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Short communication

Bilateral solar retinopathy. Autofluorescence and optical coherence tomography[☆]



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ABSTRACT

Case report: A 33-year-old man referred decreased bilateral visual acuity for five years, with no history of interest. Military profession and probably previous sun exposure. Focal pigmented lesions in the macular area of the fundus were observed, with impairment of the photoreceptor layer in the fovea, observed by optical coherence tomography (OCT), in various sectors of the fovea.

Discussion: Solar retinopathy is associated with professions at risk of sun exposure. The diagnosis is based on autofluorescence and macular OCT, that later will provide key data to establish the cause.

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Retinopatía solar bilateral. Autofluorescencia y tomografía de coherencia óptica

RESUMEN

Caso clínico: Varón de 33 años, que refiere disminución de agudeza visual bilateral desde hace 5 años. No presenta antecedentes de interés. Militar de profesión y probable exposición ocular solar previa. Se aprecian en el fondo de ojo lesiones pigmentadas focales maculares, con alteración de la capa de los fotorreceptores a nivel foveal, evidenciada por tomografía de coherencia óptica (OCT) en varios sectores de la fovea.

Discusión: La retinopatía solar está asociada a profesiones con exposición solar de riesgo. El diagnóstico está basado en la autofluorescencia y OCT macular que nos va a aportar datos fundamentales para establecer la causa.

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Introduction

The noxious effects of sunlight are well known: it causes thermal and photochemical damage in the retina pigment epithelium and photoreceptors. Lesions are produced by temperature increases in said area and by near-UVA ultraviolet radiations (320–400 nm), which account for photochemical damage. In addition, histological damage takes place at the level of the retina pigment epithelium melanosomae and photoreceptor external segment.¹ Particularly, the fovea is not protected by the ganglion layer, making it more vulnerable to solar radiation. Feared maculopathies can be caused by a single or also recurring exposure.²

Solar retinopathy differential diagnostic must include hereditary diseases such as retinal or pattern dystrophies,

inflammatory diseases such as acute retinal epithelitis, toxic causes (chlorokine and derivatives), traumatic causes, initial macular hole stages and central serous chorioretinopathy.³ The latter condition is well described in patients with mental disorders, in those who participate in religious rituals, the military and individuals who sunbathe or watch a solar eclipse without adequate ocular protection.⁴

Macular alteration depends directly on the intensity, duration and range of exposure. There is a certain degree of individual susceptibility, particularly with patients having dilated pupils, transparent media, albinos, individuals with good fixation capacity, emmetropes when radiations are transmitted directly to the fovea, and individuals living in geographic areas with high atmospheric transmission of ultraviolet radiation.

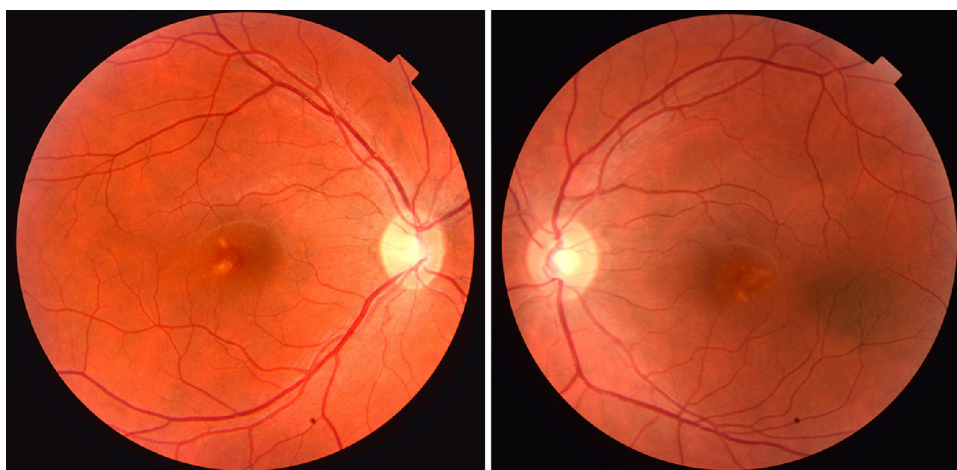


Fig. 1 – Bilateral retinography, showing multiple yellowish lesions at the macular/foveal area in both eyes.

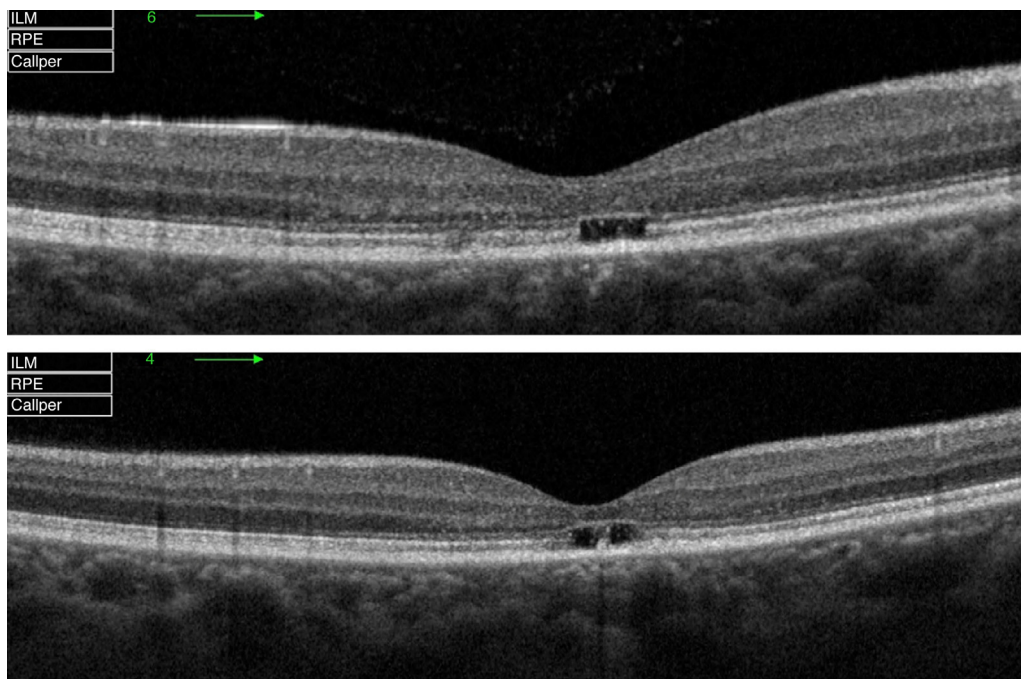


Fig. 2 – OCT taken with Topcon 3D OCT-2000 FA Plus®, showing an ellipsoid layer disruption and subfoveal RPE alteration in both eyes. The upper part of the figure shows right eye macular OCT, while the lower part shows left eye macular OCT.

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