

Unilateral isolated choroidal metastasis secondary to squamous cell carcinoma of uterine cervix

Siddanna R. Palled, Nihanthy D. S., Richa Tiwari, Surekha Goyal

ABSTRACT

Introduction: Cervical cancer is the fourth most common cancer of women worldwide. It spreads either by local invasion or by hematogenous spread. Metastases to the eye, intraocular metastasis have been reported but they are uncommonly seen. Choroidal secondaries are the most common intraocular malignancies in adults, metastasis to the choroid from utero-cervical carcinoma are an exceedingly rare manifestation. **Case Report:** A 50-year-old female, known case of squamous cell carcinoma of uterine cervix stage IIIB, post concurrent chemoradiation treated seventeen months back, presented with complaints of unilateral right sided progressive visual impairment since 15 days. After thorough ophthalmic evaluation and fundoscopic examination multiple choroidal masses and posterior exudative retinal detachment were seen in the right eye. Left eye was normal. Hence, diagnosis of choroidal metastasis of right eye was established. Planned on palliative RT and received a dose of 40 Gy in 20 fractions. **Result:** A month later, there was marginal improvement in the vision of affected eye. **Conclusion:** The case report demonstrates an unusual but

possible site of occurrence of metastasis for uterine cervical cancers. The posterior choroid is highly susceptible to disseminated tumor cells compared to the other uveal structures due to its rich vascularity. Orbital metastasis is suggestive of progressive disease, hence early diagnosis and early intervention can save the vision and thus improve the quality of life of the patient.

Keywords: Cervical carcinoma, Chemotherapy, Choroidal metastasis, Radiotherapy, Squamous cell carcinoma

How to cite this article

Palled SR, Nihanthy DS, Tiwari R, Goyal S. Unilateral isolated choroidal metastasis secondary to squamous cell carcinoma of uterine cervix. J Case Rep Images Oncology 2016;2:38–41.

Article ID: 100019Z10SP2016

doi:10.5348/Z10-2016-19-CR-10

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Received: 27 February 2016

Accepted: 14 June 2016

Published: 30 July 2016

INTRODUCTION

Cervical cancer is the fourth most common cancer of women worldwide and the most common gynecologic malignancy [1]. It spreads either by local invasion or by hematogenous spread. Local invasive spread is by lymphatic dissemination in the pelvis and in the retroperitoneum. Hematogenous spread occurs in advanced disease, cause distant metastases to the lungs, liver, and bone [2]. Metastases to the distal skeletal sites such as the toe [3] and intraocular malignancies [4] have been reported but they are uncommonly seen.

Choroidal secondaries are the most common intraocular malignancies in adults, metastasis to the

choroid from utero-cervical carcinoma are an exceedingly rare manifestation.

CASE REPORT

A 50-year-old female presented with history of unilateral right sided progressive visual impairment since 15 days. Vision of the left eye was normal. She was diagnosed with moderately differentiated SCC of uterine cervix stage III B (FIGO) seventeen months earlier, for which she received concurrent radiochemotherapy (CT-RT), was on regular follow-up. Clinical examination showed no sign of loco regional recurrence and locally disease free.

On examination, patient was moderately built and nourished, conscious and oriented. Her vital signs were within normal range, no abnormality was detected on systemic examination. On ophthalmic evaluation, she had 6/15 vision in right eye and fundoscopic examination revealed presence of multiple irregular shaped amelanotic choroidal masses and posterior exudative retinal detachment (Figure 1) and left eye was normal (Figure 2). Patient was started on steroids (prednisolone) for retinal detachment and due to multiple choroidal masses; patient was referred to our Institute without undergoing any surgical intervention. The differential diagnoses considered were choroidal hemorrhage, retinal detachment, nevus, amelanotic melanoma, choroiditis and choroidal hemangiomas. The above differential diagnoses were excluded with the help of fundoscopy and imaging. Fluorescein angiogram showed early hyperfluorescence and late mottled hyperfluorescence involving foveomacular and superior quadrant of right eye. Metastatic work-up was done for thorough search but failed to provide evidence of metastases else were in the body.

The conclusion towards the final diagnosis was based on ophthalmoscopic examination supplemented by imaging studies and ophthalmologist opinion. An irregular shaped amelanotic mass suggests a metastatic tumor and with a prior history of carcinoma cervix the final diagnosis of unilateral choroidal metastasis was established.

The patient was treated on LINAC (Varian medical system, India) with 6 MV photons with a palliative intent, received a dose of 40 Gy in 20 fractions over four weeks.

One month later, there was marginal improvement in the vision of affected eye (Figure 3). After radiotherapy patient's vision marginally improved, by her fourth follow-up, i.e., by 12 months her vision improved to 6/9. While reporting this case at 40th month post treatment, she had developed cataract and her vision reduced to finger movement.



Figure 1: Fundoscopy of right eye showing choroidal deposits.

