Original Article

Pathology

Frequency of Endometrial Hyperplasia and Endometrial Cancer in Women from Different Hospital of Karachi

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ABSTRACT

Introduction: A study of the incidence of different type of endometrial diseases especially the endometrial hyperplasia and endometrial carcinoma in women.

Objectives: Endometrial hyperplasia is idiopathic or occurs due to associated diseases or conditions. It can also be transformed in endometrial carcinoma. Histological and histochemical procedures, help in appropriate diagnosis in different types of endometrial hyperplasia, cancer and other diseases.

Study Design: Retrospective study

Place and Duration of study: This study was conducted at the Dept. of Pathology, DMC, DUHS, Karachi from 1st January 2006 to 31st December 2011.

Materials and Methods: Total 950 Slides / paraffin blocks of endometrial biopsies from patients 20 to 70 years of age were retrospectively studied. The biopsies were received from Civil Hospital, Sindh Government Lyari General Hospital and Government Services Hospital, Karachi.

Results: In present study, 950 cases of different type of endometrial diseases were included. The maximum 498 (52.42 %) cases were encountered in proliferative and secretory phases, 255 cases (26.84 %) cases of endometrial hyperplasia with 20-55 years of age and 65 (6.84 %) cases of endometrial carcinoma of 38 to 58 years of age.

Conclusion: It is observed that there is increased tendency of cystic hyperplasia in endometrial hyperplasia occurring, 20 to 55 years of age. The occurrence of endometrial carcinoma is 6.84 %.

Key Words: Endometrium, cystic hyperplasia, adenomatous hyperplasia, atypical hyperplasia, endometrial cancer.

INTRODUCTION

Hyperplasia is the increase in number of cells, epithelial tissue or an organ.[1] Initially like other hyperplastic disorders, endometrial hyperplasia occurs due to a response of endometrial tissue to the growth-promoting actions of estrogen. Later on a hyperplastic endometrium may undergo to cancerous transformation after some time. There are Several histopathologic subtypes of endometrial hyperplasia.[2] These are simple (cystic), adenomatous (complex) and atypical hyperplasia. Simple or cystic hyperplasia is the simple proliferation of endometrial glands appears irregular and cystic, not having back to back crowding of glands or cellular atypia. While complex adenomatous hyperplasia is a back to back crowding proliferation of endometrial glands, with irregular outline and no atypia.[3] It can cause endometrial carcinoma.[1] In atypical hyperplasia, the occurrence of co-existent carcinomas are from 25 to 50%.[4] The risk of the occurrence of endometrial cancer is from 22.6 to 88.9%.[5] and malignant transformation occurs as 15% in mild, 24% in moderate, and 45% in sever atypical hyperplasia.[6] Endometrial hyperplasia is mostly idiopathic. It can occur due to prolonged estrogenic stimulus,) anovulatory cycles in premenopause and anovulation at extreme of age.[1]

A recent study showed that exogenous oestrogen is developed adenomatous hyperplasia in 10% women per year. Hypertension and diabetes, are commonly found in patients having adenomatous hyperplasia.[3] Exogenous estrogen and Tamoxifen a drug, used in the treatment of breast cancer, have a weak estrogenic effect can cause endometrial hyperplasia. Estrogen producing ovarian tumours, may also cause endometrial hyperplasia occasionally.[7] Endometrial carcinoma is common in developed countries, and known as a seventh most common tumor in the world.[8,9] It accounts for 6% of new female cases and 3% of female cancer deaths.[1] Endometrial hyperplasia, unopposed estrogen therapy, obesity, diabetes, early menarche, late menopause, postmenopausal bleeding and Progesterone therapy can cause endometrium carcinoma.[10,11] Endometrial cancer is three times more common in diabetic women then non diabetic. The reduced birth rate causes prolonged estrogen exposure is also the risk factors of endometrial carcinoma.[12]

MATERIALS AND METHODS

Total 950 Slides / paraffin blocks of endometrial biopsies from patients 20 to 70 years of age were retrospectively studied from 1st January 2006 to 31st December 2011. The biopsies were received from Civil

Hospital, Sindh Government Lyari General Hospital and Government Services Hospital, Karachi.

