Complete Regression of a Non-small Cell Lung Cancer Choroidal Metastasis with Intravitreal Bevacizumab

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CASE REPORT
A 34-year-old woman presented in July 2009 at our institution with choroidal metastasis as first manifestation of a non-small cell lung cancer. Symptoms of disease were a progressive vision loss in the left eye and diplopia.

The ophthalmoscopy showed a big choroidal mass with secondary subretinal fluid in the left eye; fluorescein angiograms, the optical coherence tomography (Figure 1A), and an ultrasound retinal examination (Figure 2A) confirmed the alteration of choroidal.

A total body computed tomography scan revealed a voluminous mass in the upper right lung, small multiple bilateral pulmonary nodules, and mediastinal lymphadenopathy.

Pathologic diagnosis of invasive papillary adenocarcinoma was obtained from a transthoracic needle biopsy of the upper right lung.

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FIGURE 1. The optical coherence tomography (OCT) gives an optical image of the retina like a vertical section plane and measure the thickness of the retina. A, From top to bottom, the first white arrow shows serous retinal detachment, the second one an elevated retinal pigment epithelial layer, and the third one revealed choroidal profile alteration. B, The white arrow showed resolution of subretinal fluid, no further mass-like lesion was detected, and the retina and retinal pigment epithelial layer were flattened with a normal profile of foveal depression.

FIGURE 2. A, Ultrasound retinal examination showed reflective masses that occupy the vitreous cavity. B, Ultrasound retinal examination showed exudation disappearance and almost complete mass flattening with normal profile of the eyeball.

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She successively underwent three courses of systemic chemotherapy with gemcitabine and cisplatin. In the same period, the patient received two intraocular bevacizumab (Avastin) administrations with a total dose of 1.25 mg. After the intraocular treatment, a dimensional reduction of the tumor mass has been detected both by ophthalmoscopy and fluorescein angiograms. Moreover both the optical coherence tomography (Figure 1B) and ultrasound retinal examination showed exudation disappearance and almost complete mass flattening (Figure 2B). Simultaneously, the patient obtained a complete recovery from blurred vision while a systemic stable disease has been detected by a total body computed tomography. After the first three cycles, the patient received six additional cycles of chemotherapy combined with systemic bevacizumab and 12 additional maintenance doses of bevacizumab every 2 weeks, without both relevant toxicity and signs of disease progression. After 20 months of follow-up, the eye status remained stable and no systemic progressive disease was observed.

**DISCUSSION**

Treatment modalities for choroidal metastasis include surgical enucleation, external beam radiotherapy, laser photocoagulation, and brachytherapy.\(^1\)

Recent studies reported the efficacy of intravitreal bevacizumab for metastatic tumors.\(^2-4\) Moreover, a case of complete and durable response of choroid metastasis from non-small cell lung cancer with systemic bevacizumab and chemotherapy has been also described.\(^5\)

The intraocular administration of bevacizumab represents a newer effective and tolerable therapeutic option being able to avoid visual loss and to ameliorate patient’s quality of life. Further studies are warranted to confirm safety, efficacy, and optimal treatment schedule of such treatment modality.

**REFERENCES**