Spontaneous Resolution of Choroidal Osteoma-Related Choroidal Neovascularization: Case Report

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ABSTRACT

A 55-year-old man was admitted to our clinic with complaints of visual impairment that started 9 months ago in his right eye. Previously he was diagnosed as idiopathic choroidal neovascularization (CNV); but did not receive any treatment before consulting our clinic. Fundus examination revealed a slightly elevated, yellowish-white lesion at the superior macular region in the right eye. Fluorescein angiography showed early patchy hyperfluorescence with late diffuse staining of this area. The choroidal neovascular membrane was not detected. B-scan sonography revealed a hyper-echoic choroidal lesion with acoustic shadowing. The lesion was diagnosed as choroidal osteoma. This case report presents the clinical findings of the patient with choroidal osteoma-related CNV that improved spontaneously.

Keywords: Choroidal osteoma, Choroidal neovascularization.

INTRODUCTION

Choroidal osteoma with unclear pathogenesis is a rare, benign tumor with osseous origin, which was first described by Gass et al.[1] It is a well-defined, single, unilateral, yellowish-white choroidal mass lesion localized along pupil or at macula, which is more commonly seen in women. The diagnosis of choroidal osteoma is made in clinical manner. Most cases are asymptomatic; however, metamorphopsia, blurred vision or visual field defects can occur. Prognosis is good, particularly in cases in which no foveal involvement is present. It may be worsened in the presence of retinal pigment epithelium (RPE) atrophy, subretinal fluid, serous detachment, choroidal neovascularization (CNV)-related subretinal hemorrhage or subretinal hemorrhage alone.[2-4] It has been proposed that follow-up alone or argon laser photocoagulation, photodynamic therapy, transpupillary thermotherapy, intravitreal vascular endothelial growth factor (VGEF) inhibitors can be used in the treatment so far.[5-7]

Here, present a patient with choroidal osteoma-related CNV which improved spontaneously without treatment.

CASE REPORT

A 55-years old man presented to our clinic with decreased vision in right eye and reported that he could not receive any treatment. He had no history of systemic disease. In his history, it was found that his complaints dated back to 9 months ago and that he presented to a ophthalmology clinic and was diagnosed as idiopathic CNV but off-label treatment application for intravitreal anti-vascular endothelial growth factor (anti-VGEF) was declined. When diagnostic studies at time of index presentation was evaluated, it was seen that there was a yellow, fluffy lesion and early hyperfluorescence with dense hyper-fluorescent appearance at late phases compatible with CNV (extra-foveal) at inferior margin of lesion surrounded by hemorrhage in the right eye on fundus fluorescein angiography (FFA) (Picture 1). In addition, there were changes related with subretinal fluid and CNV on SD-OCT (Picture 2). Based on these findings, the patient was considered s CNV secondary to choroidal osteoma and subsequent hemorrhage. The patient did not receive any treatment 9-months period since first presentation to the ophthalmology clinic. In ophthalmologic examination in our clinic, visual acuity was 0.6 in right eye and complete in the left eye. Anterior chamber assessment

