAGNOSIS	NUMBER OF CASES (%)
Abnormal Uterine Bleeding (Aub)	84 (42.0%)
Leiomyoma (Fibroids)	41 (20.5%)
Ovarian Cysts/Tumors	24 (12.0%)
Adenomyosis	15 (7.5%)
Uterovaginal (Uv) Prolapse	15 (7.5%)
Cervical Leiomyoma	06 (3.0%)
Carcinoma Cervix/Cervical Intraepithelial Neoplasia (Cin)	06 (3.0%)
Endocervical Polyp	05 (2.5%)
Cervical Leiomyomatous Polyp	04 (2.0%)
Total	**200**

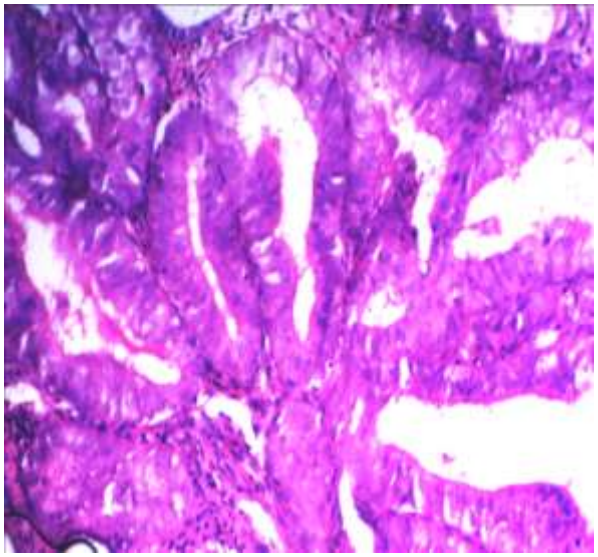

Fig-1: H & E 400 X: Complex Endometrial Hyperplasia With Atypia

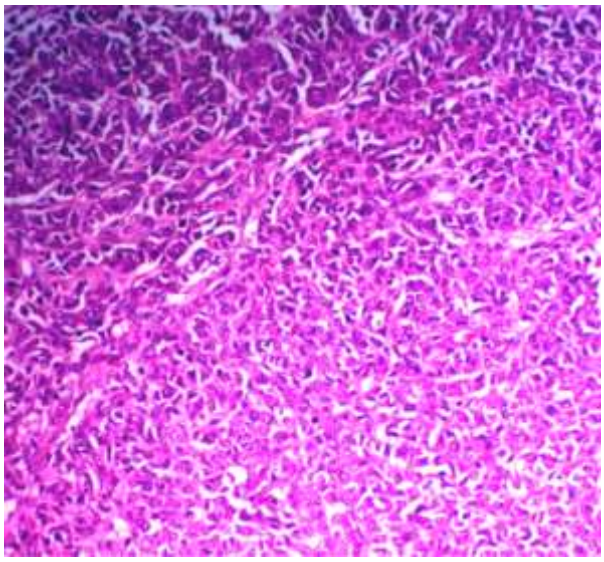

Fig-2: H & E 100 X: Granulosa Cell Tumor – Ovary

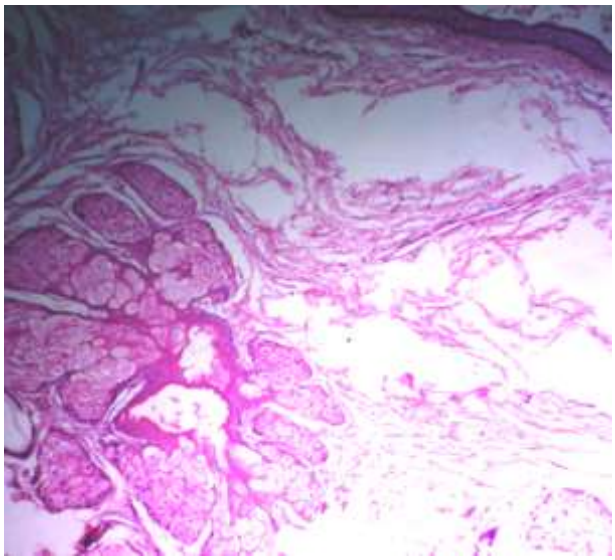

Fig-3: H & E 100 X: Dermoid Cyst – Ovary

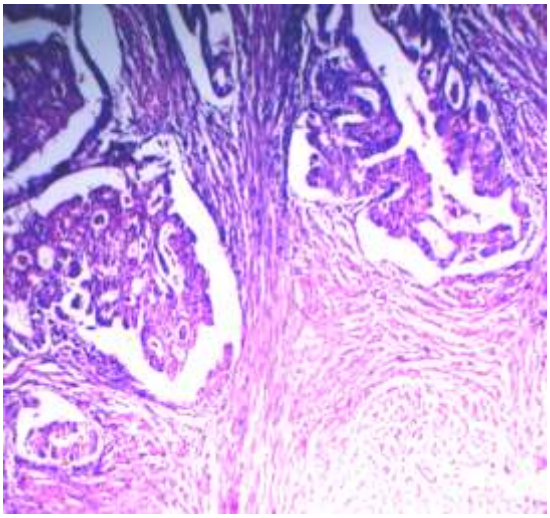

Fig-4: H & E 100 X: Endometrioid Adenocarcinoma with Tumor Cells In Glandular Pattern & Desmoplastic Stroma

