

## Case Report

### Retinal Detachment Indicative of Choroidal Metastasis of Pulmonary Adenocarcinoma

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#### Abstract

**Introduction:** Choroidal metastases are metastatic tumors of the posterior uvea and account for 80% of intraocular malignancies. They are often present in metastatic lung cancer, but they can be exceptionally revealer of this disease.

**Observation:** We report the case of a 38 years old man, with no particular pathological background. He was examined for a rapid visual acuity decline in the left eye. The eye fundus reveals a retinal detachment in the left eye. Orbital MRI shows a choroidal process compatible with left choroidal metastasis with retinal detachment, thoracic-abdominal-pelvic scanner reveals a pulmonary tumor process with bilateral adrenal metastases.

**Discussion:** Choroidal metastases are rarely revealer of lung cancer; in fact they are often present at advanced stage of the disease.

**Keywords:** Choroidal metastasis; Pulmonary adenocarcinoma; Retinal detachment

#### Introduction

Choroidal metastases are metastatic tumors of the posterior uvea and account for 80% of intraocular malignancies [1]. They are often present in advanced lung cancer, but they can be exceptionally revealer of this disease, in which case their revelation is not only a sign of a poor prognosis but also involves the visual functional prognosis. We are in presence of an unusual case of choroidal metastasis of pulmonary adenocarcinoma revealed by a total exudative retinal detachment.

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#### Observation

We report the case of a 38 years old man, with no particular pathological background. He was examined for a rapid visual acuity decline in the left eye. The results of the ophthalmologic examination are: the visual acuity of the left eye is limited to a light perception, the visual acuity of the right eye is 10/10, the examination of the anterior segment shows on the left eye a conjunctival hyperemia, a hypotonia 7 and visible retina in the anterior vitreous (Figure 1), concerning the anterior segment of the right eye the examination indicates no abnormalities. Examination of the posterior segment showed a retinal detachment and a loaded vitreous in the left eye and it reveals a normal retina in the right eye. The B-mode ultrasound of the left eye shows a hypoechoic choroidal tumor of 14/16 mm in diameter (Figure 2). MRI of brain and orbits was performed to determinate the limits and the characteristics of the tumor: it was in favor of choroidal metastasis without any brain metastasis (Figure 3). Thoracic-abdominal-pelvic CT scan reveals a pulmonary tumor process with bilateral adrenal metastasis (Figure 4). The histological result of the scan no-guided lung biopsy shows a pulmonary adenocarcinoma. The patient is currently undergoing radiotherapy, without any improvement so Palliative management was recommended after discussion with the patient: The patient is currently receiving chemotherapy.

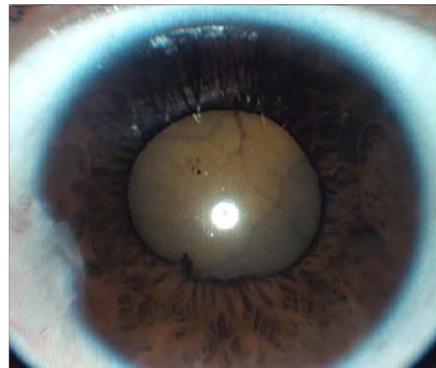
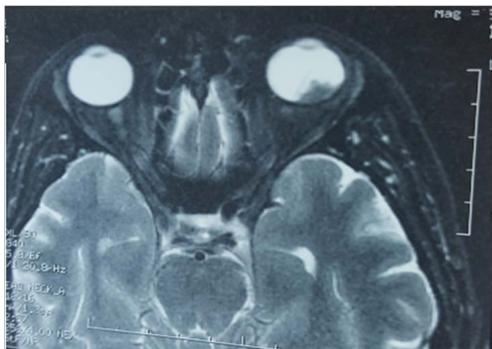


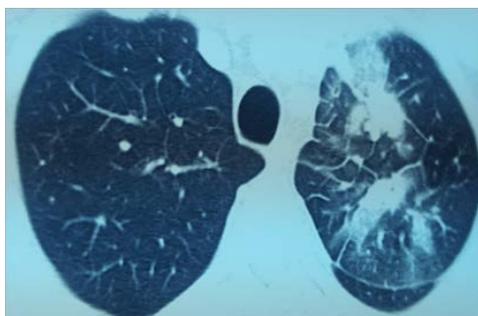
Figure 1: The picture of the anterior segment of the left eye indicates that the retina is visible in the anterior vitreous.