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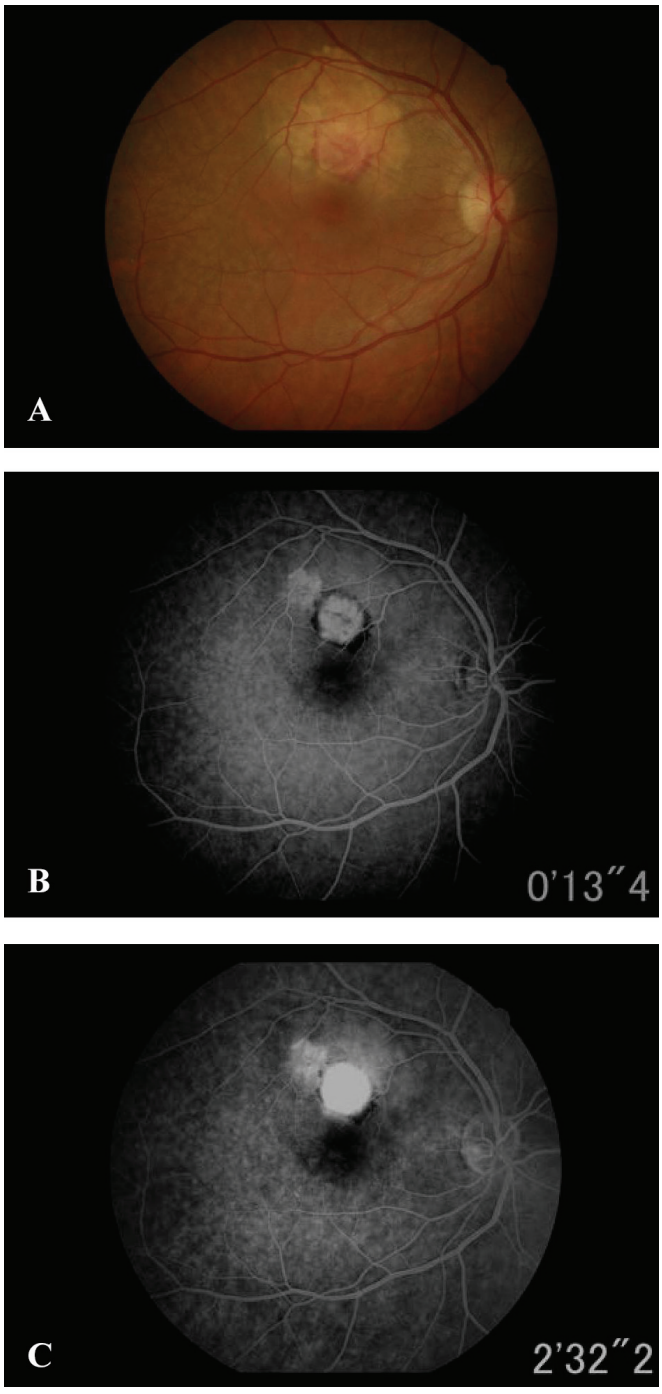
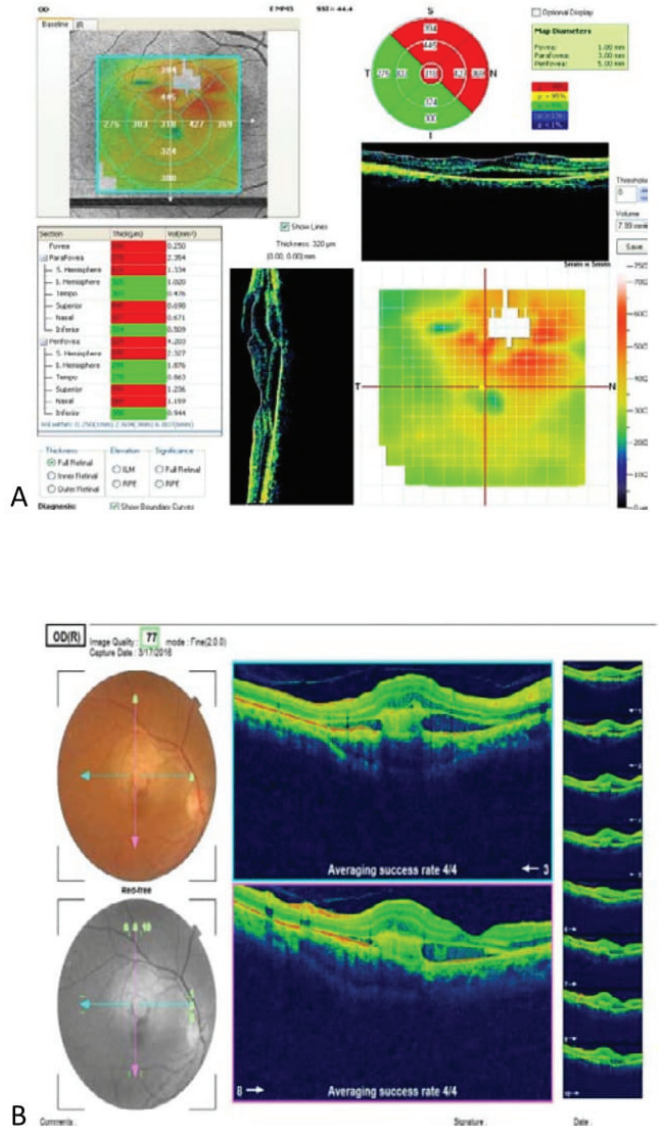


