A retrospective histopathological study of hysterectomy with or without salpingoophorectomy specimens

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ABSTRACT

Introduction: Histopathological study was performed in the specimen of hysterectomy with or without salpingoophorectomy in this series. The objectives of this study were to find out the frequency of various types of pathologies and to compare the findings with national and international data.

Methodology: This retrospective study was conducted in the Department of Pathology, Chitwan Medical College Teaching Hospital (CMTCH). Diagnoses of all hysterectomy specimens with or without salpingoophorectomy received from 15th May 2009 to 15th November 2009 were analyzed in the study.

Results: Most common pathology was leiomyoma (30.3 %) followed by adenomyosis (28 %) and endometrial hyperplasia (16 %). Uterine prolapse which is the leading cause of hysterectomy in other studies done in Nepal comes is sixth in our study. Only one case of squamous cell carcinoma of cervix was found.

Conclusion: Data obtained from international studies are in consistence with those of our study regarding frequency of various pathologies found in hysterectomy with or without salpingoophorectomy specimens. Leiomyoma was the most common pathology followed by adenomyosis and endometrial hyperplasia. But studies done, in other centers of Nepal have revealed uterine prolapse as the leading cause of hysterectomy which may be due to sampling bias. We found one case of squamous cell carcinoma of cervix which was referred from the cancer center.

Key words: hysterectomy, histopathological, salpingoophorectomy

INTRODUCTION

Hysterectomy is the most commonly performed major gynecological surgery throughout the world. . It is performed in 560 / 100,000 women per year in the US and 414 / 100,000 women per year in Finland [1, 2]. Hysterectomy can be done through either abdominal or vaginal route and it can be accompanied by salpingoophorectomy of either one or both sides. Hysterectomy has many forms: removal of uterus with cervix is total hysterectomy and supracervical removal of uterus is subtotal hysterectomy.[3] Charles Clay performed first subtotal hysterectomy in Manchester, England in 1843 and first total hysterectomy in 1929.

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Since early 20th century, hysterectomy in various forms has been a definite treatment of varieties of uterine pathologies including fibroids, abnormal uterine bleeding, chronic pelvic pain, endometriosis, adenomyosis, uterine prolapse, PID and cancer of reproductive organs [4]. Vaginal hysterectomy is performed predominantly for uterine prolapse whereas abdominal hysterectomy with or without salpingoophorectomy for fibroids and menstrual problems [5]. Histopathological 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 within the nation.

The purpose of this study was to find out the frequency of various uterine and adnexal pathologies in our region and to compare it with findings discovered by other researchers.

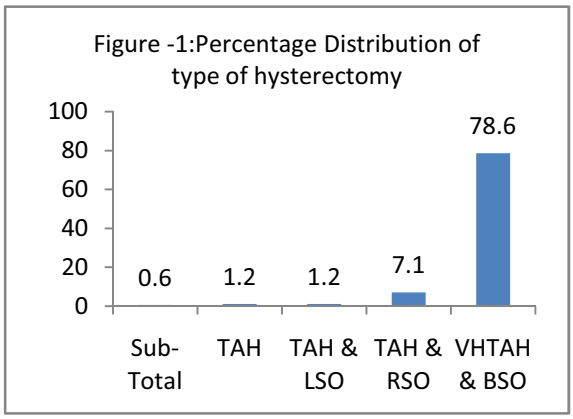
MATERIAL AND METHODS

This study is a retrospective review of the pattern of uterine, tubal and ovarian pathologies found in hysterectomy with/without salpingoophorectomy specimens received in the department of pathology, at Chitwan Medical College Teaching Hospital, Bharatpur, Chitwan, Nepal in 7 months from Baishakh 7, 2066 to Kartik 17, 2066.

The total number of patients was 168. Diagnoses were taken from histopathology record registers. In cases with more than one diagnosis, all diagnoses were counted by including them separately in their category. Common pathologies found in the specimens have been studied in relation to frequency and age-groups.

RESULTS

Out of 168 cases, total abdominal hysterectomy with or without salpingoophorectomy was accounted for 78.6% (Figure-1).



