Importance of the autofluorescence test in the diagnosis and follow-up of Multiple Evanescent White Dot Syndrome (MEWDS).

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Abstract: PURPOSE: demonstrate the importance of autofluorescence in the diagnosis and follow up of patients complaining of shadows and flashes of light in vision. **METHODS:** we present a case of a woman who had complain of flashes of light in her vision, and dark shadows in her visual field. We saw her with Optomap, wide angle color retinography, autofluorescence, visual field after 3, 7, 25,34, and 62 days of initial symptoms, demonstrating the diagnosis, and evolution of this disease. **RESULTS:** third day of symptoms, visual acuity 20/20 with pin hole OU. blurry vision, in the temporal quadrant of OS Optomap Color retinography (OCR) almost normal. Optomap Autofluorescence (OAF) white dots surrounding fovea and optic disc. Visual field (VF) enlargement of blind spot. D7 OCR white dots visible, OAF white dots increased in number and intensity. VF similar. D25 OCR white dots still visible, OAF white dots become coalescent. VF reduced the scotoma. D62 OCR white dots not visible, OAF white dots become very light. VF reduced the scotoma. **DISCUSSION**: This case was misdiagnosed at the ophthalmic emergency room. They diagnosed acute PVD (posterior Vitreous detachment). The patient insisted in another evaluation because of the dark area in the left temporal side. The reduction of the scotoma started on D25, so if the patient didn't look for a second opinion, she would believe it was just a PVD. This case demonstrates the importance of autofluorescence in cases of phtopsies and dark shadows in the visual field.

INTRODUCTION: Multiple evanescent white dot syndrome was described by first time in 1984 by Jampol et al.[1] Healthy adults, predominantly female, myopic people who have a unilateral decrease in vision, with an increase in blind spots across the visual field, photopsias, loss of vision without pain. Recent viruses it is a common story. Retinal findings include multiple small white spots or yellowish at the posterior pole, these lesions are usually located on the deep retina or retinal pigment epithelium (RPE). Macular granularity, papillary edema and cells in the vitreous cavity are seen in many cases The average duration is 7 and a half weeks and with spontaneous resolution. Auxiliary exams are Fluorescein angiography, color retinography, indocyanine green, OCT, Fundus autofluorescence, and visual field. There are atypical cases described of foveal involvement with low vision.

CASE DESCRIPTION: We present a case of a 39-year-old female, who 3 days earlier had presented acute symptoms of photopsia and blurred vision mainly in the temporal visual field of the left eye. Searched for emergency eye service, where retinal mapping and B-ultrasonography were performed and a diagnosis of posterior vitreous detachment (PVD) was given. She had a history of an episode of diarrhea one week before symptoms. In our first evaluation (day 3 of symptoms) she presented visual acuity without correction of OD 20/25 OS 20/30 with PIN HOLE OD:20/20 Os:20/20. Optomap OD (Ultra wide-angle retinography) Normal without retinal ruptures. On the left eye, small punctiform white spots around the optic disc could be noticed. No retinal breaks were noted. Autofluorescence (AF) OD normal. OS Hyper-autofluorescente

spots surrounding the macula and optic disc. Visual field showed a normal OD and OS an increase in the blind spot with a temporal scotoma.

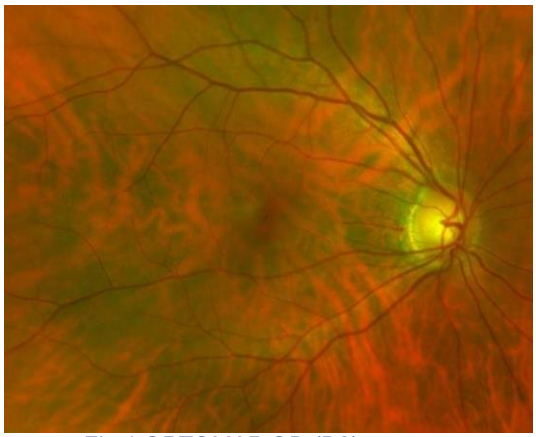

Fig 1 OPTOMAP OD (D3)

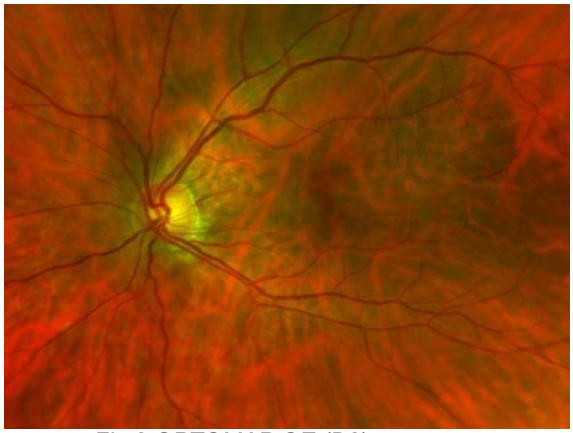

Fig 2 OPTOMAP OE (D3)

