

Right Unilateral Myelin Fiber

Diallo Seydou^{1*}, Conaré Ibrahima², Sidibé Mohamed Kolé¹,
Coulibaly Brainima¹, Diallo Hamadoun¹ and Elien Gagnan
Yan-zaou-tou Rodrigue Romuald¹

¹Institute of Tropicale of Ophthalmology of Africa (Bamako), France, Europe

²Gao Regional Hospital (Mali), France, Europe

*Corresponding Author: Diallo Seydou, Institute of Tropicale of Ophthalmology of Africa (Bamako), France, Europe.

DOI: 10.31080/ASOP.2020.03.0092

Received: January 19, 2020

Published: February 10, 2020

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et al.

Abstract

Introduction: Myelin fibers correspond to the abnormal presence of myelin around the retinal optic fibers.

Clinical Observation: It was a 22-year-old patient who presented with an examination of the fundus at the level of the right eye an extensive whitish cupboard, papillary, peri-papillary, scalloped plan hiding the retinal vessels.

Discussion: Myelin fibers are congenital abnormalities of the papilla. The papillary, peri-papillary and distance localization of the papilla found in our study has been noted in the literature. Myopia occurs during extensive myelin fibers as in our patient.

Conclusion: Myelin fibers are rare, asymptomatic, benign affections, discovered incidentally during an eye examination, the diagnosis is essentially clinical.

Keywords: Myelin Fiber; Anomalies; Myelination Mali

Introduction

Myelin fibers correspond to the abnormal presence of myelin around the retinal optic fibers. The pathogenesis of myelin fibers remains unknown. Indeed, the myelination of the optic nerve begins during fetal life progressing from optical radiation towards the eyeball to the posterior part of the screened lamina. This phenomenon stops shortly before birth. For 1% of the population, myelination will continue, after birth, beyond the screened blade to extend to the level of the anterior portion of the optic nerve and to the level of the sensory retina. Histologically, myelin fibers correspond to layers of myelin, accompanied by glial cells of oligodendrocytes type, surrounding the retinal fibers. The underlying retina is strictly normal [1]. Myelin fibers can however give rise to misdiagnosis with the other papilla elevation anomalies that are:

- Bergmeister's papilla: this is an infrequent unilateral abnormality that stems from incomplete regression of the avascular remains of the hyaloid system. It results in an uplift of glial tissue on the surface of the papilla.

- Papillary druses: which appear in the form of semi-translucent more or less coalescing blisters of the papilla without physiological excavation. Giving a yellowish pink coloring to the papillae whose edges are blurred and irregular. They correspond to the accumulation of hyaline deposits on the papilla.
- Cottony nodules: comparable to ill-defined cotton balls placed on the retina. They are reflected on the optical coherence tomography by a thickening of the retinal tissue which is focal, more important and well visualized with an underlying hypo reflectivity.
- Outbreaks of papillary juxta chorioretinitis
- Retinoblastoma, in case of localized myelin fibers [2]. We report a case with right unilateral myelin fibers.

Clinical observation

It was a 22-year-old patient who presented visual acuity on both eyes with the ophthalmological examination without correction quantified at 8/10 and with correction quantified at 10/10 (- 0.75

diopeters with the right eye and - 0.5 diopter with the left eye), the examination of the anterior segment was without particularity and the ocular tone was encrypted 12mmhg at the level of the two eyes. The examination of the fundus found at the level of the right eye an extensive whitish cupboard, papillary, peri-papillary, scalloped plan with edge masking the retinal vessels (Figure 1: A, C F, G). We did not notice any visual field defects. There was no delay in filling or signs of leakage during fluorescein angiography sequences of the right eye (Figure 1: I, J). Optical coherence tomography showed hyper-reflectivity and enlargement of the layer of nerve fibers and ganglion cells and irregularity of the outer layers (Figure 1: L). The examination of the left eye was normal (Figure 1: D, E, H, K and M). The patient was informed and reassured about the mild nature of the disease, and the need for clinical monitoring due to the risk of neovascularization.

Figure 1: A, F, G: color photograph of the right eye showing an extensive whitish, papillary, peripapillary cup corresponding to the myelin fiber.
 C: green image of the right eye showing the papillary and peripapillary myelin fiber.
 I, K: Medium and late time image of fluorescein angiographic sequence without delay in filling or signs of leaks.
 L: Horizontal sections of optical coherence tomography of right eye objectifying hyper reflectivity and hypertrophy of the layer of nerve fibers and ganglion cells and irregularity of the outer layers.
 H: color photograph of the left eye normal.
 M: Horizontal sections of optical coherence tomography of left eye normal.

Discussion

Myelin fibers are congenital abnormalities of the papilla [3], they are rare conditions. Straatsma [4] noted an incidence of 0.98% on 4000 autopsies. Some authors found an incidence of 0.57% on 5789 patients. Myelin fibers can be associated with impairment of the visual field, most often a widening of the blind spot [5]. In our study, there was no visual field impairment. The papillary, peripapillary and distance localization of the papilla found in our study has been noted in the literature [6]. Myopia occurs during extensive myelin fibers [7] as in our patient. The hypofluorescence of the fundus at fluorescein angiography found in our study has been noted in the literature [8,9]. The hyper-reflectivity of the myelin fibers and the increase in the thickness of the internal retinal layer in optical coherence tomography found in our study have been noted in the literature [10].

Conclusion

Myelin fibers are asymptomatic, rare, benign affections that were discovered incidentally during an eye exam, the diagnosis is essentially clinical, based on an examination of the posterior segment of the eye. Para-clinical exams can help with diagnosis.

Conflict of Interest

No conflict of interest.

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