Average age for the total abdominal hysterectomy with bilateral salpingoophorectomy was 47.5 years, for vaginal hysterectomy 56.6 years and 33.6 years for right or left salpingoophorectomy cases. The mean age for hysterectomies was 45.6 years.

Most of the cases had multiple pathologies on hystopathological examination of a specimen. Most commonest pathology was leiomyoma (30.3%) followed by adenomyosis (28%) and various types of ovarian pathologies (26.7%) (Table 1).

In this study, leiomyoma was the commonest pathology. The youngest patient with leiomyoma was found at the age of 25 years and the oldest with was at the age of 60 years (Table 2). The mean age was 43.3 years.

Table 1: Types and frequency of pathology			
S.N.	**Type of Pathology**	**Numbers**	**%**
1.	Leiomyoma	51	30.30
2.	Adenomyosis	47	28.00
3.	Endometrial hyperplasia	27	16.00
4.	Benign ovarian tumors	24	14.30
5.	Atrophic endometrium	22	13.00
6.	Uterine prolapse	19	11.30
7.	Chronic endometritis	14	09.50
8.	Functional cysts of ovary	09	05.30
9.	Endometrial polyp	07	04.20
10.	Endometriosis	06	03.50
11.	Endocervical polyp	06	03.50
12.	CIN and CIS	05	03.00
13.	Ovarian cancer	05	03.00
14.	Tubo-ovarian abscess	03	01.80
15.	Endometrial carcinoma	03	01.80
16.	Ectopic tubal pregnancy	03	01.80
17.	Squamous cell ca of cervix	01	00.60
18.	Choriocarcinoma	01	00.60

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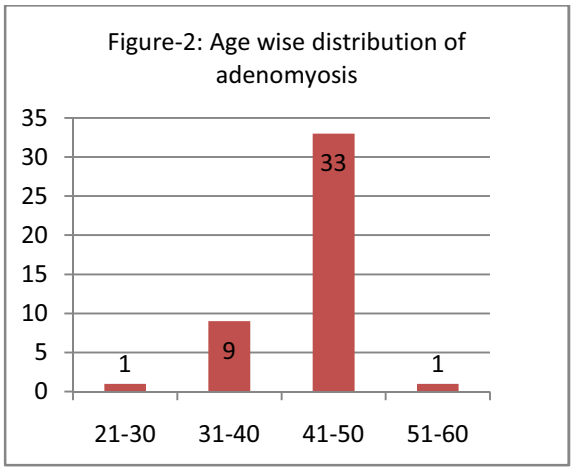
Table 2: Age wise distribution of leiomyoma		
Age	**n=51**	**%**
21—30	02	3.90
31--40	16	31.4
41--50	28	54.9
51—60	05	09.8

Adenomyosis was found relatively in the extreme age group compare to the age group with leiomyoma (Figure 2). Mean age for adenomyosis was 46.1 years. Like leiomyoma, adenomyosis was observed in the extreme of reproductive age.



Ovarian was the third commonest pathology in this study. Out of 24 cases of benign ovarian tumors, 58.3% (14) were serous cystadenomas, 29.1% (7) were mature teratoma and others 12.5% (3) were mucinous cystadenoma, adult granulose tumor and Brenner tumor. Five cases of ovarian malignancy was found in 5 cases among them two were metastatic adenocarcinoma and the remaining three were serous carcinoma, squamous cell carcinoma and mixed mucinous and endometrioid carcinoma respectively. There were 4 cases of corpus luteal cysts and the rest of the functional cysts were follicular cysts. Endometriosis was diagnosed in six cases among them four were in ovaries and two were in fallopian tubes. Three cases presented with ovarian endometriosis as chocolate cysts.

There were 27 cases of endometrial hyperplasia. Most of them were simple hyperplagia without atypia. Complex hyperplasia with atypia was only found in 2 cases. None of the simple hyperplasia showed atypia. In this study, all endometrial carcinoma were of endometrioid in type Hysterectomy was done in 19 women for uterovaginal prolapse. Clinical diagnosis of cervical changes was consistence with the histopathological examination under microscopy.

