



Patterns of Distant Failure in Carcinoma Cervix- A Regional Cancer Centre Experience

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ABSTRACT

Background: Cervical cancer is the most common malignancy among Indian females and is the leading cause of death. Patients with locally advanced cervical cancer after concurrent chemo radiation distant failure occur in many cases.

Aim: To study the age distribution, clinical profile, sites, patterns, & duration of development distant failure in carcinoma cervix after completion of primary treatment.

Materials: Retrospective study from the treatment records of patients of carcinoma cervix undergoing treatment at AHRCC. From January 2013 to June 2016, 91 patients of metastatic carcinoma cervix were selected & analysed retrospectively.

Result: Majority of patients were from 5th and 6th decade followed by 7th decade. Most of them were in stage IIIB followed by stage II. Squamous cell histology was the most common entity. Commonly presented with non-regional nodal metastases out of which para-aortic lymph node metastases predominates. Following nodal metastases lungs was the second most site. Liver, bone and brain metastases were also seen. Most of the patients presented with metastasis within a period of 2 years from initial treatment time.

Conclusion: Distant failure in carcinoma cervix depends upon the initial stage, age of presentation and histological findings. Though cervical carcinoma frequently spreads to the para-aortic nodes, lungs, liver and other uncommon sites are also reported. It necessitates a stringent follow up during period of first two years.

Keywords: Carcinoma Cervix, Distant Metastasis.

INTRODUCTION:

Cervical cancer is the most common malignancy among Indian females and is the leading cause of death. One in every five women in the world suffering from carcinoma cervix is from India that contributes the largest burden of cervical cancer

patients in the world^[1]. However, patients with locally advanced cervical cancer after concurrent chemo radiotherapy distant failure occurs in many cases.^[2]

Lymph node involvement and stage of disease are important predictors for distant metastasis in

cervical cancer patients. Other factors are size of tumour and haemoglobin level in body. Treatment by chemo radiotherapy has role in predicting distant metastasis.^[3]

The aim of this study was to study the age distribution, clinical profile, sites, patterns, & duration of development distant failure in carcinoma cervix after completion of primary treatment.

MATERIALS AND METHODS

A total of 91 cases were detected with metastases. Data of these patients were retrieved from the records of the institution. The study period was from January 2013 to June 2016. The patients of histopathologically proven cervical carcinomas were studied. Staging was done according to FIGO 2009 staging of cervical cancer. Assessment of metastases was done with clinico-radiological tools. Most cases were confirmed by pathological analyses of metastases. Patients with symptomatic bone or brain metastases were treated with palliative radiotherapy and supportive care. Selected patients were posted for systemic chemotherapy

RESULTS

Majority of patients,74.72% were from 5th and 6th decade followed by 15.38% in 7th decade. According to the stage of patients which was according to FIGO 2009. Majority of them were stage IIIB i 50.54% followed by stage II which constitute 17.58%. 15 patients 16.48% presented upfront with metastatic disease stage IVB.As per histopathology squamous cell histology was the most common entity 96.70% rest were of adenocarcinoma.(table 1)

Table 1: Distribution of various clinical parameters

AGE	
• <40yrs	9
• 40 – 59yrs	68
• >60yrs	14
STAGE	
• IIIB	46
• IIB	12
• IIA	4
• IB	7
• IVA	7
• IVB	15

HISTOLOGY	
• Squamous Cell	88
• Adenocarcinoma	3
SITES OF DISTANT METASTASES	
• Lymph Nodal Metastases	35
• Lungs	18
• Liver	13
• Bone	7
• Brain	5
• Others	13
TIME OF METASTASES	
• Upfront with distant metastases	15
• Within 0- 6 months	02
• Within 6 months- 1year	19
• Within 1year- 2years	55

Regarding the distribution of metastases, majority 38.46% presented with non-regional nodal metastases out of which para-aortic lymph node metastases was common followed by supraclavicular node metastases. Following nodal metastases lungs was the second most site of distant metastases i.e., 19.78%. Liver, bone and brain metastases were seen in the figures of 14.28%, 7.6% and 5.49% respectively. (Table 1)

Para-aortic lymph node metastases was most common site among 14 out of 17 patients which presented upfront. 10 patients have more than one site of metastases.(table 1)

Most of the patients presented with metastasis within a period of 2 years from initial treatment time.

