

## Squamous cell carcinoma of cervix with ovarian metastases: A case report

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### Abstract

Cervical cancers only rarely metastasize to the ovaries. The proportion of cases presenting with ovarian metastases ranges between 0.6 and 1.5%. Histologically Adenocarcinomas are more likely to metastasize to the ovaries than Squamous cell carcinoma's, 5-8% of cervical adenocarcinoma vs 0.4-1.3% of Squamous cell carcinoma's metastasized to the ovary. The incidence in those with adenocarcinoma was associated more closely with tumour size whereas it was more associated with clinical stage in SCC. Here we present a case report of Squamous cell carcinoma of the uterine cervix with ovarian metastasis staged according to FIGO 2018 as stage IVA and treated with Radical radiation therapy with concurrent weekly chemotherapy followed by Intra-cavitary Brachytherapy and Adjuvant chemotherapy.

**Keywords:** Cervical Cancer; Squamous cell carcinoma; Adenocarcinoma; Ovary; Metastasis; Radiation therapy; Chemotherapy.

### Introduction

Cervical cancer is the most common female malignant tumour globally which seriously threatens female's health. Persistent infection of high-risk human papillomavirus (HPV) has been clarified to be the necessary cause of cervical cancer [1]. Cervical cancer is the commonest cancer cause of death among women in developing countries. Mortality due to cervical cancer is also an indicator of health inequities, as 86% of all deaths due to cervical cancer are in developing, low- and middle-income countries [2]. Cancer of the cervix has been the most important cancer among women in the past two decades. In India the peak age for cervical cancer incidence is 55–59 years. Current data from the National Cancer Registry Program (NCRP) indicates that the most common sites of cancer among women are the breasts and the cervix [2]. The common histological type found in the ecto cervix is squamous cell carcinoma and that in the endo cervix is adenocarcinoma [2]. Ovarian metastases from squamous cell carcinoma (SCC) of the cervix are rare and reported in less than 1% of early stage cervical SCC. The incidence in those with adenocarcinoma was associated more closely with tumour size whereas it was more associated with clinical stage in SCC [3]. Patients with Metastatic squamous cell carcinoma of cervix were managed by a multidisciplinary team including a Radiation Oncologist as well as Medical Oncologist.

### Case Report

A 50-year-old postmenopausal female, with four living children presented with 2 months history of white discharge per vagina and bleeding per vagina started as spotting and progressed to frank bleeding at presentation. She had low backache and occasional pain abdomen. No other systemic manifestations were elicited. Upon pelvic examination a bulky cervical ulcero-proliferative growth > 4cms, extending into the upper third of the vagina involving all the 4 fornices, involving bilateral parametrium were the findings, there was no evidence of pelvic sidewall, urinary bladder, or rectal involvement. No history of any other known medical co-morbidities. Patient has no significant family or personal history.

### Diagnostic Assessment

ths later which showed continued involution of necrosis along the falciform ligament with resolution of inflammatory changes [Figure 5].

### Discussion

An Ultrasound scan done revealed a bulky uterus (9.1x4.4x5.6cms and a right ovarian cyst (7.4x5.9cms). A Staging MRI pelvis was also done which revealed a heterogeneous mass arising from the uterine cervix with the endometrial collection and bilateral enlarged iliac nodes. Superiorly the lesion was seen to infiltrate the lower myometrium, and infe-

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rior extension is up to the fornices. Laterally seen to infiltrate bilateral parametrium. A complex solid-cystic lesion with predominant cystic components and septations was seen in the right adnexa measuring 5.5x4.1x3.7cms. Provisional diagnosis at this stage was cervical malignancy stage IIB with complex right adnexal mass suspicious of primary ovarian malignancy. CA-125 value was 22.4U/ml. Biopsy of the cervix was Non-Keratinizing squamous cell carcinoma and USG guided FNA of the ovarian lesion was Metastatic SCC.

