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A Case of Reticular Pattern Dystrophy of the Retinal Pigment Epithelium

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Abstract: We present a case of reticular pattern dystrophy of the retinal pigment epithelium (RPE) in a 64-year-old woman. Fundus examination revealed discoloration at the macula in both eyes. Fundus autofluorescence (FAF) imaging showed clearly defined reticular hyperfluorescent lesions. Optical coherence tomography (OCT) demonstrated focal thickening of the RPE, called bumps, and the inner segment/outer segment interface was disrupted. FAF and OCT were useful in visualizing reticular pattern lesions and in localizing retinal deposits in a patient with reticular pattern dystrophy of the RPE.
Keywords: Reticular pattern dystrophy, Retinal pigment epithelium, Fundus autofluorescence, Optical coherence tomography

INTRODUCTION

Pattern dystrophies are a collection of uncommon disorders affecting the retinal pigment epithelium (RPE) bilaterally, predominantly at the macula [1, 2]. Reticular pattern dystrophy is generally diagnosed based on the presence of yellow macular deposits in a reticular pattern on fundus examination [1-3]. Several recent reports have described cases of reticular pattern dystrophy examined by fundus autofluorescence (FAF) and optical coherence tomography (OCT) [4, 5]. We describe a case of reticular pattern dystrophy of the RPE.

CASE REPORT

A 64-year-old Japanese woman was referred to our clinic for fundus discoloration in both eyes. She had no specific medical history. On ophthalmic examination, her visual acuity was 1.2 in both eyes, both anterior segments were normal, and the ocular pressures were normal. Ophthalmoscopy of both eyes revealed discoloration at the level of the RPE at the macula and drusenaround the vascular arcade (Fig. 1).

Fundus autofluorescence (FAF) imaging showed clearly defined reticular hyperfluorescent lesions (Fig. 2).

OCT demonstrated focal thickening of the RPE, called bumps (Fig. 3, arrowheads), and the inner segment/outer segment (IS/OS) interface was disrupted (Fig. 3, arrows). The material was located above the RPE and resulted in the absence of the IS/OS interface.

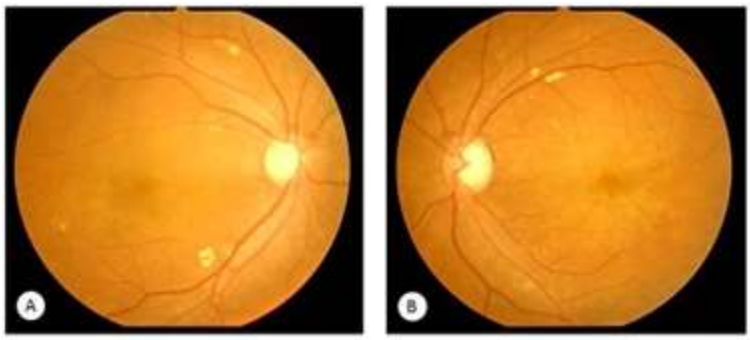

Fig. 1: Fundus photographs of the (a) right and (b) left eyes showing discoloration at the level of the retinal pigment epithelium

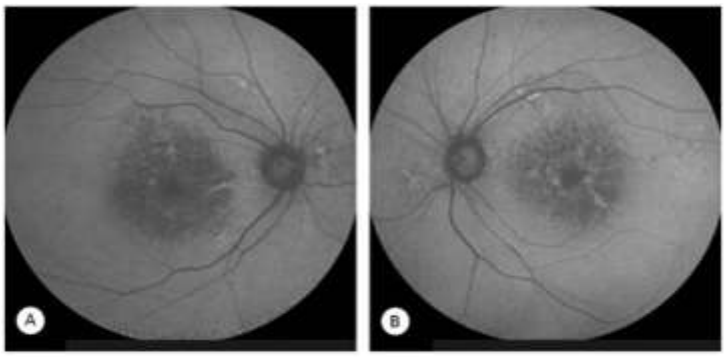

Fig. 2: Fundus autofluorescent (FAF) imaging of the (a) right and (b) left eyes showing reticular hyperfluorescent lesions

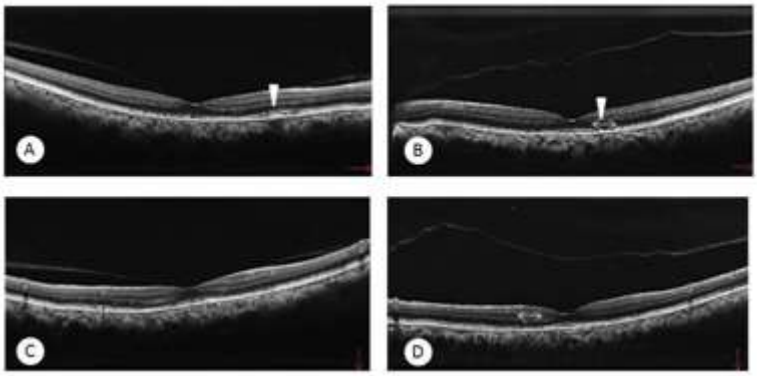

Fig. 3: Optical coherence tomography (OCT) images of the (a, c) right and (b, d) left eyes in horizontal (a, b) and vertical (c, d) directions. OCT shows focal thickening of the RPE (arrowheads), and disruption of the inner segment/outer segment interface (arrows).

Based on these collective findings, we diagnosed our patient with reticular pattern dystrophy of the RPE. The visual findings did not change during the 6-month follow-up period.

DISCUSSION

Several reports have described the use of OCT and FAF for identifying retinal abnormalities in patients with reticular pattern dystrophy [4-6]. Zerbib *et al*. [4] analyzed the retinal features of 13 patients using spectral-domain OCT. According to their report, in the foveal area, the RPE was normal in 45.5% of eyes, but small RPE elevations and RPE bumps were detected in 31.8% and 22.7% of eyes, respectively. In addition, the OCT scans showed disruption of the IS/OS junction in 54.6% of eyes, slight elevation in 59.1% of eyes, and absence in 45.5% of eyes. Furthermore, accumulation of hyperreflectivesubretinal material and hyporeflectivesubretinal lesions in the retrofoveolar region were detected in 70% and 20% of eyes, respectively. On FAF, Zerbib *et al*. [4] described hyper-autofluorescence of the reticular material deposits. Their findings are very similar to the results in the present case.

In the present case, the differential diagnosis included other peculiar retinal dystrophies such as Stargardt disease, adult-onset foveomacularvitelliform dystrophy.

Patients with Stargardt disease exhibit central macular atrophy and yellow-white flecks at the posterior pole [6, 7]. It is generally characterized by hypofluorescent central macular lesions, which indicate chorioretinal atrophy, and flecked hyperfluorescence on FAF [6, 7]. The reticular pattern deposits demonstrated in this case were not considered compatible with Stargardt disease. In adult-onset foveomacular vitelliform dystrophy, FAF is able to detect small amounts of vitelliform material, which are predominantly increased on FAF and decrease in later disease stages [6, 8, 9]. The material is thought to be located above the RPE, and is prominent within the retinal layers [8, 9]. In the present case, the material deposits and alterations in the RPE and outer retinal layers. The lesions exhibited specific features distinct from those in other macular dystrophies.

CONCLUSION

Although our findings were based on a single case, retinal changes were more easily defined on FAF images than on color photographs. FAF and OCT were useful in visualizing peculiar reticular pattern lesions and in localizing retinal deposits in a patient with reticular pattern dystrophy of the RPE.

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