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RESEARCH ARTICLE

PROFILE OF UTERINE ENDOMETRIAL CARCINOMA IN A TEACHING HOSPITAL IN KERALA.

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Abstract

Aim: To evaluate various clinical and pathological features associated with endometrial cancer.
Methods : A retrospective analysis conducted on 50 patients who were surgically staged and histopathologically proved to have endometrial cancer in Amala Institute of Sciences between January 2013 and December 2016.
Results: The median age at detection was 60 years and more than half of the study population was overweight or obese. Nulliparity was not a risk factor. Diabetes mellitus and hypertension were significant risk factors affecting 52 % of the study population. Endometroid adenocarcinoma FIGO Stage 1 ; Grade 1 was the commonest type - however 42% showed deep myometrial invasion.
Conclusion: The epidemiological factors affecting this Kerala population for development of endometrial carcinoma almost parallels that of developed nations. Commonest type of endometrial carcinoma encountered is Type 1 - overweight or obese woman in their late 50s or 60s with Diabetes and Hypertension as risk factors. More than 75% showed FIGO Stage 1 Grade 1 Endometroid type although deep invasion of myometrium was significantly more than that of other populations.
This may affect long term survival and prognosis in this group of patients.

Introduction:

The global burden of cancer is rising with an estimated 18.078 million new cases and 9.55 million deaths attributed to the disease. Prevalence of cancer in India is estimated to be 3.9 million and the reported incidence is 1.1 million. The age-standardized incidence in India is estimated to be about 150-120 per 100000 population.

In the developed countries, uterine endometrial cancer is a frequently encountered malignancy accounting for 20-25% of all genital cancers. The increased incidence in the USA is mainly due to the increase in obesity and ageing of the population. The incidence of endometrial cancer cases are very low in India, the

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highest being observed in Bangalore (4.2 per 100000) and Delhi (4.3 per 100000). In Mumbai it was 2.8 per 100000.

The present study was conducted in Amala Institute of Medical Sciences which is a referral centre for cancer cases from around the district. The present study attempts to evaluate various clinical and pathological features associated with endometrial cancer in a 4 year period for South Indian women admitted to this hospital. There is little doubt that endometrial cancer will become a major health concern as our living standards approach that of the West, especially in Kerala.

Materials and Methods:

This is a retrospective hospital based study among patients admitted to this hospital from January 2013 to December 2016. 50 patients with histopathologically proved endometrial cancer were studied. Patients diagnosed with secondary neoplasms or uterine sarcomas were excluded from the study. Patients enrolled in the study underwent staging laparotomy as the primary modality of treatment either in the Gynaecological or Surgical Oncological department of this hospital. No patient underwent laparoscopy. Staging laparotomies included total hysterectomy, bilateral salpingo-oophorectomy , bilateral pelvic lymphadenectomy. 12 of the patients did not have a pelvic lymphadenectomy. None underwent a paraortic lymphadenectomy. Information was collected from hospital records, clinical case-sheets and histopathology registers. The collected information included age, weight, height, systemic diseases like hypertension and diabetes, parity, type of surgery, tumor stage, tumor grade, pathology. Body mass index (BMI) was calculated as weight in kg / height in m^2. Disease was staged according to FIGO staging system.

Collected data was analysed and presented as numbers and percentage. Age and BMI were expressed as median.

Results:

1. The population under study consisted of 50 patients diagnosed with primary endometrial adenocarcinoma.
2. Table 1 and table 2 details the demographic characteristics of these patients.
3. The median age of these patients was 60 years (range 30-77 years).
4. Only 4 patients were less than 50 years old. BMI was classified according to World Health Organization definitions. 7 patients (14%) were normal or underweight (BMI < 25). 40 patients (80%) were overweight (BMI ≥ 25 and < 30). 3 patients (6%) were obese (BMI ≥ 30).
5. 17 patients (34%) were premenopausal and 33 patients (66%) were postmenopausal.
6. The most common presenting symptom was post menopausal bleeding (66%) while 30% had heavy menstrual bleeding. 2 patients (4%) had previous history of malignancy.
7. 26 patients (52%) had a history of diabetes or hypertension or both.
8. **Table 2** summarises the pathological and clinical characteristics of the cases. The majority of tumors were Grade 1 tumors and diagnosed as FIGO Stage 1 (76%). Around 42% of the cases had deep myometrial invasion (≥ half of the myometrium). This accounts for 21 of the study population. 4 patients had positive pelvic lymph node involvement (about 10%).
9. **Table 3** summarises the tumor histopathological type. Endometroid adenocarcinoma is the most common type accounting for 90% of the cases. There were 4 papillary serous cases (8%) and 1 clear cell carcinoma (2%).

