

RESEARCH COMMUNICATION

Pathologic Characteristics, Type of Treatment and Follow Up of Patients with Uterine Cervical Carcinoma Referred to the Radiation Oncology Department, Cancer Institute, Imam Khomeini Hospital, Tehran, Iran, 1995-2001

Amouzegar Hashemi Farnaz ^{1*}, Esmati Ebrahim¹, Kalachi Bita²

Abstract

Background: Carcinoma of the uterine cervix is the sixth most common malignant neoplasm in women worldwide. Early stage diagnosis increases the cure rate of disease. Radiotherapy with or without concurrent chemotherapy is one of the most effective treatment modalities. After radiotherapy, accurate and regular follow-up results in early diagnosis and effective treatment of recurrence. **Methods:** In this retrospective study, we evaluated 346 cases of cervical carcinoma who have been treated with radiotherapy in the Radiation Oncology Department of the Cancer Institute of Imam Khomeini hospital from 1995 to 2001. **Results:** Age of the study group ranged from 26 to 78 (mean=50.5, SD=11). 30.4 percent of patients were early stage and 69.6 percent had advanced stage of disease. Some 92.2 percent of cases were squamous cell carcinomas and adenocarcinomas made up the 6.4 percent. Radical radiotherapy was most frequent radiotherapy setting and adjuvant radiotherapy (post-op) was the second. Most of the patients (43.7 percent) were followed for a short time, and a considerable number did not return for follow-up. **Conclusion:** According to our results, patients do not pay enough attention to disease follow-up. An acceptable training plan, with emphasis on regular follow-up, is recommended.

Key Words: Cervical carcinoma - radiotherapy - hysterectomy

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Introduction

Carcinoma of the uterine cervix is the sixth most common malignant neoplasm in women after carcinoma of breast, lung, colorectal, endometrial and ovary, which accounts for 1.6% of cancer mortality and 15% of death because of gynecological cancers (Perez and Kavanagh, 2004). However, for women 20-39 years old it is the second most common cause of cancer death. Despite decrease in the rate of mortality because of cervical cancer screening in USA, it is still a main cause of mortality in women in many undeveloped countries (Eifel et al., 2005)

Over 80-90% of tumors are squamous cell carcinoma (Eifel et al., 2005), approximately 7 to 10% are classified as adenocarcinoma and in rare instance clear cell and mesonephric type make up 1-2% of uterine cervix malignancies (Perez and Kavanagh, 2004). Treatment options of uterine cervix carcinoma varies by tumor size, stage, histological type, involvement of lymph nodes, risk factor for surgery or radiotherapy and preference of patient and can be radical surgery or radical radiotherapy with or without chemotherapy.

As a rule, micro invasive cancer which is defined by diameter of tumor less than 3mm (stage 1A) can be treated by conservative surgery (Boyce et al., 1981; Morris et

al., 1993; Eifel et al., 2005). Invasive cancer in early stages (stage 1A2 and 1B and small stage 2A) may be treated with radical hysterectomy or radiotherapy and locally advanced tumors (stage 1B2 to IVA) are treated by concurrent chemoradiation (Fuller et al., 1989; Coia et al., 1990; Alvarez et al., 1991; Grigsby and Perez, 1991; Lowrey et al., 1992; Perez et al., 1992; Eifel et al., 1994; Barillot et al., 1997; Benedet et al., 1998; Logsdon and Eifel, 1999; Eifel et al., 2005). In patients treated by radical hysterectomy who have increased risk factor for local recurrence such as lymph node involvement, deep stromal invasion, close or positive margin and involvement of parameters post operative radiotherapy can increase local control. (Eifel et al., 2005, 16-18)

As uterine cervix carcinoma is one of the most important causes of mortality in many women in developing countries, standard treatment and routine follow up is very important and the aim of this study is reviewing pathologic characteristics and type of treatment in our patients and also evaluating their status in the last follow up.

Materials and Methods

Files of all patients with uterine cervix carcinoma who

¹Radiation Oncology Department, ²Cancer Research Center, Cancer Institute, Tehran University of Medical Sciences, Tehran, Iran. *For Correspondence: E-mail : amoozfar@sina.tums.ac.ir

were treated by radiotherapy with or without chemotherapy in radiation oncology department of cancer institute from 1995-2001 were retrospectively reviewed. All of data were analyzed by SPSS VER 11.2.

Results

Files of 346 patients with uterine carcinoma were reviewed. Median age of patients was 50.53 year (range 26 -78) and standard deviation(SD) 11.19.

Results of this study include stage distribution of disease, histological type, treatment modality, type of radiotherapy, indication of post operative radiotherapy and status of patients in last follow up are all collected in table .Maximum time of follow up of patients after treatment was 120 months with median of 13. 25 months and SD 20.88. 82 patients (23.7%) did not come for follow up after treatment and there is no information about them. Maximum and minimum of radiation dose was used were 80GY and 40GY with median of 58.79 GY and SD 5.84. 11 patients who did not finish their treatment and are

omitted from the study. All patients received external radiotherapy and 12 patients were treated by intracavitary brachytherapy ,in addition to external radiotherapy.

