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Case Report

Lung carcinoma presenting as monocular painless blindness[☆]

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ABSTRACT

To discuss a very rare presentation of lung malignancy which results in visual disturbance as first and only clinical manifestation. Case report. We report a case of otherwise asymptomatic 32-year-old, nonsmoker female presenting with painless loss of vision in the right eye and photophobia in the left eye, owing to secondaries in choroid from lung carcinoma. Patient was worked up after admission in our hospital to ascertain the cause of blindness and subsequently revealed lung malignancy with widespread metastasis involving multiple organ systems. Despite widespread malignant involvement patient was completely asymptomatic and active except for visual disturbances. This case further emphasized the necessity of prompt and priority-based evaluation of patients for lung carcinoma whenever doubtful intraocular lesions are noted, regardless of age or smoking status. It seems that these cases represent a distinct subset of lung malignancy.

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Introduction

The reported incidence of Intraocular metastasis is 8%-10% in systemic malignancies [1,2]. Choroid is the most commonly involved ocular tissue. Choroidal involvement was present in 88% of patients with intraocular metastasis in a series by Shields et al. [3].

Visual disturbance, owing to choroidal metastasis, as a presenting and first manifestation of underlying lung carcinoma

is extremely rare. These cases are reported sporadically in the literature. Recently, Singh et al analyzed previously reported cases of symptomatic choroidal metastasis in the English language literature and identified only 55 cases where choroidal metastasis was the presenting manifestation of lung cancer [4]. Subsequently 03 more such cases were reported each by Babu G et al, Aichouni et al., and Guo et al. [5–7].

We report a case of otherwise asymptomatic 32-year-old, nonsmoker female presenting with painless loss of vision in the right eye and photophobia in the left eye. Subsequent work

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ups revealed lung carcinoma with widespread secondaries all over body including choroid of the both eyes. To our knowledge, this is the first case where visual disturbance was a presenting and only manifestation of lung carcinoma in a mid-age, nonsmoker female.

Case report

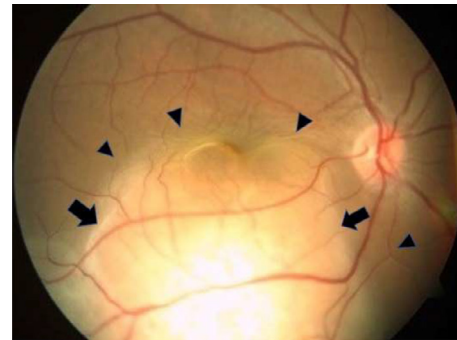
A 32-year-old female presented with the complaints of loss of vision with occasional flashes of light in her left eye for last 20 days. There was no pain or redness in any of the eyes. There was also no history of any ailment in any other part of the body, at presentation or any time in past. She was married with children, a nonsmoker and teetotaler. Ocular examination revealed normal anterior chamber with open angles in both the eyes, lens was clear and no haze or cells or pigments were in anterior vitreous in any of the eyes. Iris and pupil were normal in both the eyes without relative afferent pupillary defect (RAPD).

Fundus examination in the right eye revealed a large subretinal mass lesion in inferior half of the fundus involving macular area and fovea with overlying exudative retinal detachment with moving fluid. Subretinal lesion was elevated, whitish–yellowish with diffuse margins and was showing irregular pigmentation at the apex (Figs. 1 A and B). Similar but a very small lesion was also noticed in the left eye around 01-disc diameter (DD) nasal to the optic disc without any overlying retinal detachment (Fig. 1C).

Patient was subjected to a comprehensive evaluation including hematologist and immunologist evaluations but patient's hemoglobin, total leucocyte count, neutrophil and lymphocyte, platelet counts, peripheral blood picture, and hematocrit were within normal limits. Red blood cell (RBC) indices were within normal limits. Similarly, antinuclear antibody (ANA), antineutrophil cytoplasmic antibodies (ANCA) and antiphospholipid antibodies panels were also negative. Patient was also found human immunodeficiency virus (HIV) negative.

Since patient was immunocompetent with normal blood counts, likelihood of active viral infections, or hematological disorders was rejected. Also, possibility of any immune mediated conditions or vasculitic disorder was ruled out by the immunologists. Therefore, based on above evaluations diagnoses of choroidal tuberculoma and metastatic choroidal secondaries were kept in consideration. There was no history of contact with a tuberculosis patient and also result of tuberculin (PPD) test returned negative in our patient. Therefore, patient was subjected to chest X-ray and whole-body positron emission tomography (PET-CT) examination. Chest X-ray showed a lower zone nodule in the right lung suspected malignant by the radiologist (Fig. 2).

