case report

Choroidal metastasis secondary to prostatic adenocarcinoma: Case report and review of literature

Faisal Albadainah [a], Jamal Khader [b], Samer Salah [a], Ahmed Salem [b,*]

[a] Medical Oncology Department, King Hussein Cancer Center, Al-Jubeiha, Amman 11941, Jordan, [b] Radiation Oncology Department, King Hussein Cancer Center, Al-Jubeiha, Amman 11941, Jordan

[*] Corresponding author. Tel.: +962 799 615458; fax: +962 6 535 3001. · alwikah@hotmail.com · Received for publication 28 May 2013 · Accepted for publication 14 August 2013

Hematol Oncol Stem Cell Ther 2015; 8(1): 34–37

DOI: http://dx.doi.org/10.1016/j.hemonc.2013.08.002

Choroidal metastasis from prostate adenocarcinoma is exceedingly rare. Furthermore, data addressing the optimal therapeutic strategy is limited. A 62-year-old male patient with metastatic prostate cancer was found to have a choroidal metastasis after complaining of decreased vision in his left eye. Following treatment with external beam radiotherapy, complete response in the choroidal metastasis was demonstrated. A literature search was undertaken to highlight the therapeutic options for this rare presentation. Choroidal metastasis secondary to adenocarcinoma of the prostate is exceedingly rare, as only eight cases have been reported so far. External beam radiotherapy is an effective therapeutic modality.

INTRODUCTION

The choroid accounts for around 90% of metastasis to the uveal tract.[1] Although breast and lung cancers are the most common carcinomas to metastasize to this site, it is extremely rare for prostate carcinoma to present within this site of metastasis. Herein, we present a case of prostatic carcinoma with choroidal metastasis, and review the relevant literature in an attempt to highlight the available therapeutic strategies.

CASE

A 62-year-old diabetic male was referred to us for further management for his recently diagnosed prostate cancer. He initially presented to his primary care physician with persistent lower urinary tract symptoms. A urinary ultrasound showed an enlarged prostate gland, and blood tests showed a high prostate specific antigen (PSA) reading of 275 ng/ml. A trans-rectal ultrasound guided prostate biopsy that was done before his presentation to us was reported as prostate adenocarcinoma, with a Gleason score of 9 (5+4), involving 40% of the specimen. The patient reported bone pains persisting over a period of two months. Physical examination was remarkable for bone tenderness over the lateral chest wall and upper back. Blood tests showed a high PSA of 270 ng/ml, and alkaline phosphatase of 339 IU/L; other laboratory tests were within normal limits. Computed axial tomography scan of his chest, abdomen, and pelvis showed a small cortical cyst in the upper pole of the left kidney, and an enlarged prostate gland indenting the posterior wall of the urinary bladder with stranding of pelvic fat. Bone scan demonstrated widespread bone metastases. A review of his prostate biopsy specimen confirmed the diagnosis of prostate adenocarcinoma, with a Gleason score of 8 (4+4), in 2 out of 3 cores, involving 70% of core tissue. Therapy with Bicalutamide 50 mg orally once daily was initiated and continued for two weeks, in addition to one injection of the long acting luteinizing hormone-releasing hormone (LHRH) agonist Triptorelin, administered as 11.25 mg intramuscular injection. One month later, he underwent bilateral subcapsular orchidectomy. Three months following orchidectomy, the patient reported resolution of his bone pains, and his PSA declined to 7.5 ng/ml. Unfortunately, six months later, his PSA rose again to a value of 54.4 ng/ml, and his bone scan showed new bone lesions suggestive of disease progression. Computed tomography (CT)

scan of his chest, abdomen, and pelvis ruled out any visceral progression. Therapy with Bicalutamide was re-initiated. Shortly thereafter, he started to complain of decrease in vision in the left eye and was referred for the ophthalmologist for evaluation of possible diabetic retinopathy. Fundus examination of his left eye showed ill-defined yellow to white elevated choroidal lesion nasal to the disc (Figure 1). Fluorescein angiography of the left eye revealed early hypofluorescence and late phase showed hypofluorescence from the surface of his choroidal lesion. A B-scan ultrasound of his left eye revealed a dome shaped, elevated choroidal lesion with moderate internal reflectivity (Figure 2). These findings were consistent with choroidal metastasis. Unfortunately, visual field testing was not performed.

