INTRODUCTION

Metastatic carcinoma to the eye is more common than primary neoplasm. The most common malignancy that gives rise to metastatic carcinoma to the eye is breast cancer in females and lung cancer in males. Other less frequent sites include gastrointestinal tract, skin and kidneys. Choroidal metastasis of renal cell carcinoma is rare, typically tend to have a characteristic reddish orange color and can appear years after treating the primary. This case report describes metastases from renal cell carcinoma that presented with cataract.

CASE REPORT

The patient was a 71 years old male presenting with 03 months history of gradually progressive painless deterioration of vision in the right eye. Past history revealed that he underwent left nephrectomy in 1999 because of renal mass. Visual acuity in right eye was 3/60 pre-operatively and fundus examination revealed a hazy view with healthy appearing posterior pole. He underwent cataract extraction in October 2007 and visual acuity improved to 6/12 unaided after 01 week. After 04 weeks, he presented again with deterioration of vision. On examination, visual acuity in right eye was perception of light and fundus view was hazy due to visible floating masses in vitreous. There was a mushroom shaped growth in inferotemporal fundus along with localized retinal detachment. Keeping in view the provisional diagnosis of primary/metastatic choroidal neoplasm, patient was investigated. Ultrasound B-scan (Figure 1) revealed a 9 x 7.7mm spherical solid mass projecting into the vitreous from temporal side with medium internal reflectivity and no shadowing or calcification. It had broad base, which was in continuity with the choroid. The mass showed pathological vessels on Doppler ultrasound (Figure 2). Partial retinal detachment with shifting fluid was seen in sub-retinal space adjacent to the mass. Sheet like echoes were also seen in vitreous. No mass was seen in the retrobulbar area. Blood CP, serum LFTs, plasma glucose random, serum urea and serum creatinine were within normal limits. Abdominal ultrasound revealed right renal cyst with adrenal enlargement and absent left kidney. X-ray chest PA view did not reveal any abnormality.

Keeping in view the progressive increase in the size of tumor and involvement of vitreous and visual status, he was counselled for enucleation. After 02 weeks, he consented for operation. Enucleation was done with extraocular muscles attached in the Allen implant (medial rectus stitched to the lateral and superior rectus stitched to inferior) and conformor placed in the conjunctival sac. During surgery, a dark coloured reddish brown mass was seen adjacent to globe, which was also excised and sent for histopathology.

ABSTRACT

We report a case of rare involvement of the eye with choroidal metastasis from renal cell carcinoma presenting 08 years after the primary tumor was removed. The patient initially presented with cataract most probably induced by the tumor. After cataract extraction, tumor was detected when it induced vitreous involvement and retinal detachment. Enucleation was performed and an extraocular mass was also excised. Histopathology confirmed the diagnosis of metastasis from renal cell carcinoma in the ocular tumor, extraocular mass and the vitreous.

Key words: Choroidal metastasis. Renal cell carcinoma. Enucleation.

Department of Eye, Combined Military Hospital, Kharian.

Correspondence: Lt. Col. Khawaja Khalid Shoaid, Head of Eye Department, Combined Military Hospital, Kharian. E-mail: kkshoaib@hotmail.com

Received January 3, 2008; accepted April 10, 2008.
Cut section of the globe (Figure 3) revealed a reddish grey nodule measuring 0.7 x 0.5 x 0.3 cm on the temporal aspect. Sections from both intraocular and extracocular nodules revealed a malignant neoplasm comprising of nests of cells with abundant clear cytoplasm and small hyperchromatic nuclei. These nests were divided by septa displaying a rich arborising network of blood vessels. Findings were consistent with metastatic clear cell carcinoma from the kidney.

Patient was advised MRI of the orbits, bone scan for skeletal survey and consultation with oncologist but he did not report back.

DISCUSSION

Recent tables of vital statistics for the United States indicate that 20-25% of all deaths are attributable to cancer. Microscopic metastatic intraocular lesions are demonstrable in at least one eye in 5-10% of these individuals. The obvious principal risk factor for the occurrence of metastatic carcinoma to the eye is a prior history of cancer.

It is possible that cancer in our case was introduced by the tumor because of its peripheral position behind the iris. It is supported by the fact that there were no lenticular changes in the other eye. After cataract extraction, tumor was detected when it induced vitreous involvement and retinal detachment causing blurred vision which is the principal symptom. Pain was not a symptom in our patient because tumor was not associated with secondary glaucoma. Lens subluxation, ciliary body and iris invasion have been reported as possible sequelae of an anteriorly located tumor.

In this case, the metastatic choroidal tumor could not be differentiated from a primary choroidal tumor on the basis of clinical features and ancillary studies as has been observed by others. Clear cell renal cell carcinoma is a malignant neoplasm frequently associated with an increase in circulating immune complexes and may present as acute posterior multifocal placoid pigment epitheliopathy.

Ultrasound B-scan was used to determine tumor size, echogenicity and no extraocular extension was detected. Fluorescein angiography, trans-scleral biopsy and fine needle aspiration biopsy appear to be reliable techniques for establishing the diagnosis in selected cases. Instead, enucleation was performed because of large tumor size and associated retinal detachment causing marked deterioration of vision. Systemic investigations were performed to detect the primary tumor or other metastatic sites. Patient with metastatic tumor may be observed if asymptomatic or receiving systemic chemotherapy for primary tumor. Radiotherapy, either external beam or brachytherapy can be used for small tumors. Transpupillary Thermo Therapy can be a safe therapeutic option for small choroidal metastases.

The possibility of metastasis should always be kept in mind for any suspicious lesion of the eye even if the primary malignancy has already been treated years ago. The prognosis for a patient's survival is dependent on the pathological nature, anatomical site, and size of the source tumor; the presence and extent of metastatic tumors in vital organs; and the responsiveness of the carcinoma to radiotherapy and chemotherapy.

REFERENCES