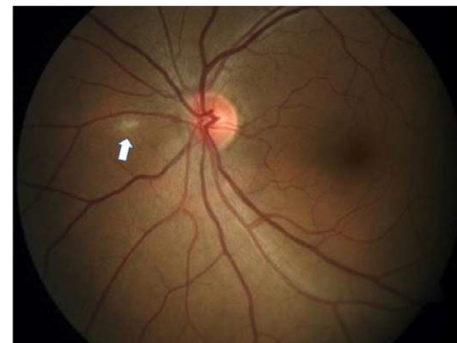
Whole body ^{18}F -FDG PET-CT findings disclosed metabolically active malignant primary lung mass and metastatic metabolically active multiple regional and non-regional lymphadenopathy with similar adrenal and multiple long and small bone lesions scattered throughout body including eyes (Figs. 3A-C).



(A)



(B)



(C)

Fig. 1 – (A) Right eye - large subretinal mass (black arrows) with overlying exudative RD (black arrow heads). (B) Right eye – note irregular pigmentation at the apex of mass (black arrows). (C) Left eye – small choroidal lesion nasal to disc (white arrow).

Based on these findings, diagnosis of lung carcinoma with choroidal metastasis in both the eyes were established and patient was referred to specialty of oncology for further evaluation and management.

Discussion

Metastatic secondaries are the most common malignancy of eye [8]. Choroid is the most commonly involved ocular tissue. Rarely patients with advanced stages of lung CA remain

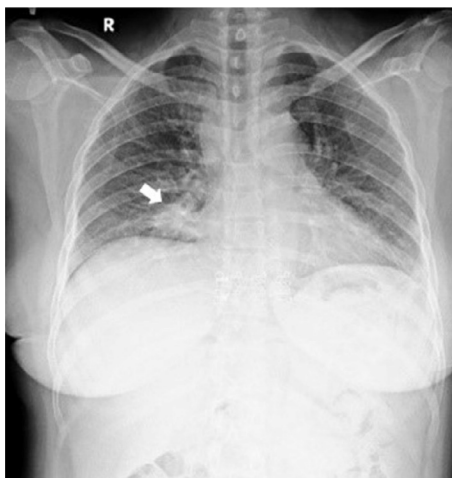
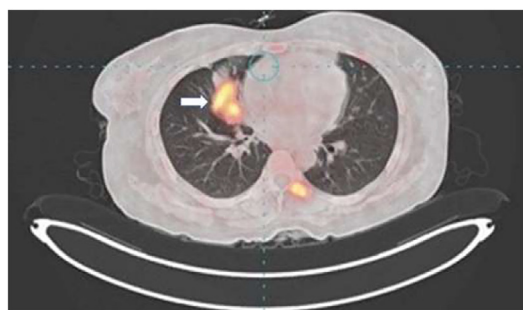


Fig. 2 – X-ray chest showing lower zone nodular lesion in the right lung (white arrow).



(A)



(B)

(C)

Fig. 3 – (A) Axial PET -CT, chest showing lung primary (white arrow). (B) sagittal PET - CT showing widespread metastatic secondaries (white arrow heads). (C) coronal PET -CT showing widespread metastatic secondaries (white arrow heads).

asymptomatic and presents only when they noticed visual disturbances consequent to choroidal metastasis. Our patient presented with this very rare presentation of lung CA despite being much younger (age 32 year) than previously reported 58 patients (range 36-77 year) [4–7]. This fact validates the necessity of prompt and priority-based evaluation of patients for lung CA whenever doubtful intraocular lesions are noted, regardless of age or smoking status.

It is noteworthy but still unaddressed and unanswered question – why do some patients of lung CA remain clinically silent for such a long period, despite having multisystem metastasis? Whether disease characteristics or patient characteristics or both are accountable for this phenomenon is still unclear and has to be further explored and studied. Apparently, these patients represent an important and distinct subset of lung CA.

It should be stressed that visual disturbances owing to choroidal secondaries obligated these patients to seek medical assistance. Since visual input is the most sensitive sensory input, patients are able to notice even slightest of disturbance in vision. We do not know, for how long disease would have been clinically silent if it is not for symptomatic choroidal metastasis. Further studies are needed to ascertain the natural course of this subset of lung CA thereby ensuring early diagnosis and appropriate management of such patients.

Patient consent

It is being confirmed that written, informed consent for publication of this case report was obtained from the patient(s).

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