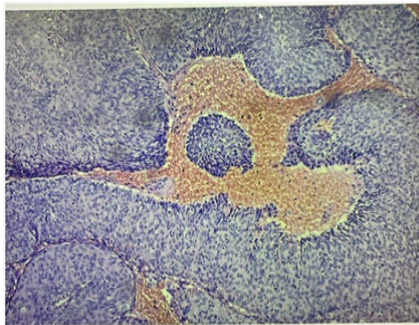


Figure 1: HPE of Cervical Lesion.

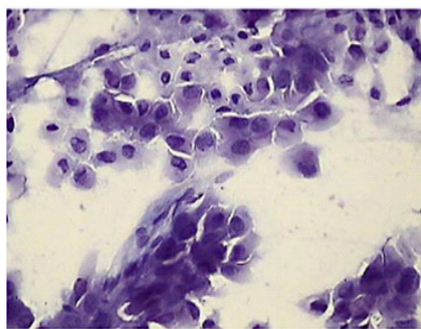


Figure 2: FNAC of ovarian mass

PET-CT done revealed increased FDG uptake in large soft tissue mass involving the uterine cervix and extending up to lower uterine segment measuring 5x4.5x5.7cms with SUV max of 15.16. maintained fat planes with urinary bladder and rectum. Right adnexal mass shows increased FDG uptake within solid components with SUV max of 11.13. fluid collection in the endometrial cavity with increased FDG uptake measuring 2.7x4x3.5cms., SUV max 13.16. increased FDG uptake in bilateral common iliac, internal iliac, and external iliac nodes largest measuring 9x17mm SUV max 4.65 in right internal iliac nodes. No metabolically active disease elsewhere in the body.

**Therapeutic intervention**

The study was After tumor board discussion, after giving proper counselling about disease & treatment patient was started with definitive EBRT to a dose of 50Gy to PTV + 10Gy boost dose to the gross nodes, delivered at the rate of 2Gy/fraction per day, 5 days a week over 6 weeks along with radio sensitizer chemotherapy with oral capecitabine 825mg/m<sup>2</sup> in divided doses on RT days. 1 week after External Beam Radiation therapy she received Intracavitary Brachytherapy to a total dose of 26 Gy, over 2 weeks, with 6.5Gy /Fraction, 2 fractions given in one day 6 hours apart, and another 2 fractions given one week later similarly. Post-treatment PET CT Scan done 4 weeks later showed complete metabolic and near-total morphological re-

gression of the mass lesion in the uterine cervix, and complete regression of solid-cystic right adnexal mass and bilateral pelvic nodes. She then went on to receive 6 cycles of 3 weekly IV chemotherapy with Paclitaxel and Carboplatin along with Bevacizumab. At 1st month, 3rd month and 6th follow up the patient was asymptomatic and on examination no evidence of loco-regional disease. She is now on regular follow-up.

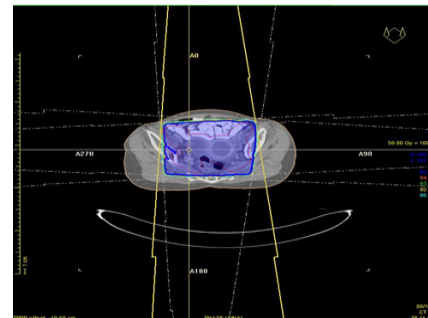


Figure 3: 3D-CRT plan Technique (Box Field Technique).

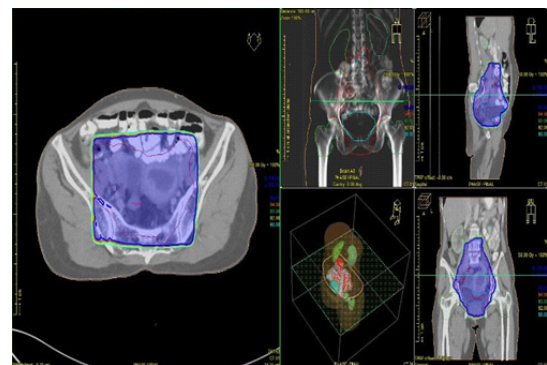


Figure 4: shows 3D-CRT plan dose distribution.

