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Histopathological Spectrum of Hysterectomy Specimens and their Clinicopathological Correlations at a Tertiary Care Centre

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ABSTRACT

There are multiple pathologies of the female reproductive system like fibroid, abnormal uterine bleeding, adenomyosis, chronic cervicitis, prolapse uterus and malignant lesions of the uterus and adnexa for which hysterectomy is the definitive treatment. Hysterectomy is the most commonly performed gynecological surgery in India as well as abroad. The main aim of our study is to retrospective correlation between histopathological diagnosis with its clinical diagnosis and to observe different pathology of disease in hysterectomy specimens. This is a retrospective study conducted in Rama Hospital and Research Centre, Hapur. In this study, we included 250 hysterectomy specimens received over the last 12 months. Patient data was retrieved from the medical records and histopathological requisition forms which included age, symptoms, pre-operative clinical diagnosis, an indication of hysterectomy, type of hysterectomy done and histopathological diagnosis. Histopathological findings from the cervix, endometrium, myometrium, ovaries and fallopian tubes of every hysterectomy specimen were noted. In our study, it was observed that a maximum number of cases were in the age group of 35-45 years (40.8%, n = 102) followed by the age group of 45-55 years (35.2%, n = 88). Abdominal hysterectomy (89.6%, n = 224) was the most common route of surgery. The most common pre-operative diagnosis was abnormal uterine bleeding (50.4%) followed by fibroid uterus (19.2%) chronic cervicitis (25.6%) and chronic pelvic pain (18.4%). Among pathologies on histology, adenomyosis (86.4%) was the most common which was followed by chronic cervicitis (74.4%) leiomyoma (22.4%) and atrophic endometrium (8.8%). Uterine adenomyosis and chronic cervicitis are the most common benign conditions found in hysterectomy specimens with peak incidence at 31-50 years. Histopathology is mandatory for confirming diagnosis and is the key to effective therapy and optimal outcomes. Histopathology, Endometrium, Myometrium, Hysterectomy.

INTRODUCTION

The uterus is a vital organ of the female reproductive system. The female genital tract includes the uterine corpus and cervix and the uterine corpus consists of endometrium and myometrium. Disease of the uterus has been broadly grouped into inflammatory, benign and malignant lesions. Clinical diagnosis is made on the basis of signs and symptoms but confirmation is done by histopathological examination. Hysterectomy is the most common gynecological operation in India and also in the world[1]. There are multiple pathologies of female reproductive organs like fibroids, abnormal uterine bleeding, Adenomyosis, Chronic pelvic pain, Uterine prolapse and malignancies of female reproductive organs for which hysterectomy is the definitive treatment[2]. It is done by two approaches abdominal and vaginal route. The primary aim of our retrospective study is to correlate histopathological diagnosis with its clinical diagnosis and to observe the incidence of different pathologies in hysterectomy specimens.

MATERIALS AND METHODS

The present study was conducted in the Department of Obstetrics and Gynecology at Rama Medical College Hospital and Research Centre, Hapur, India, over a period of 12 months. Ethical approval for our research was provided by the Ethical Committee of Rama Medical College, Hapur (U.P). A total of 250 hysterectomy specimens with or without salpingo-oophorectomy were subjected to examination. Patient's brief clinical data were retrieved from medical records and histopathological requisition forms which included: age, symptoms, pre-operative clinical diagnosis, indication of hysterectomy, type of hysterectomy done and histopathological diagnosis. Inclusion criteria included patients coming to the outpatient department with complaints of menorrhagia for which a hysterectomy procedure was performed. The exclusion criteria were small biopsies, myomectomy tissues, dilatation and curettage tissue and autolyzed samples and specimens with incomplete histo-pathological requisition forms.

On receipt of the surgical specimen, they were fixed in 10% neutral buffered formalin and were sent to the department of pathology. A detailed gross examination of the uterus and cervix with or without bilateral adnexa was carried out. Sections from representative areas were taken, processed and paraffin-embedded. The blocks were sectioned and stained with hematoxylin and eosin. A detailed microscopic examination of the stained slides was carried out. All findings were cumulatively considered and included for appropriate diagnosis. Histological diagnoses were recorded and data was analysed percentage-wise. Subsequently the histopathological diagnoses were correlated with clinical diagnoses.

RESULTS

A total of 250 hysterectomy cases were included in the study. The age range of patients was from 25 to ≥55 years of which, 196 (78.4%) patients were of abdominal hysterectomy with bilateral salpingo-oophorectomy specimens and the remaining 54 (21.6%) patients were of only hysterectomy specimens (Table 1). In our study, it was observed that the maximum number of cases were in the age group of 35-45 years (n = 102) followed by the age group of 45-55 (n = 88) years (Table 2).

Among the preoperative clinical presentations, the maximum number of patients were of heavy menstrual bleeding (38.4%). Pain in the lower abdomen (35.2%) was the second most common clinical presentation and the least common was discharge per vagina (1.2%) (Table 3).

Preoperative clinical diagnosis in maximum patients was abnormal uterine bleeding (50.4%). Chronic cervicitis (25.6%) was the second most common diagnosis and the least common lesions diagnosed as endometrial polyp was 1.2% (Table 4). In the histopathological analysis of the specimens the most frequent lesions were seen in the myometrium with 86.4% cases (n = 216) showed adenomyosis followed by chronic cervicitis 74.4% (n = 186) and leiomyoma 22.4% (n = 56) and the least were seen as endometrial polyp 0.4% (n = 1) (Table 50). Besides the physiological changes in the endometrium (proliferative, secretory and atrophic) functional cysts of the ovary (follicular cysts, luteal cysts, paratubal cysts) and nabothian cysts were also noted. Cysts were considered histologically unremarkable but noted down and tabulated.