DISCUSSION

Hysterectomy (removal of the uterus) is the most commonly performed major gynecological surgery worldwide and prevalence of hysterectomy varies from country to country, region to region [4, 5]. Since year 1901 onwards, hysterectomy has become definitive treatment for pelvic pathology including fibroids, abnormal uterine bleeding (AUB), chronic pelvic pain, endometriosis, adenomyosis, uterine prolapse (UV prolapse), pelvic inflammatory disease (PID) and cancer of reproductive organs [6]. The clinical presentation and the indication for hysterectomy varies depending upon the pathology of the uterus, it can range from benign to malignant. Total abdominal hysterectomy is removal of the uterus, cervix with or without adnexal structures through an incision made on the anterior abdominal wall while removal of the uterus is by vaginal route is termed as vaginal hysterectomy. Subtotal or supracervical hysterectomy means removal of uterus leaving behind the cervix in place. Type of hysterectomy depends on the pathology involved and the age of the patient. Abdominal route is associated with prolonged hospital stay, slightly increased post operative complications and is costlier when compared to other types; but due to practice of styles, training habits and performances of gynecologist, most of the gynecologists still continue to use the abdominal approach for hysterectomies that could be performed vaginally. Vaginal hysterectomy carries less risk and complications; this route is encouraged especially if the disease is confined to uterus. Hysterectomy gives maximum extent of symptomatic relief and satisfaction to the patient. It provides a definitive cure for many diseases involving the uterus as well as adnexae.

In our study involving 200 cases most common age group underwent hysterectomy was 40-49 years followed by 30-39 years group and least hysterectomies done in group 70-79 years. This incidence is correlating with the various studies conducted by Yogesh Neena *et al* [7] ,G Gupta *et al* [8], Jha R *et al* [9] and Vandana *et al* [10] are 45 years, 45.6 years,46.3 years and 40-49 years respectively.

In this study the incidence of AUB was more which is correlating with the study conducted by karthikeyan *et al* [11] where the most common clinical presentation was increased menstrual bleeding (62.5%), in this study 42%. Our study also correlating with studies conducted by vandana *et al* [10] regarding the incidence of leiomyoma/leiomyomata. Regarding the type of hysterectomy, our study correlated with the findings of Chryssiopoulos *et al* [12] studied 3410 total hysterectomies over a period of sixteen years and the abdominal approach was preferred in 85.33% and the vaginal route in 14.67%.

Abnormal uterine bleeding (AUB) is irregular uterine bleeding that can occur in the absence of recognizable pelvic pathology, general medical disease, or pregnancy. It reflects a disruption in the normal cyclic pattern of ovulatory hormonal stimulation to the endometrial lining. It may be excessively heavy or light and may be prolonged, frequent, or random. About 1-2% of women with improperly managed anovulatory bleeding eventually may develop endometrial cancer. Patients who report irregular menses since menarche may have polycystic ovarian syndrome (PCOS). PCOS is characterized by anovulation or oligo-ovulation and hyper-androgenism. These patients often present with unpredictable cycles and/or infertility, hirsutism with or without hyper-insulinemia, and obesity. The gynecologist has to rule out endometrial carcinoma in all patients at high risk for the condition, including those with the characteristics like morbid obesity, diabetes or chronic hypertension, age over 35 years and longstanding, chronic eugonadal anovulation cycles. Traditionally, endometrial carcinoma can be ruled out by endometrial sampling via dilation and curettage (D&C).

Uterine fibroids or uterine leiomyomas or fibroids, are benign smooth muscle tumors of the uterus. Most women have no symptoms while others may have painful or heavy menstrual cycles. If large enough, they may push on the urinary bladder causing frequent urination. They may also cause pain during intercourse or mild to severe lower back pain depending upon the site and size of the fibroid. They can be single or multiple. The exact cause of uterine fibroids is unclear. However, fibroids run in families and appear to be partly determined by hormone levels. Risk factors include obesity and eating red meat. Diagnosis can be performed by pelvic examination or medical imaging. Treatment is usually not needed if there are no or mild symptoms. Medications of the gonadotropin releasing hormone agonist group may decrease the size of the fibroids but are expensive and associated with unwanted effects. If greater symptoms are present, surgery to remove the fibroid or uterus is the treatment of choice. Cancerous counterparts of fibroids are very rare and are known as leiomyosarcomas. They do not appear to develop from benign fibroids.

Ovarian tumors, or ovarian neoplasms, are tumors arising from the ovary. They can be benign or malignant. Benign tumors of the ovary include ovarian cysts, such as borderline tumor cysts. Ovarian cysts include serous cystadenoma, mucinous cyst adenoma, fibroma, thecoma etc. Persistent simple ovarian cysts larger than 5-10 cm, especially if symptomatic, and complex ovarian cysts should be considered for surgical removal. In children and younger women, cystectomy may be preferable to oophorectomy [13]. The risk of ovarian cancer increases in women who have ovulated more during their lifetime. This includes nulliparous women, those who begin ovulation at a younger age or reach menopause at an older age. Other risk factors include hormone therapy after menopause, fertility medication and obesity.

Cervical cancer starts in the cervix due to the abnormal and uncontrolled proliferation of the lining cells. Most cervical cancers are squamous cell cancers. Adenocarcinoma is the second most common type of cervical cancer, accounting for the remaining 10 to 20 percent of cases. Adenocarcinoma develops from the glands that produce mucus in the endocervix. While less common than squamous cell carcinoma, the incidence of adenocarcinoma is on the rise, particularly in younger women. Human papilloma virus (HPV) is found in about 99% of cervical cancers.

CONCLUSION

Hysterectomy is a very commonly performed gynecological surgery. AUB with underlying pathology is the most important indication for hysterectomy with leiomyoma being the most common pathology diagnosed preclinically and histopathological examination. Hysterectomy still remains the widely used treatment modality in developed and developing countries. All hysterectomy specimens should be sent for histopathological examination regardless of the pre-operative microscopic assessment, especially in malignant disease.

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