

Choroidal Metastasis Mimicking Age-Related Macular Degeneration in a Case with Breast Cancer

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Abstract: A 78-year-old woman applied to our clinic with decreased vision in her right eye in the last three months. Visual acuity of the patient was at hand motion level at right eye. In the fundus, a subretinal mass mimicking choroidal neovascular membrane (CNVM) was detected. The mass was approximately at a size of 5 disc diameters extending from the optic disc to the macula, forming an elevation under the retina and was accompanied by exudation. In the detailed history, the patient's had completely cured by surgery and chemotherapy due to the breast cancer 15 years ago. Imaging methods were conducted and showed metastasis to the choroid as well as to the brain. The patient passed away due to extensive metastatic cancer while she was under chemotherapy treatment. Metastatic tumors may mimic CNVM. Choroidal metastasis should be considered in the differential diagnosis in patients who have unilateral age-related macular degeneration (AMD).

Keywords: Breast, Cancer, Choroid, Metastasis, Macula, Degeneration

INTRODUCTION

Metastatic tumors are the most common among the malignant intraocular tumors. Uvea, and particularly the choroid, is an important location for metastatic spreading of tumors due to high blood flow via posterior ciliary arteries. Sources of the primary foci of choroidal metastases are 47% from the breast, 21% from the lung [1]. The most common symptom of choroidal metastasis is rapidly developing visual loss [2]. Metastases to the eye have negative impact on the prognosis [3]. In this study, we presented a case of choroidal mass resembling CMVM in a patient with a history of breast cancer who applied to our clinic for decreased vision. It has been stressed that, even though when the treatment has been completed years ago, breast cancer can still cause metastases and loss of vision may be the initial sign.

CASE REPORT

A 78-years-old female patient applied to our clinic in June 2013 with decreased vision in her right eye. In her history, she was diagnosed with AMD in another center three months ago and intravitreal injection was applied. Visual acuity of the patient was at hand motion level at right eye and 25/40 at left eye in ophthalmological examination. In biomicroscopical evaluation, nuclear sclerosis was present at the right eye and grade 2 nuclear cataract was present at left eye. In

the fundus of the right eye, the optic disc margins were blurred and there was venous engorgement. A subretinal mass mimicking CNVM extending from the optic disc to the macula, approximately with a size of 5 disc diameters, causing an elevation of the retina and accompanying exudation was detected (Fig. 1). In the left eye there was hard drusen in the macula.

In the detailed history, she had undergone mastectomy and systemic chemotherapy due to breast cancer 15 years ago. Colored fundus imaging (Fig. 2), OCT, eye USG and brain MRG with contrast were conducted. The left eye was normal. The USG of the right eye revealed a hyperechoic mass lesion with irregular borders which was located on the posterior wall, bulging into the vitreus (Fig. 3). MRI of the brain and orbita revealed a metastatic mass lesion located in the right eye with a size of 0,6x0,4 cm. The mass lesion of the eye was accepted as metastasis since there were multiple cerebral lesions with similar features showing peripheral ring-like contrast enhancement (Fig. 4). The patient was referred to the oncology department for systemic evaluation and treatment of the central nervous system and choroid metastases. No additional treatment for the eye metastasis was planned because of the expectation of a poor prognosis. Chemotherapy was initiated for systemic metastases in the oncology clinic. However, the patient died in a short time due to

extensive metastatic cancer. The study was approved by the local ethics committee of the University of Fatih, in compliance with the Declaration of Helsinki.