DISCUSSION

Hysterectomy with or without salpingoophorectomy specimens revealed various types of lesions. In our study, most common pathology was leiomyoma (30.3 %) which is consistence with the other studies done in various countries such as 25.8 % in Saudi Arabia, 40 % in Pakistan and 78 % in USA [5, 6, 7]. The differences in frequencies in different population may be due to difference in the prevalence of risk factors in terms of quantities and type. Early menarche, delayed menopause, decreased parity, obesity and lack of exercise are some of the risk factors of leiomyoma.

Diet also has a role. In a case-control study done in Italy, a moderate association was found with the risk of uterine myomas and the consumption of beef, other red meat and ham, whereas a high intake of green vegetables seemed to have a protective effect [8]. In addition, ethnic differences have been found in circulating estrogen levels while on control diets, and differences in estrogen metabolism have been noted. Several studies revealed a reduced risk of fibroids associated with current habits of smoking, but not reduced the risk with past smoking.

The inverse correlation between smoking and fibroids has been commonly attributed to an antiestrogenic effect of cigarette smoking, suggested by epidemiologic associations of smoking, including a reduced risk of endometrial cancer, earlier natural menopause, and increased osteoporosis. The pathophysiology of this apparent antiestrogenic effect is not entirely clear. However correlation with smoking habits was not done in this study.

Studies carried out in various places of Nepal revealed that the leading indication of hysterectomy was uterine prolapse and leiomyoma was in the second place. proportions of prolapse and leiomyoma was 37.1% and 24.9 % respectively in a study done in TU Teaching Hospital by Jha R, et al [9]. A study done in the western part of Nepal, The rate of surgery as indication with leiomyoma was 46.6 % which is the second commonest surgery[10]. In our study the indication for hystererctomy was only in 11.3% which take the 6th position aming the indications. Considerable numbers of specimens of total abdominal hysterectomy were received from private hospitals. Small no of specimens of vaginal hysterectomy were received from uterine prolapse camps in study period.

Adenomyosis was the second commonest uterine pathology in this study and also commonest in several other studies. Verecillini P found 24.9 % in Italy, and Raju GC et all noted adenomyosis of 16% hysterectomies in West Indies [11]. For reasons not explained, proportion of adenomyosis was not mentioned in studies done in Nepal [9, 12].

16 % of hysterectomy specimens had endometrial hyperplasia in our study. The figure in the research of Jaleel R et al is 9.6 % [7]. There is no available data about endometrial hyperplasia in hysterectomy specimen in our country.

Ovarian tumors constituted 17.3 % of all the pathologies in hysterectomy specimens in the this study which is very close to the finding observed by Jha R, et al (14.9%) [9]. A survey done in the UK showed that benign ovarian tumors comprised 70 % of all ovarian masses, the share of functional cysts was 24 % and 6 % changed into malignant tumors. In this study, benign ovarian tumors was 53.3 %, functional cysts 20.0 % and malignant tumors was found in 11.1 %.

Endometriosis was observed in 8.9% of all ovarian pathologies. In other words, neoplastic diseases comprised of 64.4 % all ovarian pathologies and 35.6% non neoplastic diseases.

There was only one case of carcinoma of cervix in this study of which the specimen was referred from one of the cancer centre. Other common pathologies observed in hysterectomy specimens in our study were atrophic endometrium (13 %), chronic endometritis (9.5 %) and endocervical (3.5 %) and endometrial polyps (4.2 %).

CONCLUSION

Hysterectomy with or without salpingoophorectomy is a common surgery done for diagnostic or therapeutic purposes. Mean age at hysterectomy falls between 40 and 50 years in all studies done throughout the world. This proves that the cumulative number of various uterine and adnexal pathologies is maximum in this age-group everywhere.

However the type of pathology varies in frequency from nation to nation and within each nation regional differences are seen. This difference occurs because of interplay of myriads of socioeconomic, cultural, genetic and demographic factors.

Leiomyoma is the most common pathology found in our study which is also true for other countries. But several studies done Nepal have shown uterine prolapse as the leading cause of hysterectomy. In sharp contrast, it is in the sixth position in our study.

Very high numbers of adenomyosis and endometrial hyperplasia are found in our study in consistence with studies done in other countries but the lesions are not noted or occur in a very low frequency in studies done in Nepal. The above-mentioned two differences may be due to sampling bias.

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