DISCUSSION

Hysterectomy is the most common gynaecological surgery in India as well as in world. Abnormal uterine bleeding (DUB) is one of the most common presentations by patients in the gynecology outpatient department and accounts for up to 80% of cases of menorrhagia[3]. Hysterectomy is the most common and successful procedure carried out in terms of symptom relief, patient satisfaction and definitive cure for many

Table 1: Type of hysterectomy

Type of hysterectomy	N	Percentage
Total Abdominal hysterectomy with bilateral salpingo-oophorectomy	196	78.4
Total Abdominal hysterectomy with unilateral salpingo-oophorectomy	28	11.2
Vaginal hysterectomy(VH)	26	10.4
Total	250	100

Table 2: Age-wise distribution of patients with menorrhagia

Age in years	No. Of cases	Percentage
30-40	26	10.4
41-50	102	40.8
51-60	88	35.2
>60	34	13.6
Total	250	100

Table 3: Chief clinical presentation

Chief complaints	No. Of cases	Percentage
Heavy menstrual bleeding	96	38.4
Pain in the lower abdomen	88	35.2
Discharge per vagina	14	5.6
Postmenopausal bleeding	20	8
Painful menstrual bleeding	32	12.8
Total	250	100

Table 4: Preoperative clinical diagnosis of hysterectomy cases

Preoperative clinical diagnosis	No. Of cases	Percentage
Fibroid uterus	48	19.2
Abnormal uterine bleeding	126	50.4
Uterine prolapse	24	9.6
Endometrial polyp	03	1.2
Chronic pelvic pain	46	18.4
Chronic cervicitis	64	25.6

Table 5: Histopathological diagnosis of hysterectomy cases

Cervix	Chronic cervicitis	186
	Nabothian cyst	102
	Metaplastic changes	120
	Cervical polyp	01
	Leiomyoma	0
	CIN I	0
	CIN II	0
	CIN III	0
	Cervical cancer	0
Endometrium	Endometritis	1
	Simple hyperplasia	2
	Complex Hyperplasia	0
	Cystic Glandular Hyperplasia	0
	Atrophic	22
	Secretory endometrium	
	Disordered proliferative endometrium	26
	Polyp	01
	Molar pregnancy	00
	Carcinoma	01
Myometrium	Adenomyosis	216
	Leiomyoma	56
Ovaries	Cyst	150
	Serous cystadenoma	150
	Mucinous cystadenoma	00

diseases. In our study, most of the patients were in the age group of 41-50 years which was similar to the study by Mackenzie and study by Shaheen *et al*., who reported that most of the patients with menorrhagia were above the age of 40 years[4,5].

In the present study, we had the maximum number of histopathologic diagnoses of adenomyosis (86.4%) followed by Chronic cervicitis (74.4%) and leiomyoma (22.4%). In a similar study, Khreisat *et al*. reported that adenomyosis is a common finding in hysterectomy specimens. Th
ey found nearly 37% of all the specimens proved to be adenomyosis whereas the second most common finding was fibroid uterus[6]. The findings of adenomyosis were in accordance with our study. Sajjad *et al*. in their study observed 39% of cases of leiomyomas, followed by adenomyosis in 19% of cases. Five percent of cases showed dual pathology consisting of both leiomyomas and adenomyosis[7]. Leiomyomas and adenomyosis were found to be the common causes of menorrhagia, in other studies by Sarfraz *et al*., Tahira *et al*. and Khawja *et al*.[8-10] Gupta *et al*. in their study observed that the fibroid uterus was responsible for AUB in 53% of women[11].

Most international studies showed leiomyomas as the most common pathological lesion with a variable frequency. Its incidence is 25.8% in Abbah City of Saudi Arabia, 78% in the USA, 48% in Nigeria and 8% in Sweden[12-15]. Geographical and racial influences are thus apparent in the prevalence of uterine leiomyoma. In our study, adenomyosis was found to be the most common pathology being an incidence of 86.4%. While in most of the national and international studies, it is the next common diagnosis. Its incidence in an Indian study is 26%, in Italy 24.9% and in the West Indies 6%.[16-18]. Incidence of adenomyosis rises with rising parity which supports the theory of implantation of the basal endometrium deep in the myometrium.

In our study, other histopathologic findings include cases of endometrial hyperplasia in 0.8% and endometrial polyp in 0.4% whereas Sajjad *et al*. reported endometrial polyps in 5-10% cases of endometrial hyperplasia and 1% case of chronic endometritis in their study. In the present study, only one case of a malignant adenocarcinoma in the endometrium was found and it represents 0.4% (1 case) of all cases.

CONCLUSION

In our study, uterine adenomyosis and chronic cervicitis are the most common benign conditions found in hysterectomy specimens with peak incidence at 41-50 years. The histomorphological analysis was found to correlate well with the clinical diagnosis of the patients. Quite a few lesions were encountered which were completely pure incidental findings. Histopathology is mandatory for confirming diagnosis and for ensuring the best possible management for that specific condition.

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