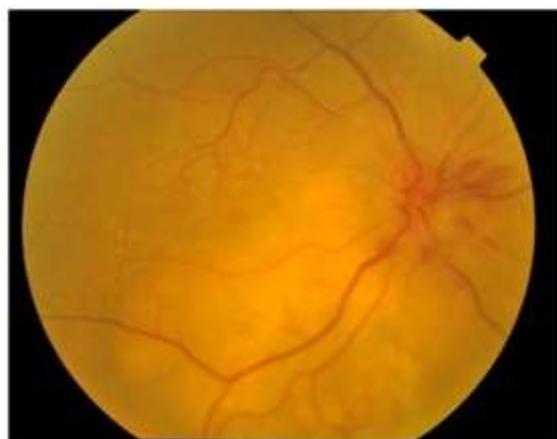


Fig.1: Color fundus photography

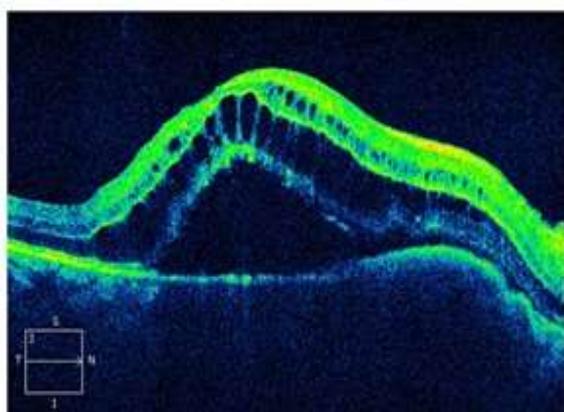


Fig. 2: OCT image



Fig. 3: Eye ultrasound image

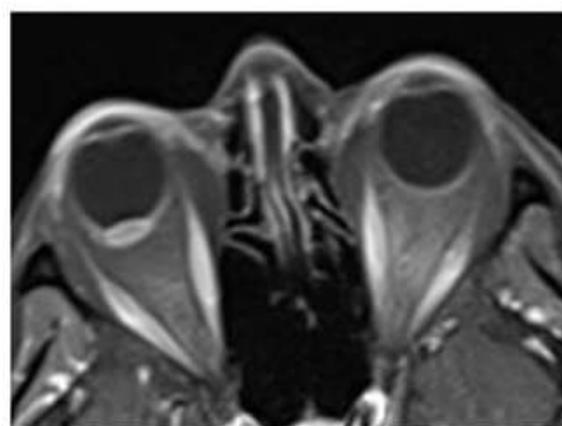


Fig. 4: Orbital MR image

DISCUSSION

Uvea has a high blood flowing according to the other eye parts. Therefore, it is an important locus for the metastasis [1]. Choroid is affected in 88% of the uveal metastasis cases. Malignant cells reach the eye via the short posterior ciliary artery. This may cause more frequent placement of the metastasis in the posterior half of the eye [4]. In our case, the lesion being located at the posterior wall was consistent with this finding. The most common symptom in the choroidal metastasis is rapidly progressing decrease in vision [2]. Our case had rapidly progressing loss of vision in the right eye. In ophthalmological examination, choroidal metastases are usually seen as smooth and yellow-white, not totally defined lesions, occasionally they may look like mushroom or dome-shaped as a result of Bruch membrane tear [5]. In our case, the metastasis was yellow with irregular borders and was bulging from optic disc to macula. Diagnosis of ocular metastasis is made by clinical examination and imaging techniques such as USG, FFA, CT and MRI. Fine needle aspiration biopsy or biopsy via vitrectomy may also be used. Our patient was diagnosed with clinical examination, USG and orbita and brain MR scan.

Choroid metastasis may be treated with radiotherapy, surgery, chemotherapy or photodynamic treatment (PDT) [6, 7]. Systemic chemotherapy may lead to improved visual acuity in choroid metastasis [6]. For our patient, only systemic chemotherapy was initiated in the oncology department and due to poor life expectancy, no additional treatment was planned for the metastasis in the eye. Our patient died in a short time because of extensive metastatic cancer. Eye metastases indicate poor prognosis regarding life expectancy. However, in order to increase the quality of life of the patients, we found it appropriate to validate diagnosis and plan a treatment [3].

In conclusion, it must be kept in mind that unilateral, atypical lesions which protrude to the retina may be metastatic tumors. Metastatic choroidal tumors

originating from the breast are usually seen in terminal stages of the disease. It must be remembered that, even when the treatment of breast cancer was completed years ago, metastasis may be occurred in these patients.

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