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Case report

Retinal and choroidal hyperreflective foci on spectral-domain optical coherence tomographic images in a patient with retinitis pigmentosa accompanied by diabetic retinopathy

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ABSTRACT

Purpose: To report the detailed macular morphology documented by spectral-domain optical coherence tomography (SD-OCT) in a patient with retinitis pigmentosa (RP) and diabetic retinopathy (DR).
Observations: A 54-year-old man with a hemoglobin A1c level of 11.4% was referred for decreased visual acuity (VA) bilaterally (right eye, 20/100; left eye, 20/40). Funduscopy showed typical retinal findings of RP bilaterally. The macular area of both fundi showed retinal dot-and-blot hemorrhages, hard exudates. Time-domain OCT revealed macular edema in the right eye. The patient was diagnosed with RP accompanied by DR bilaterally. Five years after the first visit, the BCVAs remained 20/100 in the right eye and 20/40 in the left eye. SD-OCT showed that the retinas were thinner temporal to the maculas. The external limiting membrane line (ELM) and the ellipsoid zone of the photoreceptors line (EZ) was not visible in the foveal region in the right eye and temporal to the macula in both eyes. The image revealed the characteristic intraretinal and intrachoroidal hyrerreflective foci, the number of which increased corresponding to the extent of the disappearance of the ELM and EZ line with thinning of the outer nuclear layer (ONL). In addition, the image also showed a great number of the hyperreflective foci in the ONL and the choriocapillaris in the foveal region in the right eye compared with the left eye.
Conclusions: In the current case, the SD-OCT findings suggested that the characteristic hyrerreflective foci clinically observed in the fundi of a patient with RP accompanied by DR are present in the retinal layers and the choroid. In addition, the foci in the retinal and choroidal layers in the foveal region may increase as vision declines corresponding to the disappearance of the ELM and EZ line.

1. Introduction

Retinitis pigmentosa (RP) and diabetic retinopathy (DR) are common diseases. However, very few cases have been reported in which DR was present in an eye with RP [1]. Arden reported that none of 55 patients with diabetes had DR with RP in a survey of patients with long-term diabetes mellitus and RP [2]. Therefore, the pathologies of both complicated eyes remain incompletely understood.

The recently developed high-resolution spectral-domain optical coherence tomography (SD-OCT) devices visualize more detailed anatomic macular morphologies and allow detailed in vivo visualization of the retinal and choroidal structures that approaches the histologic level. We present the case of a patient with RP accompanied by DR documented by SD-OCT (Spectralis HRA-OCT, Heidelberg Engineering, Heidelberg, Germany).

2. Case report

A 54-year-old man had a fasting blood sugar and hemoglobin A1c levels of 332 mg/dl and 11.4%, respectively. He presented with blurred vision bilaterally and was referred to our Retina Service for a detailed examination and tertiary care of the DR. His best-corrected visual acuities (BCVAs) were 20/100 in the right eye and 20/40 in the left eye. Funduscopic examination showed typical retinal findings of RP, i.e., retinal pigment epithelium (RPE) degeneration, bone spicule-like pigmentation, and attenuated

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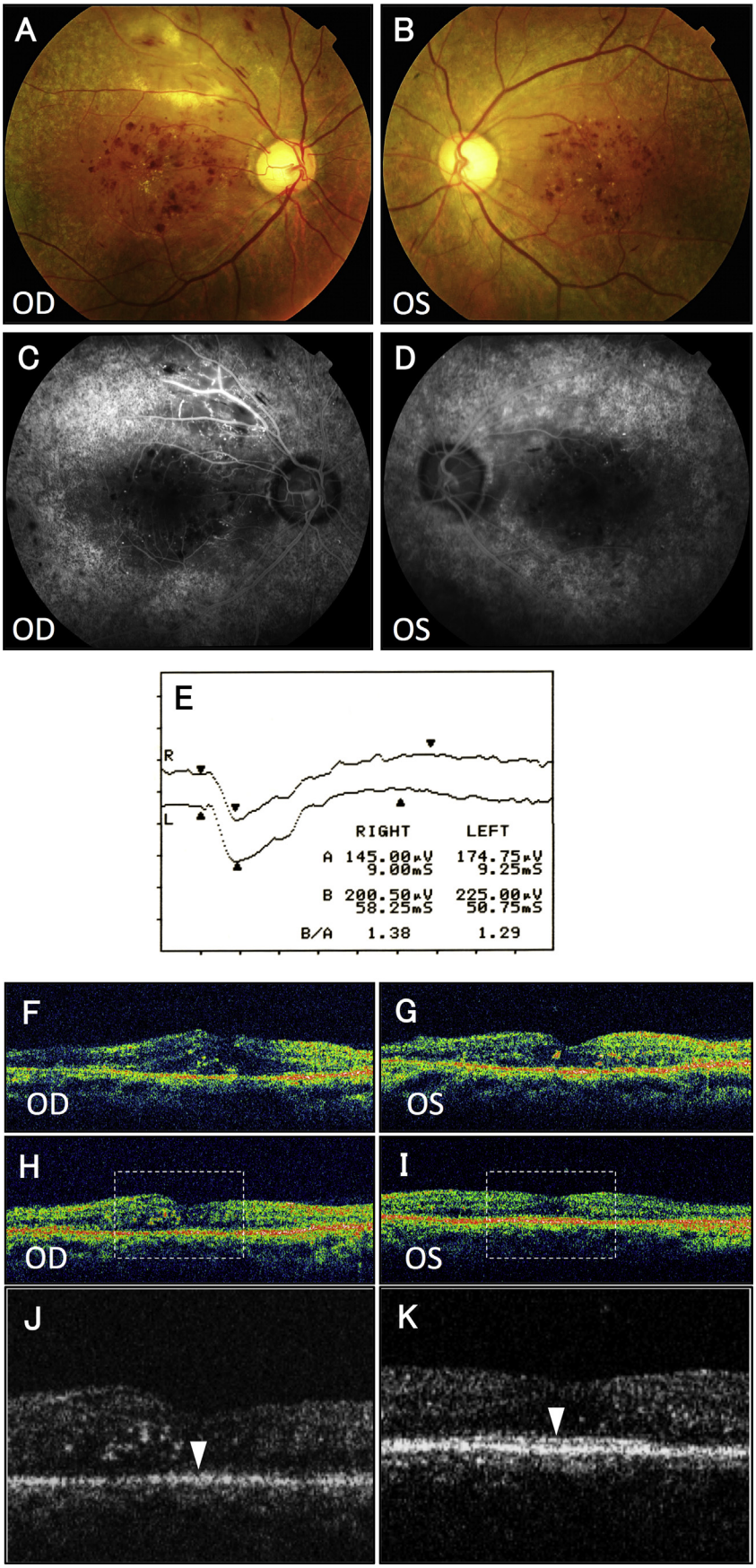
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