

Syndrome of Myelinated Retinal Nerve Fibres Asymptomatic or Amblyopia? About 6 Patients

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Abstract

Original Research Article

Retinal myelin fibers is a congenital anomaly of optical fibers, unknown pathogenesis, family forms are not uncommon. The association with other abnormalities including myopia is very common. The clinical translation is according to their size and location. These are benign lesions but may require special care including that of amblyopia.

Keywords: Nerve fibre, myeline, myopia, optic nerve.

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INTRODUCTION

The diagnosis of retinal myelin fibers is evoked in front of a whitish cupboard appearance with a finely striated scalloped edge with a fuzzy edge, masking the vessels and located in the layer of optical fibers. These fibers contiguous to or distant from the papilla, have an incidence varying from 0.57% to 0.98% according to the studies and their pathogenesis remains uncertain. The objective of our study is to diagnose myelin fibers according to their location and to systematically look for amblyopia or myopia.

MATERIAL AND METHODS

We report 6 observations from 6 patients, two of whom are from the same family with myelin fiber. The average age varies between 9 and 39 years with an average of 23 years. A complete ophthalmological examination was performed in all patients supplemented by the completion of a Goldman visual field.

RESULTS

Case N ° 1 and 2: 12-year-old girl, without any notable antecedents, brought by her mother for chronic BAV. The VA is at 10 / 10th after correction (-1.50 D Sph ODG). Examination of the anterior segment is normal.

FO: found on the left a whitish patch papillary and peri-papillary plane with scalloped edge masking the vessels (Figure-1) evoking the diagnosis of myelin fibers. Goldman's visual field: enlargement of the blind

spot (Figure-2). Ophthalmological examination of the limbs of the family found the same appearance in the mother (Figure-3) but is less marked, with a visual acuity at 10 / 10th in ODG.

Case N ° 3: 15 year old girl, having a notion of low vision of the OG since the childhood, which consults for fall of the AV of the OD. OD: AV with 10 / 10e after correction (-2 D Sph), anterior segment and FO without particularities. OG: AV to CLD at 2m non-ameliorable, the refraction having shown a -10D myopia, normal anterior segment, FO: extensive peripapillary myelin fibers with moderate chorioretinal atrophy (Figure-4). Ultrasound mode A: axial length of 27 mm.

The patient was treated with amblyopia, which was refractory to optical correction and occlusion.

Case 4: A 39-year-old woman with a localized form with a 10/10 AV (Figure-5).

Case N ° 5: 9 year old girl, presenting a localized form with a AV to 10/10.

Case 6: A 26-year-old patient with extensive form with deep amblyopia and a strong myopia of -12D.

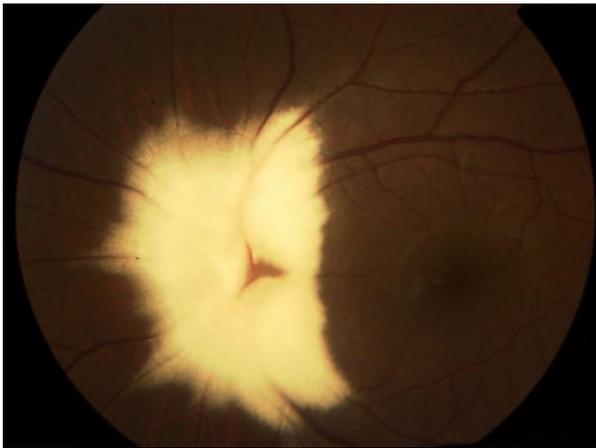


Fig-1: Photograph of the fundus showing on the left a whitish patch of papillary and peri-papillary plane with scalloped edge masking the vessels evoking the diagnosis of myelin fibers

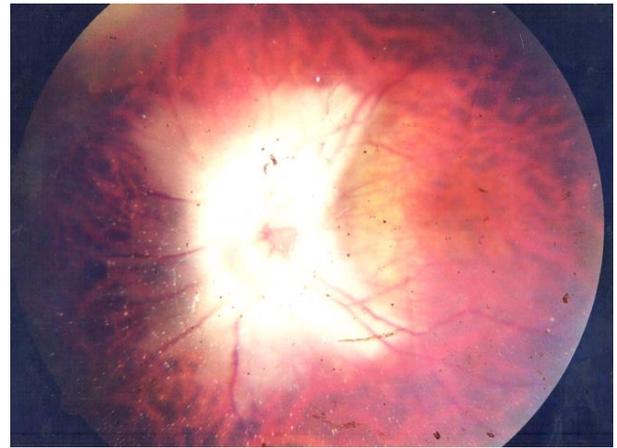


Fig-4: Fundus photograph showing extensive peripapillary myelin fibers with moderate chorioretinal atrophy in a -10 D myopic