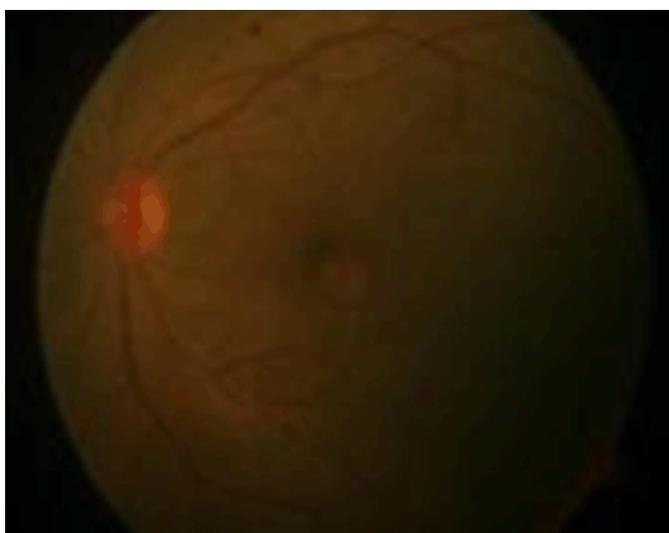


Figure 2: Fundoscopy of left eye showing normal fundus.

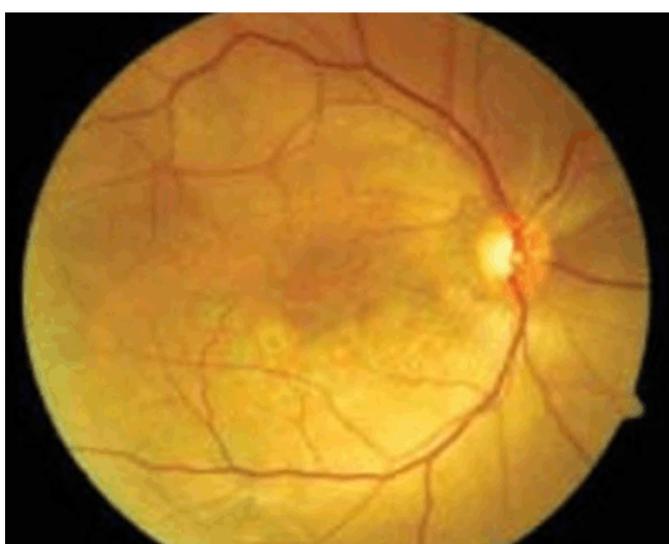


Figure 3: Fundoscopy of right eye after radiotherapy. Choroidal deposits have regressed.

DISCUSSION

Carcinoma cervix is second most common malignancy in Indian women [5]. The staging of carcinoma cervix represents the natural pattern of progression of tumor; direct paracervical spread preceding dissemination to regional lymph nodes. The incidence of distant failure increases with clinical stage of the tumor and the most common site of metastasis are extra-pelvic lymph nodes, lung, abdominal cavity and bones [6].

Intraocular malignancy is most commonly found in the choroid and to a much lesser extent, in the iris and ciliary body. The posterior choroid is highly susceptible to disseminated tumor cells compared to the other uveal structures due to its rich vascularity; thus metastases to choroid are bilateral [6]. The most common primary site is breast in women and lung in men [7]. Choroid as the site of metastases from gynecological malignancies like carcinoma of the uterine cervix is an extremely rare manifestation [4, 8]. A review of literature found only four cases from cervical cancer [9, 10, 11].

The majority of patients present with blurred vision and pain, however, some are asymptomatic at the time of diagnosis. The choroidal metastases are diagnosed on fundoscopy, while other imaging techniques like ultrasound examination of the eye, CT scan of the head and orbit and MRI scan and fluorescein angiography are used as complementary imaging to confirm the diagnosis [12].

Although prognosis is poor, treatment of the eyes should be considered in order to preserve the visual function and or relieve pain. Local radiotherapy has been shown to be an effective approach and provides significant palliation of symptoms [13]. External beam radiotherapy can be used to improve visual function, anterior chamber involvement and orbital involvement associated with diplopia, pain or optic neuropathy [10].

External beam radiotherapy appears to be safe and effective treatment with dose 30–40 Gy over three to four weeks and regression is seen in majority of patients. Some lesions may be treated with plaque brachytherapy. Some authors advocate multimodal treatment approach including systemic chemotherapy and local radiotherapy appears to be another option. Transpupillary thermotherapy (TTT) with diode laser can be used for deposits of medium thickness and minimal amount of subretinal fluid [12]. Studies have shown that, response to treatment has been about 81% with remission of ocular disease in 59% [14]. Patients presenting with complaints of painful blind eye, enucleation can be considered [12]. The prognosis of these patients is generally poor, depending on the site of primary and extent of metastatic disease.

CONCLUSION

The case report demonstrates an unusual but possible site of occurrence of metastasis for uterine cervical

cancers. Orbital metastasis is suggestive of progressive disease, hence early diagnosis and early intervention can save the vision and thus improve the quality of life of the patient.

Author Contributions

Siddanna R. Palled – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Nihanthy D. S. – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Richa Tiwari – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Surekha Goyal – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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