A clinical protocol including the particulars about the patients name, age, and diagnosis were obtained from the surgical pathology registers, request cards and copies of the report. Haemotoxylin and eosin (H&E) stained slides of all cases were used with special staining help in reaching a specific diagnosis.

RESULTS

Out of 950 cases of different type of endometrial diseases, the maximum 498 (52.42 %) cases were encountered in proliferative and secretory phases, and 255 (26.84 %) cases of endometrial hyperplasia, 20-55 years of age. The other different types of cases were 187 (19.68 %).

Table- No.1: 950 cases of different endometrial diseases.

S.No	Endometrial Diseases	No. of cases	%age
1	Proliferative epithelium	315	33.15
2	Secretory epithelium	183	19.26
3	Nonspecific endometritis	25	2.63
4	Atrophic endometrium	20	2.10
5	Endometrial polyp	24	2.52
6	Tuberculous endometritis	3	0.315
7	Decidual tissue	25	2.63
8	Retained placental tissue	30	3.15
9	Chorio carcinoma	5	0.526
10	Endometrial hyperplasia	255	26.4
11	Endometrial carcinoma	65	6.84
12	Total cases	950	100

Table No.2: Subtypes of Endometrial hyperplasia.

S. No	Types of endometrial hyperplasia	No. of cases	%age
1	Simple cystic hyperplasia	170	66.66
2	Adenomatous hyperplasia	65	25.50
3	Atypical hyperplasia	20	7.84
4	Total	255	100

In 255 cases of endometrial hyperplasia there were 170 cases (66.66 %) of simple cystic hyperplasia, 20-55 years of age, 65 (25.50 %) cases of adenomatous hyperplasia, 25-50 years of age, 20 (7.84 %) cases of atypical hyperplasia, 45-55 years of age and 45 (6.84 %) cases of endometrial carcinoma of 38 to 70 years of age. Simple cystic hyperplasia appeared commonest in endometrial hyperplasia with long life span, 20 to 55 years of age.

Table- No.3: Age groups of the patients having different types of endometrial hyperplasia/ Endometrial cancer

S. No	Endometrial diseases/ hyperplasia	Age Group / years
1	Simple cystic hyperplasia	20-55
2	Adenomatous hyperplasia	25-50
3	Atypical hyperplasia	45-55
4	Endometrial carcinoma	38-70

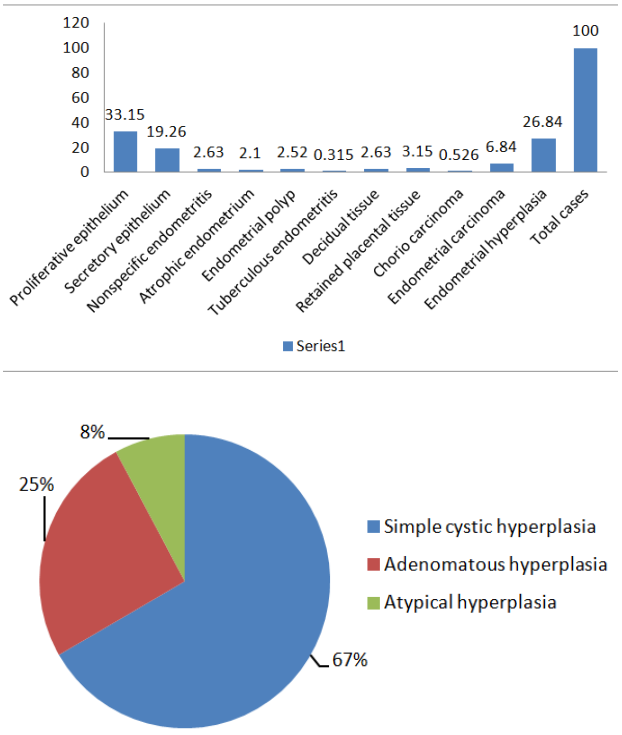

Figure No.1: Subtypes of Endometrial hyperplasia

DISCUSSION

Simple or complex atypical endometrial hyperplasia reveals changes in glands' cells, like cellular tufting and stratification. These are similar changes like cancer as loss of nuclear polarity, enlarged nuclei, and an increase in mitotic activity. The atypical hyperplasia does not show connective tissues invasion, like cancer. In a study 22% patient with atypical hyperplasia, developed cancer.[13] Atypical hyperplasia reveals nuclear pleomorphism and loss of polarity in simple and as well as in complex hyperplasia. The occurrence of cystic hyperplasia is 5.1%, adenomatous hyperplasia 2.6% and atypical hyperplasia 1.3%.[14]