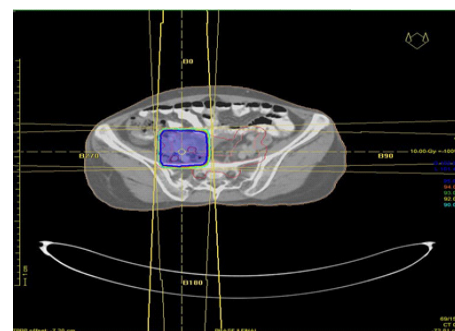
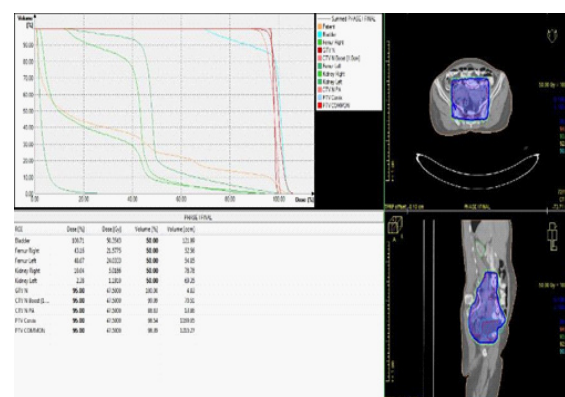


Figure 5: shows boost to pelvic nodes.



## Discussion

Metastatic tumors to the ovary account for approximately 10 – 15% of ovarian malignancies with the majority of the metastatic tumors arising from the genital tract. Cervical cancer is a very rare cause of ovarian metastasis and the risk is more likely in advanced disease than early stage cervical cancer. Most of the advanced cases described have bulky exophytic growths with extensive corpus uteri involvement. Metastases to ovaries occur in 0.5% of cases of Squamous cell carcinoma and 1.7% of cases of adenocarcinoma, so ovarian preservation at the time of surgery may incur a small risk of occult disease [3]. There are three ways of carcinomatous spread from the cervix to the ovaries namely haematogenous, lymphatic or trans tubal implantation. Lymphatic spread is undoubtedly the most common pathway with the ovaries having communicating channels with an extensive network of lymphatic channels and nodes in the pelvis [4]. Preserving the ovaries is an important issue when deciding about surgery for cervical cancer in young women [5]. Differentiation between metastatic SCC from the cervix and primary SCC of the ovary usually has been aided by the knowledge of the presence of a cervical tumour. Before the diagnosis of a primary SCC of the ovary is made, the possibility of spread from a cervical tumour, even one that is occult should be considered unless overt features of primary neoplasia are immediately obvious. As most SCCs of the ovary arise in the background of a pre-existing neoplasm such as dermoid or endometriotic cyst, thorough sampling to identify such a component may be crucial in determining the primary nature of the neoplasm. Although the evidence strongly points to the ovarian tumour being metastatic when both organs have been involved by SCC, the rare association of SCC of the ovary with SCC in situ of the cervix leaves open the possibility of independent primary neoplasms in some cases [6]. Patients with Metastatic squamous cell carcinoma of cervix were managed by a multidisciplinary team including a Radiation Oncologist as well as Medical Oncologist. In this case patient was treated with Radical radiation therapy with concurrent weekly chemotherapy followed by Intra-cavitary Brachytherapy and Adjuvant chemotherapy which has shown very Good response on following up the patient for 1 month, 3 months and 6 months post treatment.

## Conclusion

Cervical cancer is one of the rare cause of metastasis to ovary with incidence ranging from 0.6 to 1.5%. More commonly associated with Adenocarcinoma than Squamous Cell Carcinoma. Even with ovarian metastases, we have treated the patient radically with curative intent and have found excellent result. Hence it would be prudent to consider radical and curative approach rather than a palliative approach in select advanced cases, since this malignancy is a curable one and every attempt should be made to achieve it.

**Patient Perspective:** Satisfactory.

**Informed consent:** informed consent was taken prior Imaging and Prior management.

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