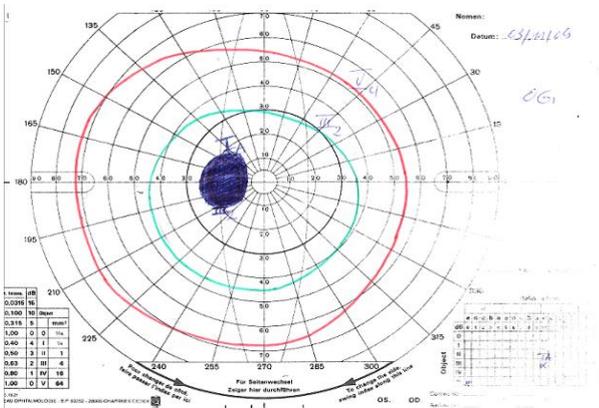


Fig-2: Goldman's visual field objectifying an enlargement of the blind spot

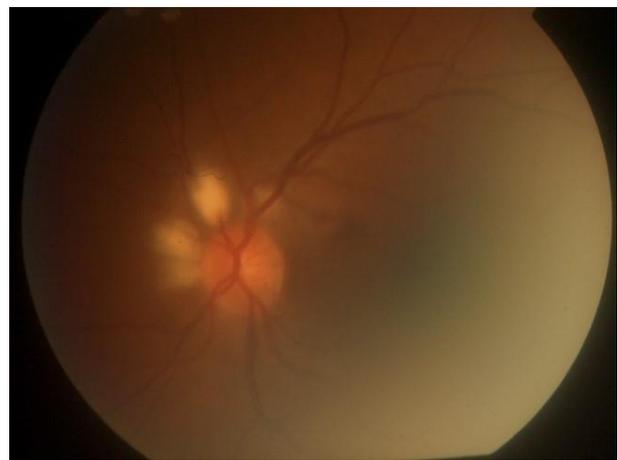


Fig-5: Photograph of the fundus showing a localized form

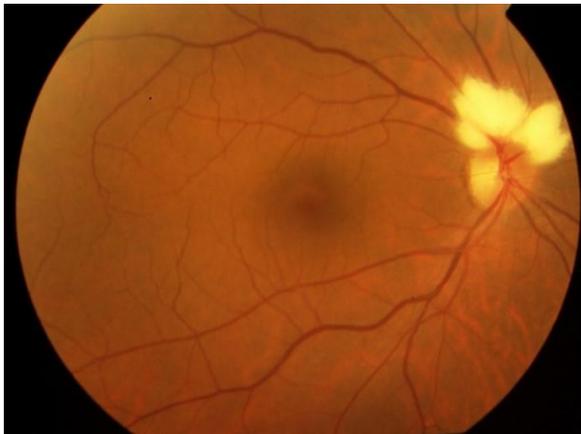


Fig-3: The ophthalmological examination of the members of the family found the same aspect in the mother but which is less marked, with a visual acuity to 10 / 10th in ODG

DISCUSSION

Retinal myelin fibers is a congenital anomaly of retinal fibers in the form of whitish spots finely streaked fuzzy at the level of the optical fiber layer, the clinical translation is according to their size and location but are usually asymptomatic. The frequent association with myopia should always encourage the practitioner to refractive under cycloplegic according to age because a myopic eye can be predisposed because of its greater axial length.

The familial character is very frequent as it is the case with two of our patients. Their etiology is unknown, several pathophysiological theories are to be debated, it is a concentric layer of lipoproteins with glial cells resembling oligodendrocytes. These cells are normally present in the optic nerve but not in the retina [1].

The myelin fibers are: bilateral in 20% of the cases, 1/3 are contiguous to the papilla. The agiographic aspect is that of a mask effect without anomaly of the choroidal retinal circulation or of the pigmentary epithelium. They can disappear after ischemic lesions [2], or after surgery of a pituitary adenoma [3, 4], and can be associated with other abnormalities including:

telangiectasia or neovascularization with hemorrhagic complications [5], ipsilateral myopia, strabismus amblyopia [6] in 12% of unilateral forms, retinal or irian coloboma and neurofibromatosis.

CONCLUSION

Myelin fibers are benign lesions and often asymptomatic however they can be associated with other ocular lesions including myopia may be the cause of amblyopia poor prognosis. Where the importance of screening a Refractive anomaly in case of unilateral myelin fibers, and a rigorous management of amblyopia.

What is Known About This Topic

Myelin fibers are congenital benign abnormalities, which vary according to their location, size and situation with respect to the disc.

They may be asymptomatic or manifest as amblyopia, High frequency of association with myopia.

What Does Your Study Bring Back

Our study will emphasize and recall the importance of recognizing the diagnosis of myelin fiber in the clinic during the systematic examination of the fundus in front of any patient with myopia, amblyopia or even in an asymptomatic patient, family forms are not rare, hence the importance of systematic review among parents and fraters.

Conflicts of Interest: The authors declare that they have no conflicts of interest.

REFERENCE

1. Straatsma BR, Foos RY, Heckenlively JR, Taylor GN. Myelinated retinal nerve fibers. *American journal of ophthalmology*. 1981 Jan 1;91(1):25-38.
2. Silvestri G, Sehmi K, Hamilton P. Retinal vascular abnormalities. A rare complication of myelinated nerve fibers?. *Retina (Philadelphia, Pa.)*. 1996;16(3):214-218.
3. Bynke H, Bynke G. Atrophy of myelinated retinal nerve fibres following pituitary surgery: Report of a case. *Neuro-Ophthalmology*. 1989 Jan 1;9(3):179-185.
4. Gupta A, Khandalavala B, Bansal RK, Jain IS, Grewal SP. Atrophy of myelinated nerve fibers in pituitary adenoma. *Journal of clinical neuro-ophthalmology*. 1990 Jun;10(2):100-102.
5. Lee MS, Gonzalez C. Unilateral peripapillary myelinated retinal nerve fibers associated with strabismus, amblyopia, and myopia. *American journal of ophthalmology*. 1998 Apr 1;125(4):554-556.
6. Buys Y, Enzenauer R, Crawford JS. Myelinated nerve fibers and refractory amblyopia: a case report. *Annals of ophthalmology*. 1993 Sep;25(9):353-355.