Picture 1. *In color fundus image, CNV surrounded by hemorrhage at inferior margin of hypo-pigmented choroidal osteoma localized over right macula (A). On fundus fluorescence angiography, early onset of hyper-fluorescence (B) and increased leakage at late period (C) can be observed at area compatible with CNV.*

by biomicroscopy and intraocular pressure were normal in both eyes. In fundus examination, a yellowish-white, well-defined lesion slightly raised from retinal surface was observed at superior aspect of macula in right eye while left eye was normal. On FFA performed in our clinic, hyper-fluorescent appearance which onset at early phases and persisted at late phases was observed at the lesion area on



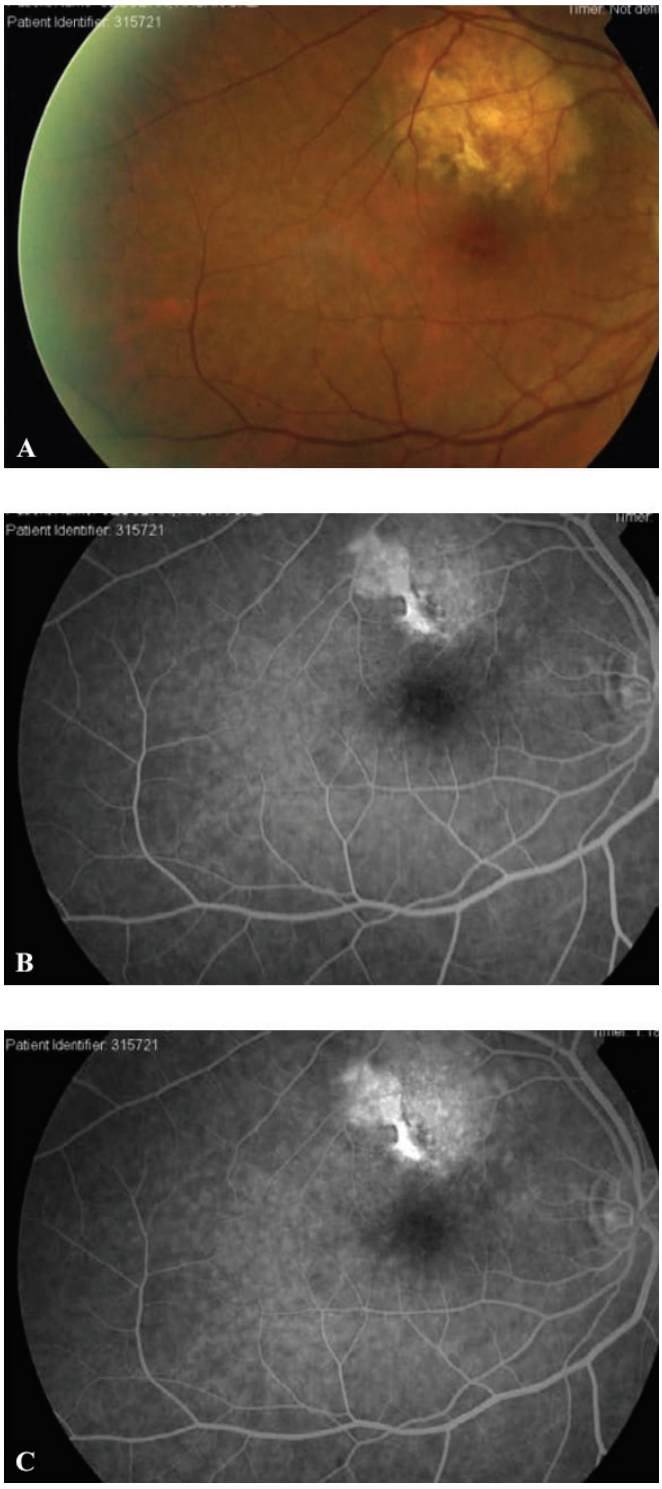
Picture 2. *On OCT at index presentation (A) and other clinic (B) a mass lesion at choroid together with subretinal fluid and choroidal neovascularization can be seen with optic shadowing beneath lesion.*

right eye (Figure 3). On SD-OCT, RPE changes together with mild thinning in central retina were observed (Picture 4). On B-mode sonography, hyperechogenic choroidal lesion causing acoustic shadowing was observed (Picture 5).

The patient was considered as CNV secondary to choroidal osteoma which regressed spontaneously and no treatment was offered due to stable clinical picture based on available clinical findings. No recurrence was detected on control visit at month 1.