Table 1:-Demographic characteristics of the fifty patients with endometrial cancer

Characteristics	Number	Percentage
Median age	60.0	30-77 (Range)
Median BMI	28.2	22.6-33.8 (Range)
Nulliparous	5	10
Premenopausal	17	34
Postmenopausal	33	66
Presenting symptoms		
Postmenopausal bleeding	33	66
Menorrhagia	15	30
Foul smelling discharge	1	2
Mass abdomen	1	2
Diabetes mellitus/Hypertension	26	52
Diabetes mellitus only	8	16
Hypertension only	4	8
Both diabetes& Hypertension	14	28
Previous malignancy	2	4

Table 2:-Clinico-pathological characteristics

Characteristics	Number	Percentage
BMI		
<25	7	14
>=25 - <30	40	80
>=30	3	6
Age		
<50	4	8
>=50	46	92
Histopathology		
Endometroid	45	90
Others	5	10
Grade		
1	40	80
2	6	12
3	4	8
FIGO stage		
1	38	76
2	7	14
3	4	8
4	1	2
Depth of myometrial invasion		
None	14	28
<Half	15	30
>=Half	21	42
Pelvic LN metastasis		
Negative	32	64
Positive	4	10
Unknown	12	24

Table 3:-Tumour pathology

Type	Number	Percentage
Endometroid adenocarcinoma	45	90
Papillary serous	4	8
Clear cell	1	2

Discussion:

In this study we have tried to evaluate the clinical and pathological features of women with proven endometrial carcinoma. The study population belongs to the Indian state of Kerala where health indices approach almost that of western developed nations.

The median age at diagnosis here in this study is 60 years. The age at diagnosis has long been recognised as a clinical predictor of survival. The PORTEC study showed that risk of local or regional relapse and death is significantly higher for patients aged 60 and above compared with those below 60 years. Therefore 60 years has been used as an arbitrary age to predict prognosis and to indicate the need for adjuvant radiotherapy. Here also this study supports these findings and maybe used as a cut-off age to predict survival and prognosis.

Several Korean and Japanese studies have found out that the age at diagnosis of 51 years is a better predictor of prognosis as age factor in their population but this study shows that the Kerala population demographics is comparable to the western demographics.

Epidemiological studies have reported that a BMI of 25 or greater is an important risk factor for endometrial cancer. Here too, the same results were obtained. About 80% of the study population had a BMI of 25 or above. Obesity is a factor which is associated with excess estrogen exposure due to peripheral conversion of estrogen to androgens in the adipose tissue. This increases the mitiotic activity of endometrial cells, promotes cellular replication resulting in hyperplasia and eventually to carcinoma.

Nulliparity accounted for only 10% of the cases. Nulliparity is major risk factor for endometrial carcinoma whereas here majority of the patients were multiparous.

Another difference in this population was the presence of comorbidities like diabetes and hypertension. Other epidemiological studies have shown that about 30% of cases of endometrial carcinoma were associated with the risk factors of metabolic diseases like diabetes and hypertension but here, in our population 52% of the patients were affected and accounted for a significant risk factor.

Although the majority of tumors were stage 1 grade 1 endometroid tumors, deep invasion of the myometrium occurred in 42% of the cases.

To conclude, this shows that the commonest type of endometrial carcinoma encountered in this Kerala study population is Type 1 - overweight or obese women in their 60s or late 50s with diabetes and hypertension as a significant risk factor. Nulliparity was not a risk factor in this study. Although most of the tumors were Stage 1 Grade 1 tumors, deep invasion of the myometrium occurred in a significant number of patients which may affect the prognosis. However these results must be confirmed by studies including a larger number of patients.

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