DISCUSSION

The cervix is richly supplied with lymphatics that is organized into three anastomosing plexuses that drain all the layers of cervix. Cervical cancer spread to pelvic lymph node first and subsequently para-aortic nodes and then distant sites. Initial presentation with haematogenous metastases is uncommon. Vascular invasion usually occurs in veins rather than arteries. About 5% of patients with cervical cancer have haematogenous spread.^[4] Squamous cell carcinoma (96%) was the most common histopathological type observed in our study followed by adenocarcinoma (4%). Squamous cell carcinoma was also found to be the most common histopathological variety by K. Thanagum-

torn^[5] (67.5%) & Fatemeh Ghaemmag-hami et al.^[6] (94.44%).

In our study, the most common age group was 41 – 59 years which comprised of 74.72% patients.^[5,6]

In an analysis by Fagundes et al^[7] of 322 patients in whom distant metastases developed, the most frequently observed metastatic sites were the lung (21%), para-aortic lymph nodes (11%), abdominal cavity (8%), and supraclavicular lymph nodes (7%). The 10-year actuarial rates for distant metastasis of 16%, 31%, 26%, and 39% for patients treated with radiation for FIGO stages IB, IIA, IIB, and III disease, respectively.^[7]

Para-aortic lymph node metastases also predisposes to bone involvement. In a study Blythe et al. found that the most common mechanism of bone involvement was by direct extension of neoplasm from paraaortic nodes into the adjacent vertebral bodies.^[8]

FIGO stage, lymph node status and the extent of tumour regression during treatment were significant predictors for distant metastasis as shown by Schmid et al^[9]. The number of the cycles of chemotherapy had a significant impact on the occurrence of distant metastasis. High risk patients shown better results than the low risk patients. Overall, distant metastasis free survival 5 years after treatment was 73%.^[9]

Higher stage was associated with more failure rates. In the present study, 50.54%% cases belonged to stage IIIB followed by stage II which accounted for 17.5% of cases. This finding was supported by studies by Van Nagell et al.^[10] and K Geetha Kumari et al,^[11] in which patients having higher stage (i.e. stage III) had a higher failure rate.^[10, 11]

According to Gadducci et al.,^[12] the most common extra-pelvic metastases involve para-aortic lymph nodes, lungs, liver and bone. In our study the most common site of distant failure was para-aortic node followed by lungs.

The intra-abdominal solid organ most commonly involved is the liver.^[13,14] Among bones vertebral bodies are frequently involved, followed by the pelvis, ribs, and extremities.^[14,15] Bone involvement may occur by direct extension from paraaortic

lymph nodes, by lymphatic or haematogenous spread, or from a pelvic recurrence.^[15]

A variety of relatively uncommon sites of metastasis in cervical carcinoma have also been reported and include the skin and subcutaneous tissues, brain, meninges, heart, and breast.^[14,15]

Overall treatment time should be as small as possible. Fyle's et al^[16] reported 1% loss of tumour control per day of prolongation of treatment time beyond 30 days.^[16]

Isolated recurrences in the para-aortic nodes after pelvic irradiation have been described in about 3% of patients, and some may be salvaged with aggressive therapy. The advent of IMRT makes treatment easier, with less morbidity.

CONCLUSION

Failure in terms of nodal or distant sites in carcinoma cervix depend upon the initial stage at presentation, age of presentation and histological findings. Though cervical carcinoma frequently spreads to the para-aortic nodes, liver and other uncommon sites like brain, scalp, bone, paraspinal mass and muscles, umbilicus, clitoris are also reported. Most of the metastasis occur within first 2 years after completion of treatment which necessitates a stringent follow up during this period.

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