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Short communication

The effect of the acceleration/deceleration trauma in angiod streaks: A pathogenic hypothesis ☆, ☆☆



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ABSTRACT

Case report: A 59-year-old male with acceleration/deceleration cranial trauma (ADT), caused by a car accident. After one month, he presented with loss of visual acuity in the right eye. A fluorescein angiography test was performed and it detected centrifugal hyperfluorescent lines from the optic nerve head, a characteristic compatible with the diagnosis of angioid streaks. The loss of visual acuity was demonstrated by the discovery of a juxtafoveal choroidal neovascular membrane (CNV).

Conclusion: ADT can cause hyper-extension of the eyeball in its equator line, producing the rupture of fragile structures such as the Bruch membrane (MB) in patients with angioid streaks and the subsequent formation of CNV.

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Efecto del traumatismo por aceleración/desaceleración en estrías angioides: hipótesis patogénica

RESUMEN

Caso clínico: Varón de 59 años, sufrió traumatismo por aceleración/desaceleración (TAD), de localización craneal, causado por accidente de tráfico; un mes después presentó pérdida de agudeza visual (AV) del ojo derecho (OD). Mediante angiografía fluoresceínica (AGF) se detectaron líneas hiperfluorescentes centrífugas desde la papila, imagen compatible con el diagnóstico de estrías angioides (EA). El hallazgo de una membrana neovascular coroidea (MNVC) yuxtafoveal justificó la pérdida de AV.

Palabras clave:

Estrías angioides

Membrana neovascular coroidea

Trauma por

aceleración/desaceleración

Angiografía fluoresceínica

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Conclusión: El TAD puede provocar la hiperextensión del globo ocular en su eje ecuatorial, y producir la rotura de estructuras frágiles como la membrana de Bruch (MB) en pacientes con EA, con la subsiguiente formación de una MNVC.

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Introduction

Angioid streaks (AS) are dehiscences of the intermediate layer of Bruch's membrane (BM) that are radially arranged outwardly from the optic disk. The worst complication of AS is visual acuity (VA) involvement, secondary to choroidal neovascular membrane (CNVM).¹ The case of a patient is presented who, after suffering acceleration/deceleration traumatism (ADT), developed CNVM secondary to AS, which has never been diagnosed before.

Clinic case report

Male, 59, a professional driver, visited due to diminished VA in the right eye (RE). The only relevant history was a whiplash suffered one month earlier due to a traffic accident, which left no lesions.

Exploration revealed best corrected VA in the RE of 0.3 (LogMAR 0.5) with -1.0 , -0.50 to 20° , and a VA of 1 in the left eye (LE) (LogMAR 0.0) with -1.50 . Intraocular pressure was 12 mmHg in both eyes (BE). The anterior pole did not exhibit alterations.

The ocular fundus of BE (Figs. 1 and 2) showed slightly elevated papillae with well defined edges. Full peripapillary atrophy and centrifugal strips from the papilla toward the posterior pole were found. In addition, a juxtafoveal green-grayish lesion was observed in the RE.

Fluorescein angiography (FAG) was taken, which showed peripapillary atrophy as a hypo-fluorescent halo and said strips with a hypo-fluorescent pattern, both compatible with BM ruptures (Figs. 3-5). The RE macular lesion corresponded



Fig. 1 – RE ocular fundus, showing peripapillary atrophy and juxtafoveal grayish green lesion.

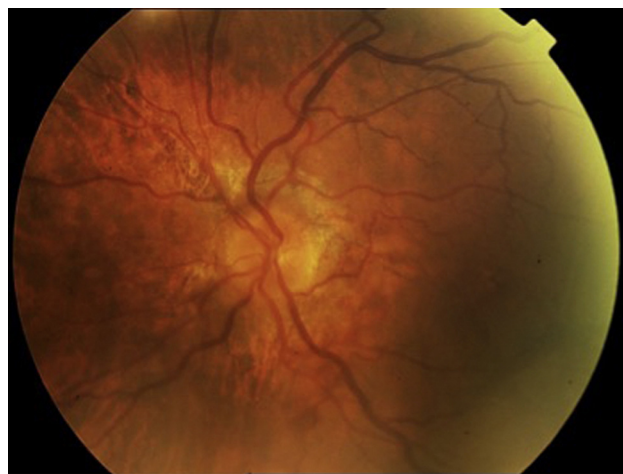


Fig. 2 – LE ocular fundus, showing less severe peripapillary atrophy.

to juxtafoveal mixed pattern CNVM, confirmed with optical coherence tomography (OCT). Finally, a hyper-capturing image with late washing in radial crown shape known as salmon-colored lesion was observed, which is present in AS conditions, although frequently related to AS secondary to sickle cell anemia.²

Autofluorescence and ocular ecography tests were performed in order to detect papillary drusen with normal

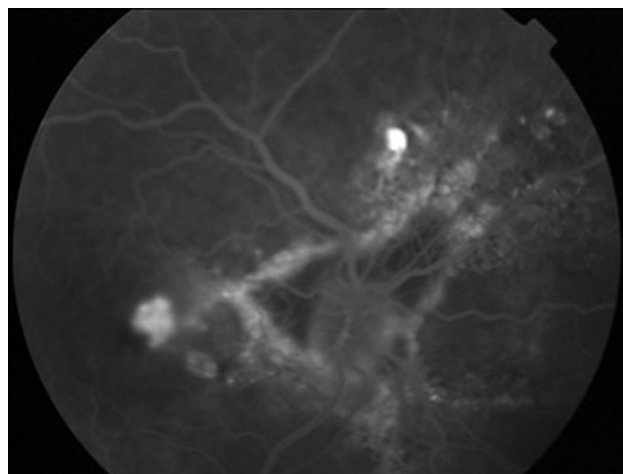


Fig. 3 – RE, FAG, choroidal phase. Hyper-fluorescent lines from the papilla toward the posterior pole. Fovea shows hyper-fluorescent lesion with leak, corresponding to CNVM. Toward the nasal superior area, hyper-fluorescent dot corresponding to salmon-colored lesion.

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