Short communication

Sclerochoroidal calcification associated with hypovitaminosis D

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ABSTRACT

Case report: A 69-year-old woman was referred for a routine visit, during which funduscopy revealed white-yellow subretinal lesions in the superotemporal mid-periphery of both eyes. A and B scan ultrasound showed hyperechogenic lesions located at scleral and choroidal level. Computed tomography revealed posterolateral sclerochoroidal calcifications. Metabolic studies showed a severe vitamin D deficiency with no other remarkable findings.

Discussion: Sclerochoroidal calcifications are an infrequent finding that occur as a result of calcium deposit at scleral and choroidal levels. They have a characteristic clinical picture and are idiopathic in most cases, but may be associated with some systemic diseases, such as calcium and phosphorous metabolic disorders; this fact warrants a thorough metabolic study. We report a case of bilateral sclerochoroidal calcifications associated with severe vitamin D deficiency with no other significant metabolic findings.

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Calcificaciones esclerochoroides asociadas a hipovitaminosis D

RESUMEN

Caso clínico: Mujer de 69 años que presenta en una exploración funduscópica rutinaria unas lesiones subretinianas blanco-amarillentas en la periferia media temporal superior de ambos ojos. Ecográficamente eran hiperecogénicas, situándose a nivel esclerochoroidal. Se realizó una tomografía axial computarizada que mostró calcificaciones esclerochoroides posterolaterales. El estudio metabólico reveló una deficiencia severa de vitamina D sin otros hallazgos significativos.

Discusión: Las calcificaciones esclerochoroides son lesiones poco frecuentes que se producen como consecuencia del depósito de calcio a nivel de la esclera y la coroides. Tienen un aspecto clínico característico y en la mayor parte de los casos son idiopáticas. En ocasiones...
Introduction

Sclerochoroidal calcifications are rare and characterized by subretinal yellowish-white lesions, usually found at the periphery of the superior temporal retinal arcade.1–3 In most cases, they are bilateral, asymptomatic and affect the elderly.1 Clinically, they may be confused with choroidal metastasis, choroidal melanoma and choroidal osteoma.1,2 They are usually idiopathic, but some reports link them to calcium, phosphorus and magnesium metabolic disorders.2,4 Evaluation of this metabolism and clinical examination are important to rule out associated diseases, such as hyperparathyroidism, pseudohypoparathyroidism, Gitelman and Bartter syndromes, chondrocalcinosis and hypervitaminosis D.1–5 This is a case report of a female patient diagnosed with bilateral sclerochoroidal calcifications; the result of its metabolic analysis was severe deficiency of 25 hydroxycholecalciferol (vitamin D).

Clinical case

A 69-year-old Caucasian woman had a routine ophthalmology examination. Her general history included hypertension, hyperlipidemia and hypertensive heart disease, all under pharmacological treatment.

The patient had visual acuity at distance and with her regular 1.2 correction in both eyes (OU). Anterior segment was normal, with correct pseudophakic in both eyes and YAG capsulotomy in her right eye (OD). Intraocular pressure (IOP) was 19 mm Hg in OD and 17 mm Hg in the left eye (OS). Fundus examination revealed yellowish-white raised subretinal lesions at the superior temporal arcade level in OU (more marked in OD), with small areas of retinal pigment epithelium (RPE) atrophy, which displayed underlying choroidal vessels (Figs. 1 and 2).

Fluorescein angiography showed some progressive hyperfluorescence lesions along the angiogram (Fig. 3), and an ultrasound detected hyperechogenic plaque at the level of the sclera and choroid.

Diagnosis of suspected intraocular tumor with unclear extrascleral involvement prompted a request for a cranial and orbital computed tomography (CT), which revealed the final diagnosis of posterolateral scleral calcifications in OU (Fig. 4).

A complete blood analysis was requested to rule out calcium and phosphorus metabolic disorders and signs of hypokalemic metabolic alkalosis (Gitelman syndrome/Bartter syndrome). The results found a severe deficiency (4 ng/ml) of 25-hydroxycholecalciferol (vitamin D) (normal range between 30.0 and 74.0 ng/ml), which was treated with a supplement of vitamin D. No other metabolic disorders were detected, other than the described vitamin D deficiency.

Discussion

The sclerochoroidal calcifications are usually idiopathic lesions which do not require treatment, but in some cases are associated with systemic diseases associated with the...
metabolism of calcium and phosphorus, so a proper study of these patients is crucial.\(^3\)\(^-\)\(^5\)

In our case, we found a severe deficiency of vitamin D, while the rest of analytical markers were within normal ranges.

To the best of our knowledge, there are no other cases in the medical literature of sclerochoroidal calcifications associated with severe vitamin D hypovitaminosis without other metabolic disorders.

It is unknown whether there is a pathogenic mechanism that might explain this relationship, or if this is a casual association.

Vitamin D regulates calcium metabolism; it determines calcium absorption and transfers to bones. Severe hypovitaminosis D (serum levels lower than 10 ng/ml) is associated with rickets in children and osteomalacia and osteoporosis in adults; additionally, vitamin D malnutrition has also been linked to cancer (breast, ovarian, colon and prostate), multiple sclerosis, type 1 diabetes, weakness, chronic fatigue, mental diseases (depression, seasonal affective disorder), rheumatoid arthritis, psoriasis, tuberculosis, high blood pressure and inflammatory bowel disease, hence the importance of its detection.

In conclusion, we emphasize the importance of recognizing this ophthalmology condition, and to avoid mistaking it for a tumor of the ocular fundus and, therefore, prevent unnecessary studies and treatments. Also, it is possible that systemic associations must be known to enable early diagnosis and treatment of diseases posing serious risks to health.

Conflicts of interest

The authors declare that they have no conflicts of interest.

References