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Optical Coherence Tomographic Findings in a Patient with Choroidal Osteoma

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Abstract: We present a case of choroidal osteoma in a 63-year-old man. Fundus examination revealed a yellowish-brown lesion in the posterior pole. Ultrasonic B-scan echography showed a highly reflective lesion. Optical coherence tomography image of this lesion revealed hyporeflective with intrinsic hyperreflective dots. OCT is a useful noninvasive diagnostic examination to identify the intrinsic structure in patients with choroidal osteoma.
Keywords: choroidal osteoma, optical coherence tomography

INTRODUCTION

Choroidal osteoma is a unique tumor that comprises mature bone in the circumpapillary or macular region [1, 2]. Recently, several reports have described the use of enhanced depth imaging optical coherence tomography (EDI-OCT) to examine the surface topography and intrinsic bone features of choroidal osteoma [3-7]. Herein, we present a case of choroidal osteoma in a 63-year-old man.

CASE REPORT

A 63-year-old Japanese man was referred to our clinic for blurry vision in the right eye. He had no significant medical history. Best corrected visual acuity was 1.2 in his both eyes. Slit-lamp examination showed cortical opacities in both lenses. Examination of the fundus of the right eye demonstrated yellowish-brown lesion at the posterior pole (Figure 1).

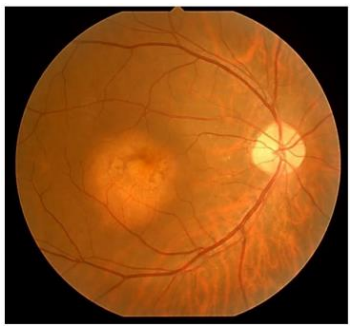

Fig. 1: Fundus photograph of the right eye

Note a yellowish-brown lesion in the posterior pole.

Ultrasonic B-scan echography showed a highly reflective lesion (Figure 2).

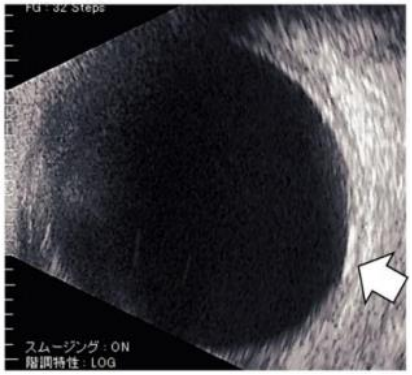

Fig. 2: Ultrasonic B-scan echography
Note a highly reflective lesion (arrows).

EDI-OCT (DRI OCT-1 Atlantis; TOPCON, Japan) revealed hyporeflective with intrinsic hyperreflective dots (Figure 3 arrow). In addition, the posterior edge of the tumor is well visible. Serous retinal detachment was also detected.

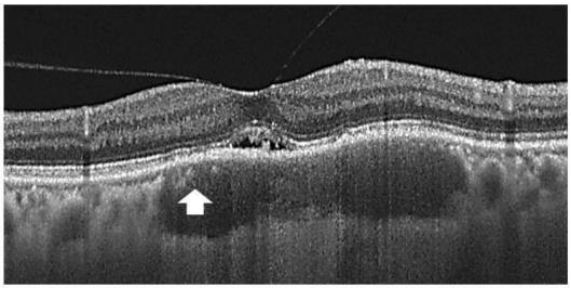

Fig. 3: OCT image

This tumor is hyporeflective with intrinsic hyperreflective dots (arrow).

On the basis of these findings, the patient was diagnosed with choroidal osteoma. Five months later,

serous retinal detachment was returned to normal aspect.

DISCUSSION

Recently, several reports have described the use of EDI-OCT to examine cases of choroidal osteoma [3-7]. Using EDI-OCT, intrinsic features of choroidal osteoma has been better visualized. Navajas et al. [3] described a latticework reflective pattern in the EDI-OCT images. The images of osteomas were characterized as multiple hyperreflective dots surrounding hyporeflective cavernous spaces in the calcified regions. Pellegrini et al. [4] also described a similar sponge-like pattern in the calcified regions. This sponge-like pattern is consistent with a previous histopathologic study that revealed spongy bone consisting of dense bony trabeculae surrounding marrow spaces with loose connective tissue and vessel. Freton and Finger [5] noted surface topography from flat to localized elevation and identified homogeneous internal reflectivity in some cases, whereas others showed "variations" in reflectivity, likely representing vascular channels within the bony tumor. Shields et al. [6] evaluated choroidal osteoma in 15 eyes of 13 patients using EDI-OCT. According to their report, the EDI-OCT features included horizontal lamellar lines (presumed bone lamella; n = 15, 100%), hyperreflective horizontal lines (presumed cement lines; n = 8, 53%), horizontal tubular lamella with empty center (presumed Haversian canals or vascular channels; n = 9, 60%), vertical tubular lamella with empty center (presumed Volkmann canals or vascular channels; n = 2, 13%), and speckled regions (presumed compact or small trabecular bone; n = 6, 40%). These EDI-OCT observations correlate with previous histopathology observations of choroidal osteoma, in which there was a "preponderance of bony structure" with visible bone lamella, prominent cement lines, trabecular bone, and vascular channels. Shields et al. [6] described that speckled hyperreflective dots could be suggestive of small trabecular (spongy, cancellous) bone, osteocytes, or other bone feature. In this present case, EDI-OCT showed above speckled appearance.

Although our findings were based on a single case of choroidal osteoma, they may contribute to a better understanding of this condition. Choroidal osteoma can lead to poor visual acuity, most often related to choroidal neovascularization, serous retinal detachment, or photoreceptor atrophy [1, 2]. Therefore, long-term follow-up is necessary in this case.

DISCLOSURE

The authors have no conflicts of interest to disclose.

REFERENCES

1. Shields CL, Shields JA, Augsburger JJ; Choroidal osteoma. Surv Ophthalmol., 1988; 33(1): 17-27.
2. Shields CL, Pellegrini M, Ferenczy SR, Shields JA; Enhanced depth imaging optical coherence tomography of intraocular tumors: from placid to seasick to rock and rolling topography--the 2013 Francesco Orzalesi Lecture. Retina, 2014; 34(8): 1495-1512.
3. Navajas EV, Costa RA, Calucci D, Hammoudi DS, Simpson ER, Altomare F; Multimodal fundus imaging in choroidal osteoma. Am J Ophthalmol., 2012; 153(5):890-895.e3.
4. Pellegrini M, Invernizzi A, Giani A, Staurenghi G; Enhanced depth imaging optical coherence tomography features of choroidal osteoma. Retina, 2014; 34(5): 958-963.
5. Freton A, Finger PT; Spectral domain-optical coherence tomography analysis of choroidal osteoma. Br J Ophthalmol., 2012; 96(2): 224-228.
6. Shields CL, Arepalli S, Atalay HT, Ferenczy SR, Fulco E, Shields JA; Choroidal osteoma shows bone lamella and vascular channels on enhanced depth imaging optical coherence tomography in 15 eyes. Retina, 2015; 35(4): 750-757.
7. Hayashi Y, Mitamura Y, Egawa M, Semba K, Nagasawa T; Swept-source optical coherence tomographic findings of choroidal osteoma. Case Rep Ophthalmol., 2014; 5(2): 195-202.