



Clinicopathological Profile of Endometrial Carcinoma: A Regional Cancer Centre Experience

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ABSTRACT

The incidence of endometrial carcinoma is rising worldwide and more so in developing countries. One hundred and twenty four (124 cases) were analyzed in A.H. Regional Cancer Centre, Cuttack to find out different histopathological types, assess the parameters from surgicopathological specimens for staging according to 2009-FIGO criteria and to find out the relationship of tumor grading and lymph node metastasis. Majority of the cases were in stage I, 73% stage IA and 64% stage IB. Preoperative tumor grades were upgraded in 8 cases (8/104, 7.6%). Classical endometrioid carcinoma was seen in 104 cases(83.8%) and non endometrioid carcinoma in 20 cases(16.1%). Lymph node metastasis was observed in 12 cases mostly grade 3 and nonendometrioid types 8 cases and only 4 cases of grade 2 carcinomas showed node metastasis.

Keywords: Endometrial carcinoma, tumor grade, FIGO staging, node metastasis.

INTRODUCTION

Endometrial carcinoma is now the most common gynecological malignancy in Europe and North America. It is the seventh most common cause of death from cancer in women in Western Europe, accounting for 1-2% of all deaths from cancer. ⁽¹⁾

Worldwide endometrial carcinoma (EC) is the second most common gynecologic cancer and most patients are diagnosed when the disease is still limited to the uterus(FIGO stage I-II).⁽²⁾ In

developing countries like India EC is the second most common gynecological malignancy following cancer of uterine cervix. Based on histopathology, molecular profile, and clinical course, EC are divided into two broad categories referred to as type I and type II. Type I ECs are typically low grade diagnosed early and have a favorable prognosis. Type II ECs are usually grade III endometrial carcinomas, papillary serous, clear cell carcinoma and carcinosarcomas.

⁽¹⁾ Clinical decision making is influenced by initial histological diagnosis of endometrial tissue obtained by dilatation and curettage. ⁽²⁾ High grade ECs are associated with more nodal metastasis. ⁽³⁾ A retro prospective analysis of 124 cases of EC was done to find out different histological types, and correlations of nodal metastasis with tumor type and grade.

AIMS & OBJECTIVES

To evaluate the pathological characteristics in endometrial carcinomas, identify different histopathological types, find out the correlations between the pre-operative and postoperative tumor grades and to see the correlation between tumor grade and lymph node metastasis.

MATERIALS AND METHODS

An evaluation of 124 cases of endometrial carcinomas was done in the Department of Oncopathology, A.H.Regional Cancer Centre, Cuttack, Orissa, India from January 2013 to December 2015. The clinical features, preoperative and post surgical pathology reports were compared. Staging was done according to the recent 2009 FIGO staging for endometrial cancer. Pathological assessments included histopathological type, grade, depth of myometrial invasion, cervical stromal/glandular involvement, extension of tumor to fallopian tubes and ovaries and presence of lymphovascular space invasion. Clinical management and follow up of patients was conducted on a multidisciplinary basis. Treatment planning was decided in the multidisciplinary Tumor Board of the Institute which constitutes oncosurgeons, gynaecologists, radiation oncologists, medical oncologists, radiologists and oncopathologists. Patients who were reported as architectural Grade I, nuclear grade 1, underwent TAH with BSO. In patients of nuclear grade 2 during operation if either the tumor size was >2cm, or myoinvasion appeared to be >50% or there was evidence of node involvement or cervical extension, pelvic and/or P-A node dissections were performed. In

all preoperative cases of nuclear grade 3 or any other high grade carcinomas pelvic and para-aortic node dissection was a routine procedure. Depending on surgical pathology staging done according to 2009 FIGO criteria patients with LVSI,>50% myoinvasion were referred for Intravaginal Brachy therapy (IVBT). Patients with stage II and high grade carcinomas were all referred for external beam radiation therapy (EBRT).

RESULTS

Majority of the patients i.e.40.3% presented in the sixth decade followed by 30.6% of patients who were in the fifth decade.(Table 1).

Table 2 describes the histopathological types and grades of tumors.83.08% of patients were Endometrioid type while remaining 16.1% patients were Non Endometrioid type. Out of the Endometrioid types,85.5% patients were of low grade types which included well differentiated and moderately differentiated types. 14.4 % patients of the Endometrioid types were of high grade type which included poorly differentiated types. Majority of patients of the Non Endometrioid types belonged to Clear cell carcinoma as shown in Table 2. Majority of the patients were in Type I Low grade EC i.e.71.7% .Myoinvasion of less than 50 % was seen in 87% of patients and 7.02 % patients were in the age group of less than 40 years. Most of the patients i.e.73% presented in stage IA. Table 3 reveals that 8 of the patients with Grade III types were lymph node positive while none of the patients with Grade I and 4 patients with Grade II were lymph node positive.