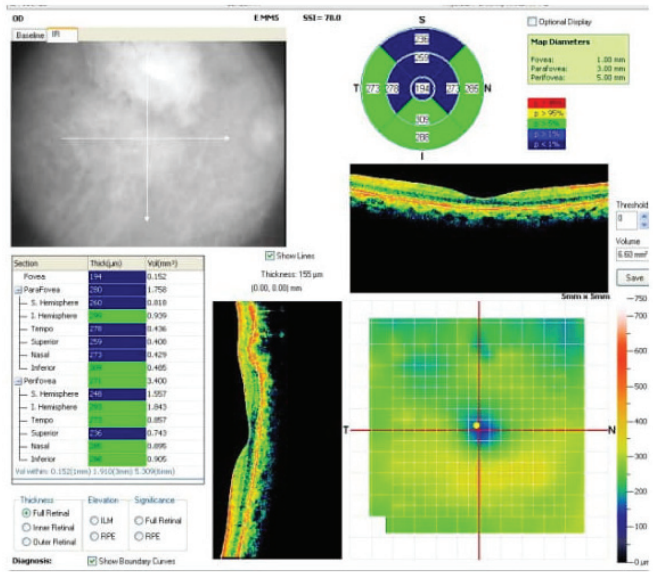
DISCUSSION

In this disease with unclear etiology, pathophysiology and treatment, prognosis depends on tumor localization,

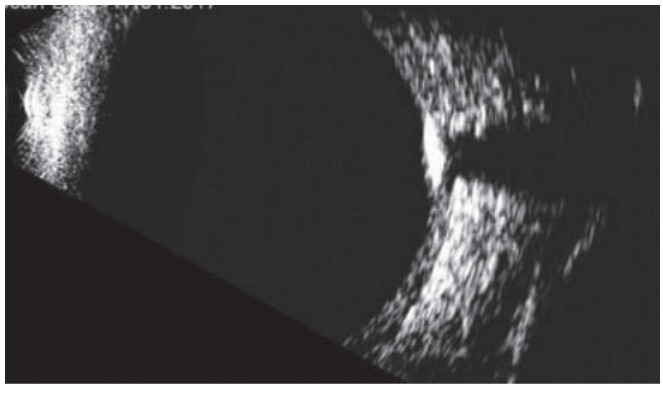


Picture 3. *Hypo-pigmented choroidal osteoma area over macula on fundus image of right eye, (A) and hyper-fluorescence at early phase (B) and late staining (C) on fundus fluorescence angiography are seen.*

CNV formation, presence of subfoveal fluid or subretinal hemorrhage and photoreceptor injury. Asymptomatic lesions or those with distant localization from fovea should be monitored periodically. Secondary complications should be treated accordingly.



Picture 4. *Thinning in central retina can be seen in the lesion area where subretinal fluid and CNV were regressed on OCT.*



Picture 5. *Hyperechogenic choroidal lesion causing acoustic shadowing can be seen in right eye on B-mode sonography.*

There is no standard treatment for choroidal osteoma. Factors warranting treatment include secondary CNV, subretinal fluid and resultant decrease in vision.[5] In a study including 61 patients with choroidal osteoma, Shields et al. reported CNV incidence as 31% in these patients.[2] The pathogenesis for CNV hasn't been fully elucidated. In the treatment of choroidal osteoma-related CNV, thermal laser, photodynamic therapy (FDT) for extra-foveal lesions and transpupillary thermotherapy and FDT for subfoveal lesions have been used with partial success; however, it was shown that such treatment modalities can increase retinal damage by leading tumor decalcification. In recent years, intravitreal anti-VGEF therapies have been used with favorable results regarding anatomic outcomes and visual acuity.[5-7] In the literature, it was reported that spontaneous resolution can be seen in cases with subretinal

fluid or hemorrhage in the absence of CNV; however, there is no case with CNV which resolved spontaneously as similar to our patient.[8,9] Although anti-VEGF therapy was planned in our patient, CNV and subretinal fluid were regressed spontaneously. Lack of severe loss of vision was considered to be related with extra-foveal localization of lesion in our patient.

In conclusion, although spontaneous resolution is possible in cases with CNV secondary to choroidal osteoma, follow-up should be maintained due to likelihood of recurrence in these cases.

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