CHOROIDAL METASTASIS FROM A BREAST CARCINOMA. DIAGNOSIS AND FOLLOW-UP WITH OPTICAL COHERENCE TOMOGRAPHY AND FLUORESCIN ANGIOGRAPHY AND AUTOFLUORESCENCE WITH HRA-II (HEIDELBERG RETINA ANGIOPHGRAPH)

METÁSTASIS COROIDEAS DE CARCINOMA DE MAMA. DIAGNÓSTICO Y SEGUIMIENTO MEDIANTE TOMOGRAFÍA DE COHERENCIA ÓPTICA Y ANGIOFLUORESCÉNGRAFÍA Y AUTOFLUORESCENCIA CON HRA-II (HEIDELBERG RETINA ANGIOPHGRAPH)

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ABSTRACT

Clinical case: A 69-year-old woman developed choroidal metastasis from a breast carcinoma 2 years after the initial diagnosis, surgery and chemotherapy. After treatment with palliative chemotherapy and external radiotherapy, we used fluorescein angiography (FA) and optical coherence tomography (OCT) to evaluate the resolution of the serous retinal detachment, as well as a later relapse in the optic nerve.

Discussion: OCT is useful in the follow-up of choroidal metastasis after treatment. However, OCT imaging is limited by the initial choroidal location of metastasis. The autofluorescence can detect exudative tumoral activity even without obvious changes in OCT or FA (Arch Soc Esp Oftalmol 2009; 84: 267-270).

Key words: Choroidal metastasis, Fluorescein Angiography, HRA-II, OCT.

RESUMEN

Caso clínico: Mujer de 69 años que desarrolló metástasis coroideas unilaterales a partir de un carcinoma de mama, tratado con cirugía y quimioterapia. Evaluamos la resolución del desprendimiento seroso retiniano mediante tomografía de coherencia óptica (OCT) y angiofluorescografía (AFG) tras quimioterapia y radioterapia externa, y la posterior recidiva en el nervio óptico.

Discusión: La OCT resulta útil en el diagnóstico de cambios secundarios retinianos, aunque su valor es más limitado en la localización inicial de las lesiones. Sin embargo, es de gran utilidad en el seguimiento. La autofluorescencia permite detectar actividad exudativa tumoral, incluso sin cambios evidentes en AFG u OCT.

Palabras clave: Metástasis coroideas, OCT, AFG, HRA-II.
INTRODUCTION

Choroidal metastasis is the most frequent ocular tumor. The most frequent primary tumors in choroidal metastasis are located in the long and the mammary glands (1).

The general treatment of choice is radiotherapy, with associated chemotherapy when other systemic metastasis identified. 53% of patients improved their visual acuity and 34% did not exhibit changes. In 83% of cases the local control of the tumor is achieved with very few secondary effects (2).

CASE REPORT

We present the case of a 69-year-old woman diagnosed with nonmetastatic infiltrating ductal carcinoma in the right breast in 2004. She was treated with radical mastectomy with lymphadenectomy and supporting FAC chemotherapy (adriamycin 80 mg, 5-fluoracyl 800 mg, genoxal 800 mg) in six cycles with a total dose of 480 mg, during five months with very good tolerance. In June 2006 reconstruction surgery was performed with an expanding prosthesis.

In August 2006 she exhibited a metastatic right pleural bleeding, confirmed by bronchial biopsy and blastic lesions in the sternum-clavicle joint.

During the extension study she exhibited a sudden reduction of visual acuity (VA) in the right eye (RE). The exploration gave a visual acuity in the RE of 0.16 and 0.8 in the left eye (LE). The anterior biomicroscopy and tonometry gave normal results. The funduscopy showed foveal serous detachment without other signs of age-related macular degeneration (fig. 1). The contralateral eye was normal. Angiofluoresceinograph with HRA-II (Heidelberg Retina Angiograph) revealed a circumscribed detachment of the retinal pigmentary epithelium (RPE) without signs of choroidal neovascular membrane (CNVM) (fig. 2). Indocyanine green angiography (ICG) did not identify neovascularization. Optic Coherence Tomography (OCT) showed foveal RPE, associated serous detachment of the neurosensory retina and macular thickening of 680 microns (fig. 3).

During the following 10 days the macular RPE increased in size and exhibited a serous detachment of the inferior hemi retina with reduction of VA up to movement of hands. As we suspected a metastatic disease, we requested a brain nuclear magnetic resonance which showed the retinal detachment without other associated lesions.

The patient was defined as stage 4 breast carcinoma and prescribed palliative chemotherapy and external radiotherapy. One month after completing radiotherapy and 12 cycles of chemotherapy, the patient VA improved to 0.1, the serous detachment resolved with atrophy of the retina pigmentary epi-

Fig. 1: Right eye retinography showing serous detachment.

Fig. 2: Hyperfluorescence in RE fluorescein angiography.
thelium (RPE) and the foveal thickness was reduced to 250 microns (fig. 4).

Two months later, the patient exhibited a new hemorrhage and peripapillary edema without serous detachment in other retina areas (fig. 5). Autofluorescence and infrared image (fig. 6) by means of HRA-II exhibited a very slight hyperfluorescence. We assessed the possibility of a new choroidal metastasis involving the optic nerve. However, the systemic treatment was not modified because the oncology specialists considered the existence of a clinical benefit of the disease without progression with chemotherapy. The patient has not exhibited new visceral metastases in 18 months of follow-up.

**DISCUSSION**

Choroidal metastasis is the most frequent ocular tumor. The most frequent primary tumors in choroidal metastases are located in the lung and the mammary glands (1).

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*Fig. 3: Optic Coherence Tomography (OCT) showing a considerable destructuring of the retinal architecture.*

*Fig. 4: Optic Coherence Tomography (OCT) showing the resolution of the serous detachment and a normal macular thickness.*

*Fig. 5: Retinography showing hemorrhage in the superior peripapillary area.*

*Fig. 6: Infrared autofluorescence in HRA-II.*

Generally, the treatment of choice is radiotherapy, with associated chemotherapy when other systemic metastases are identified. 53% of patients improved their visual acuity and 34% did not exhibit changes. In 83% of cases the local control of the tumor is achieved with very few secondary effects (2).

OCT has demonstrated its usefulness in diagnosing secondary changes in RPE and the retina, but it does not allow a precise diagnostic of the choroidal
location of the metastasis due to dispersion at the RPE level. However, as shown in our case, OCT is very useful for following up the associated lesions and their evolution with treatment (3). The patient of this case did not begin with choroidal lesions identifiable as creamy masses but with serous detachment as a retinal complication of the metastasis. For this reason, it was not possible to identify the choroidal metastasis with funduscopy, fluorescein angiography or OCT. However, the personal history of the patient and the existence of other systemic metastases suggested the possibility of an ocular metastasis. OCT was very useful in the follow-up, as shown by the normalization of the retina and architecture after the oncological treatment.

The appearance of peripapillary hemorrhage after the resolution of the serous detachment suggests the possibility of metastasis at the level of the optic nerve. Metastases in the disc usually generate a diffuse thickening thereof in 84% of cases, although hemorrhages can be associated in 42% of cases (4). In our case, we considered a differential diagnostic with other causes of hemorrhage and optic nerve edema such as retinopathy due to radiation, which was discarded considering the absence of non-perfusion areas in fluorescein angiography and the early appearance of the condition. It can be concluded that the new imaging techniques such as autofluorescence and infrared imaging with HRA-II constitute a non-invasive method allowing for identification of the serous component and accordingly facilitating an assessment of tumor activity. (5).

REFERENCES