Table 1: Clinicopathological features

Age Group	No. Of cases	Percentage (%)
21-30	03	2.4
31-40	06	4.8
41-50	38	30.6
51-60	50	40.3
61-70	22	17.7
71-80	04	3.2
>80	01	0.8

Table 2: Histopathological features

Histological Type	No. of cases	%
ENDOMETRIOD	104/124	8308
• Low grade	89/104	85.5
Well differentiated, Architectural Grade I and nuclear grade 1	18	
Mod.differentiated, Architectural Grade I and nuclear grade 2	71	
Architectural Grade II and nuclear grade 2	44	
Architectural Grade II and nuclear grade 2	27	
• High grade	15/104	14.4
Poorly differentiated		
Architectural Grade II and nuclear grade 3	9	
Architectural Grade III and nuclear grade 3	6	
Overall		
Architectural Grade I	62	59.6
Architectural Grade II	36	34.6
Architectural Grade III	06	507
Nuclear Grade 1	18	17.3
Nuclear Grade 2	71	68.2
Nuclear Grade 3	15	14.4
NON-ENDOMETRIOD	20/124	16.1
Clear cell carcinomas(CCC)	12	9.6
Papillary serous carcinoma	01	0.8
Adenosquamous carcinoma	04	3.2
Carcino sarcoma	3	2.4
TYPE I, TYPE II CANCER		
Type I (Low grade endometroid carcinomas)	89/124	71.7
Type II (High grade endometroid and non-endometroid carcinomas)	35/124	28.2
Myoinvasion		
<50%	108	87.0
>50%	16	12.9
Cervical Stromal Involvement	07	5.6
Ovary and fallopian tube involvement	01	0.8
Endometrium Ca.in younger <40 year	09	7.02
FIGO STAGING(2009)	No.of case	%
IA	91	73
IB	08	6.4
IIB	07	5.6
IIIA	04	3.2
IIIB	02	1.6
IIIC1	10	8.0
IIIC2	02	1.6
IV	Nil	

Table 3: Correlation between tumor grade and lymph node metastasis

Type I	Grade I		Grade II	
	LN positive	LN negative	LN positive	LN negative
	0	18	4(5.6%)	67
Tpe II	Grade III and Other types			
	LN positive	LN negative		
	8(53%)	7		

DISCUSSION

The FIGO (International Federation of Gynecology and Obstetrics) staging system for endometrial cancer has been updated in 2009. FIGO uses surgical and pathological staging for carcinoma of uterus. The pathological assessment includes depth of myometrial invasion, cervical involvement (glandular/stromal) tumor size and location (fundus, lower uterine segment) extension of fallopian tubes and ovaries, tumor grade and histological subtype, lymphovascular space invasion (LVSI) and the lymph node status.⁽¹⁾

The age incidence is highest in the age group of 51-60 years (40.3%) followed by 30.6% incidence in 41 to 50 years age group. Age range varies from 25 to 80 years. This is also observed in other studies performed in developing countries.⁽²⁾ The present study includes nine patients in young women (7.2%) within a period of three years. In a study over a period of 13 years Ota et al have analysed 31 patients aging 40 years and younger.⁽⁴⁾

Preoperative MRI, PET scan though has been proposed to identify myometrial invasion and extra uterine disease, these facilities are not available in developing countries uniformly and have their own limitations.⁽²⁾ Postoperative surgicopathologic parameter assessment as proposed in 2009 FIGO staging⁽⁵⁾ are helpful for management of patients of endometrial carcinomas in developing countries.

In our study there is a poor correlation between preoperative and post-operative tumor grades. In 7.6% cases (8/104) the post-operative tumor grades were higher. This is also the observation of other Indian studies.⁽²⁾ Two of the 124 cases (1.6%) had no residual malignancy in post-operative specimens. So we are of the opinion that

surgical specimen histopathological grading is more accurate for grading the tumors.

A GOG (Gynaecologic Oncology Group) study has reported that pelvic lymph node was found in less than 3% of patients with Grade I disease and para-aortic lymph node metastasis incidence is less than 1%.⁽⁵⁾ In the present study, none of the Grade I (0/18) tumors had lymph node metastasis, 4 grade 2 tumors had lymph node metastasis (4/71, 5.6%) whereas eight tumors of high risk groups. Grade 3 and other histologic subtypes (8/15, 53%) showed metastasis. Two cases of para-aortic node metastasis (2/124, 1.6%) were seen in the high risk groups and both these cases also had pelvic node metastasis. Different studies have reported that lymphadenectomy is not only required for accurate surgical staging but also have therapeutic benefit.^(7,8) authors also suggest that lymphadenectomy should be performed in all patients except in those cases who have potential for major morbidity.⁽⁹⁾ No death as occurred with follow up of the patients from two to two and half years. Seven cases are lost for follow up.

We conclude that the histologic grade assessed preoperatively in curettage specimen is unreliable, especially in low grade cases. As the incidence of endometrial carcinoma is rising and with proper management the survival is better in developing countries where frozen sections facility is not available in all centres, and with limited resources pelvic lymphadenectomy may be performed in all cases for evaluating the prognosis and for postoperative management. The para-aortic lymph node dissection may be limited to high risk cases. Larger number of cases may be studied with a long period of follow up to assess recurrence.

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