A study of endometrium of 114 patients shows 51 were having endometrial hyperplasia in which 42 having

simple or adenomatous and 7 atypical hyperplasia. The age group of the patients was 41–50 years.[15] In abdominal hysterectomies the incidence of endometrial hyperplasia was 4.68%.[16] In a study of 70 patients, 45% were diagnosed with complex atypical endometrial hyperplasia by D&C and 55% by biopsy.[17] In a correlated study of abdominal hysterectomies and the preoperative diagnosis of D&C, the occurrence of endometrial hyperplasia was 14.42%.[18] A two years study showed incidence of cystic hyperplasia, was 32.8% and adenomatous hyperplasia 8.8%.[19] In another study the cystic hyperplasia was (66.6%).[3] A study was done from Jan 1991 to Dec 1994 in which 29 patients had endometrial hyperplasia with atypia and 87 were without atypia.[20]

In present study, 950 cases of different type of endometrial diseases were studied from 1st January 2006 to 31st December 2011. The maximum 498 (52.42 %) cases were encountered in proliferative and secretory phases, and 255 (26.84 %) cases of endometrial hyperplasia, 20-55 years of age. The other different types of endometrial diseases were 187 (19.68 %) cases. In 255 cases of endometrial hyperplasia, there were 170 cases (66.66 %) of simple cystic hyperplasia, 20-55 years of age, 65 (25.50 %) cases of adenomatous hyperplasia, 25-50 years of age, 20 (7.84 %) cases of atypical hyperplasia, 45-55 years of age and 45 (6.84 %) cases of endometrial carcinoma of 38 to 70 years of age. Simple cystic hyperplasia appeared commonest in endometrial hyperplasia with long life span, 20 to 55 years of age.

Endometrial hyperplasia and endometrial cancer are distinguished with each other by the presence or absence of cytological atypia.[21] Well-differentiated Endometroid adenocarcinoma can originate from endometrial hyperplasia.[22] Endometrial assessments can be done at the age of 40 years to exclude endometrial hyperplasia or carcinoma. There is less than 1% endometrial carcinoma can occur under 35 years and 6% in 45 years or less than 45 years of age.[23] Worldwide estimation of uterine cancer in 2002 was about 199,000 cases. The numbers of deaths per year are about 45,000, in which 50% of deaths occurred in developed countries.[9] The incidence of endometrial cancer has been rising in developing countries due to organized and developed socioeconomic conditions.[8] This increase may be obtained by lifestyle changes, increasing obesity and increase aging of population.[12] It is the tenth most common tumor occurring among women in China.[24]

The incidences of endometrial cancer are difficult to ascertain in South Asian/Indian subcontinent, due to more prevalence of breast and cervical cancers. It is also difficult to describe the prevalence of endometrial cancer in sub-Saharan Africa, where histopathology services are very limited, in more than 20 African countries.[25] In Pakistan there are internal differences in incidence of endometrial cancers as compared with developed countries. A study showed earlier occurrence of endometrial carcinoma in Karachi, Pakistan, as 15% of cancers occur in women younger than 40 years of age with a mean age of 53.7 years. It is nearly 10 years younger than that occurring in developed countries.[8]

CONCLUSION

In the study there are 255 (26.84 %) cases of endometrial hyperplasia, among other endometrial diseases. In the subtypes of endometrial hyperplasia, cystic hyperplasia is the commonest, as 170 (66.66 %) cases, occurs in early to old age i.e. 20 to 55 years of age (long life span). Complex adenomatous hyperplasia and atypical hyperplasia can cause endometrial cancer. Cystic hyperplasia can also causes endometrial cancer rarely. The occurrence of endometrial cancer in the present study is 65 (6.84 %) cases. Control of diabetes and obesity and awareness of risk factors help to control the disease.

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