We decided to proceed with palliative external beam radiation therapy (EBRT) to the left orbit. CT-simulation was performed with the patient in the supine position using a thermoplastic head mask. The patient received EBRT as 3000 cGy/10 fractions over two weeks to the left orbit via a 3-D conformal irradiation technique. A direct antero-posterior and lateral field were utilized. The planning target volume was covered by 98.5% of the prescribed radiation dose (Figure 3). The patient tolerated treatment fairly well with no appreciable acute side effects. Following completion of radiotherapy, follow-up ophthalmic evaluation demonstrated complete resolution of the choroidal lesion with associated pigmentation. The patient remained free of choroidal recurrence according to the last assessment, 14 months following completion of radiotherapy.

The choroid is a rare site of involvement by metastatic carcinomas. In a survey that included 8712 patients, only six patients (0.07%) were found to have choroidal metastases.[2] Most choroidal metastases are secondary to breast or lung carcinomas, and exceedingly rarely secondary to prostate adenocarcinoma.[1] Necropsy studies of patients dying of cancer at Wilmer Institute showed a 4.2% rate of ocular metastases in patients dying of prostate cancer.[3] Nevertheless, most of these cases have asymptomatic choroidal metastases.

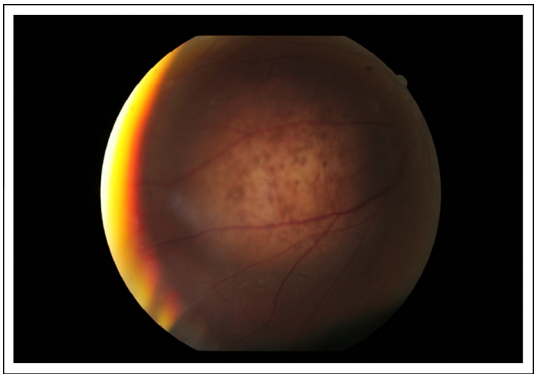

Figure 1. Left eye funduscopic examination revealing an elevated choroidal lesion nasal to the disc, representing a choroidal metastasis.

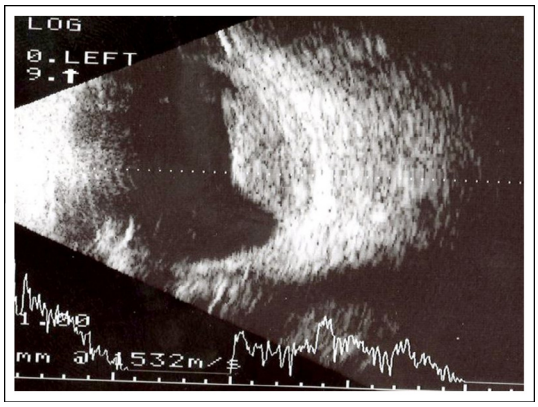

Figure 2. B-scan ultrasound of the left eye revealing a dome shaped, elevated choroidal lesion with moderate internal reflectivity representing the metastatic lesion.

The diagnosis of choroidal metastasis is usually clinical and supported by radiologic evidence of metastatic cancer in other organs. In this setting, the metastasis is identified as a solid, flat, plaque-like, mottled, yellow brown lesion that is commonly associated with serous retinal detachment. Biopsy should be considered in patients with less straightforward presentation in order to exclude second primary tumor.

Being aware of the variety of treatment options is of paramount importance, as preservation of vision would be the most important palliative aim for patients with incurable and metastatic disease.

EBRT is effective in treating and palliating patients with asymptomatic and symptomatic choroidal metastases. Doses in the range of 3000 to 4000 cGy delivered via conventional fractionation are well tolerated and result in visual/objective stabilization and/or improvement in up to 85% of cases.[4,5] According to numerous reports, a unilateral radiation portal is appropriate in patients presenting with unilateral choroidal metastasis.[6] However, it should be noted that most patients included in these studies had a diagnosis of metastatic breast and lung cancer and only very few presented with choroidal involvement secondary to a prostate neoplasm.

There had been only eight reports in the literature for patients with metastatic prostate cancer who develop metastasis in the choroid (Table 1). These patients commonly have other sites of metastatic disease.