Figure 2: The B-mode ultrasound of the left eye shows an hypoechoic choroidal tumor.



**Figure 3:** Orbital MRI shows of a choroidal process compatible with left choroidal metastasis with retinal detachment.



**Figure 4:** Thoracic CT scan reveals a pulmonary tumor process.

## Discussion

Choroidal metastases are rarely revealed of lung cancer as in our case but most often they are present at an advanced stage of the disease [2]. According to the kreusel et al., series of 84 patients with lung cancer [3], the prevalence of choroidal metastasis is estimated at 7.1%. The Survey of Shields et al., That concerns 520 eyes with ocular metastasis, finds that 88% are choroidal metastasis and only 21% of them were carriers of CBP [4]. These choroidal metastasis are often associated with other metastases including cerebral (70%). Choroidal metastases are often asymptomatic in 60% of cases [1]. But sometimes they can be revealed by ophthalmological symptoms. Among these symptoms there are the metamorphosis, the decrease of visual acuity [4], the orbital pain and a total detachment of the retina is rarely reported as in our case [4]. At the eye fundus [5], the choroidal metastasis shows as a lesion of a chrome or yellowish beige color, flat or dome-shaped and infiltrative, with unclear limits, of 3 mm of thickness and 9 millimeters of average diameter, often located in the postero-supero-lateral part of the choroid. These choroidal metastasis can be single or multiple, unilateral or bilateral, without preferential lateralization [5]. In case of lung cancer, the involvement is unifocal and unilateral in 64% of cases as in our case [5]. The diagnosis of choroidal metastasis can be confused with a choroidal tumor when the choroidal metastasis are unique and isolated that's why medical imagery is important. In fundus fluorescein angiography, metastatic tumors often have angiographic features similar to those of a chromed choroidal melanoma [1,5], but there are relatively specific angiographic features of choroidal metastasis "hypofluorescence at early times, late hyperfluorescence". In ultrasound B, it shows as echogenic solid tumor, irregular, sometimes polylobed, often comprising a central

excavation and readily surrounded by a serious detachment. The presence of a central umbilication is very evocative of metastasis. In CT scan, it shows as a heterogeneous hyper density enhanced by the contrast product. In MRI, the lesion is heterogeneous in iso signal or slight Hyper signal T1, in hypo signal T2 [1,5]. After injection of gado, the signal increase is more marked than the one concerning melanoma, but the ocular metastasis may present signals of deferent intensity on the T1 and T2 sequences and share the same signals as the a chrome choroidal melanoma, so MRI has been proven to be more sensitive and specific than CT scan in the detection of extra-ocular extension of choroidal metastasis [5]. Concerning therapeutic management of choroidal metastasis, radiotherapy is the gold standard [6], it makes possible to control the ocular symptoms or even a complete recovery of the visual acuity by irradiating the eye by photons, or the Irradiation with radioactive applicators, or by teletherapy with accelerated proton beams with a dose of 30 Gy by fractionation of 2 to 5 Gy [7]. The necessity of chemotherapy and hormone therapy in the management of MC is still under discussion [8,9]. The appearance of any other metastasis should be monitored. Thanks to radiotherapy the short-term visual prognosis is generally good. However, the vital prognosis remains poor with an average survival of 8 to 9 months in 85% of cases and only 10% of them can be survivors in the long run [10].

## Conclusion

In conclusion, choroidal metastases are rarely indicative of bronchopulmonary carcinoma, however their presence is indicative of end-stage disease, and is associated to a limited life expectancy.

## Conflict of Interest

The authors confirm that there are no conflicts of interest.

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