It seems that frequency and type of radiotherapy was: Preoperative radiotherapy in 12 patients (3.5%) ,postoperative radiotherapy in 150 patients (43.4%), definitive radiotherapy in 155 patients (44.8%), radiotherapy after recurrence in 28 patients(8.1%) and palliative radiotherapy in 1patient(0.3%).

Indications of post operative radiotherapy were: Lymphovascular invasion in 2 patients(1.5%), lymph node involvement in 18 patients(13.4%),close or positive margin in 28 patients (18.7%). deep stromal invasion in 37patients(27.6%),incomplete surgery in 6 patients (4.5%).absence of lymph nodes evaluation in 31 patients(23.1%), parametrial involvement in 15 patients(11.2%)and indication of postoperative radiotherapy was not clear in16 patient.

In this study primary stage of disease was unknown in 106 patients (30.6%).

Discussion

Range of patients' age in this study was 26 to 78 years old with the maximum frequency in 40-59 years old (280 patients).Median age of patients was (50.5 +/-11 which is in the same range of other studies.(19,20,21)

According to the studies the most common histological type is squamous cell carcinoma (80_90%) and adenocarcinoma (7.9%) (1,2,20,22,23) ,and in this study frequency of squamous cell carcinoma was(92.2%) and adeno carcinoma was (6.4%).

In 240 patients that had staging in their files 167 patients(69.6%)were in locally advanced stages(stage 2B and more).It seems that being diagnosed in advance stage is one of the main problems in cervical cancer in developing countries(19,21-23) that can be due to absence of correct and regular system of screening for early detection.

In addition, other reasons for high frequency of locally advanced disease in this study can be due to selection of early stages for surgery. The reason for our word is that in the surgery group 49 patients (76.6%) were in early stage (stage 2A or less) and only 15 patients (23.4%) were in locally advanced stages (stage 2Bor more).

Doses recommended by American society of radiotherapy for radical radiotherapy of early stage cervical cancer is 80-85 GY to point A and 85-90GY for locally advance stages which is usually obtained by combination of external radiotherapy and intracavitary brachytherapy (Perez CA and Kavanagh BD, 2004).

Unfortunately at that time there was not brachytherapy system in radiation oncology department of cancer institute of Tehran and almost all the patients received just external irradiation and doses less than adequate, and only 12 patients were treated by brachytherapy. Today all the patients with indication of radiotherapy are treated by combination of external radiotherapy and brachytherapy with standard doses.

The reasons for adjuvant radiation therapy were close or positive margins, incomplete surgery, inadequate

Table 1. Frequency and Percentage of Patient Referred to Radiation Oncology Department of Tehran Cancer Institute with Cervical Cancer 1995-2001

Stage of Disease	Frequency	Percentage
IA	4	1.7
IB	30	12.5
2A	39	16.3
2B	91	37.9
3A	22	9.2
3B	51	21.3
4A	2	0.8
Metastasis	1	0.4
All	240	100
Pathology Report	Frequency	Percentage
Squamous Cell Carcinoma	319	92.2
Adenocarcinoma	22	6.4
Clear Cell Carcinoma	1	0.3
Others	4	1.2
All	346	100
Type of Radiation	Frequency	Percentage
Pre-Operative	12	3.5
Post Operative	150	43.4
Radical	155	44.8
Recurrence	28	8.1
Palliative	1	0.3
All	346	100
Indications of Post Operative Radiotherapy	Frequency	Percentage
Lymphovascular Invasion	2	1.5
Lymphnode Involvement	18	13.4
Close or Positive Margin	25	18.7
Deep Stromal Invasion	37	27.6
Incomplete Surgery	6	4.5
Inadequate Lymph Node -Sampling	31	23.1
Parametrial Ionvolvement	15	11.2
Patients Status in Last Follow-up	Frequency	Per-Centage
Good	160	60.6
Recurrence	84	31.8
Metastasis	20	7.6
All	264	100

evaluation of lymph nodes at the surgery and parametrial involvement. So it seems that with preoperative accurate clinical staging and presence of a skilled gynecology oncology surgeon using both radical surgery and radiotherapy can be avoided in many patients.

The maximum time of follow up of patients in this study was 120 months with the median of 13.25 and SD 20.88.

About 50% of patients came for visiting by the physician only for few months and for this reason analyzing of the status of patients in the last follow up is not valuable..

According to the shortness of follow up in most of patients and not at all coming for follow up in 82 patients,it seems that patients have not recognized the importance of regular and accurate follow up and improving patient education and medical care service is strongly recommended.

Also according to the standard guidelines of treatment of uterine cervix carcinoma that brachytherapy is one of the major parts of radical radiation therapy, intracavitary facilities should be available in all radiation oncology departments which are going to treat uterine cervix carcinoma.

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