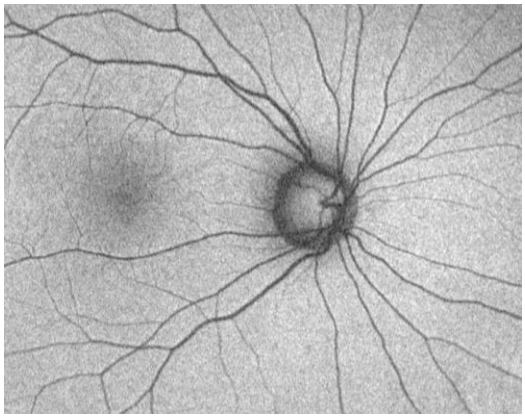

Fig 3 (D3) Normal Autofluorescence

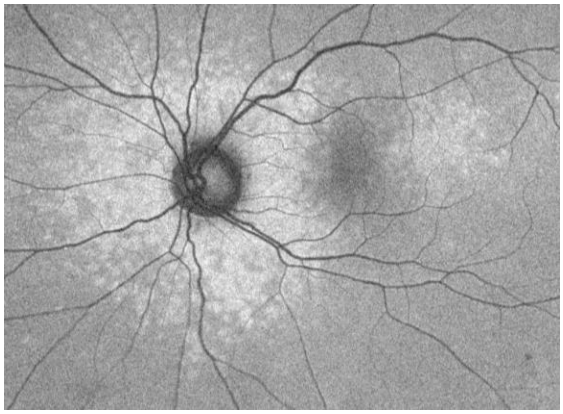

Fig 4 (D3) Hyperfluorescent dots saving the fovea

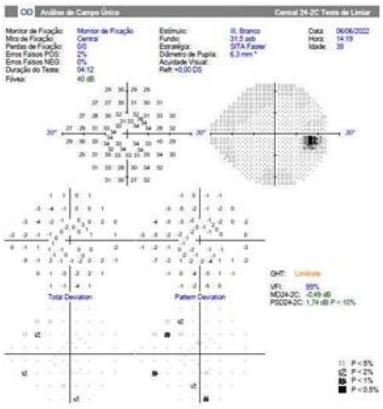

Fig 5 D3 Normal Visual Field OD.

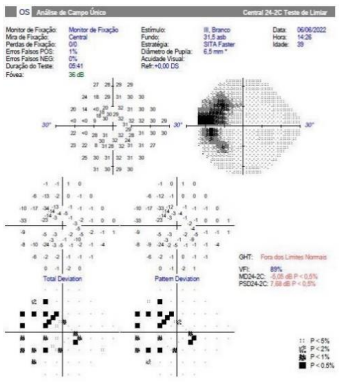

Fig 6 D3 Visual Field OS enlargement of the blind spot

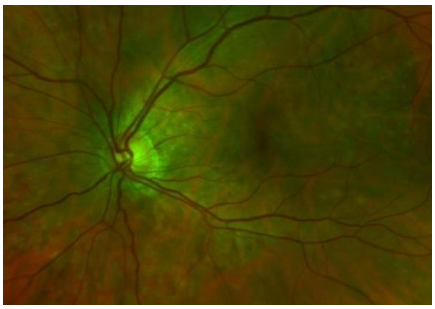

Fig7 D7 Optomap Evanescent White Dots

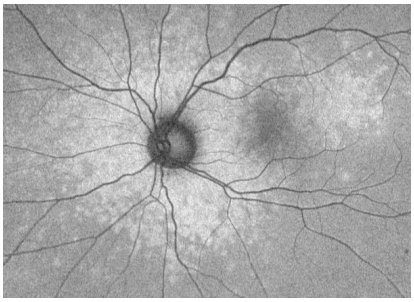

Fig 8 (D7) coalescing white dots

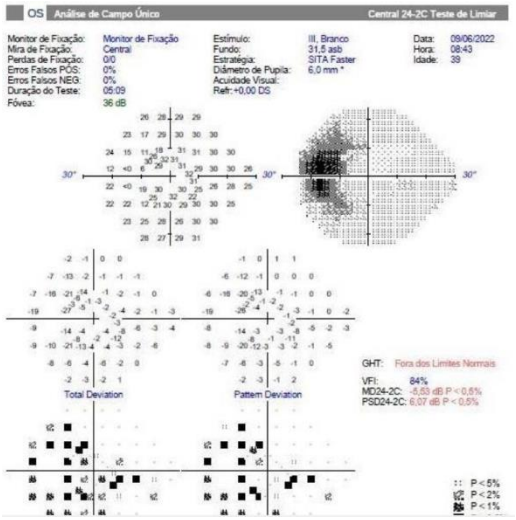

Fig 9 (D7) Similar Visual Field

D25 White dots were less visible at color Optomap, the hyper-autofluorescents dots got more coalencing and the blind spot reduced at the visual field exam.

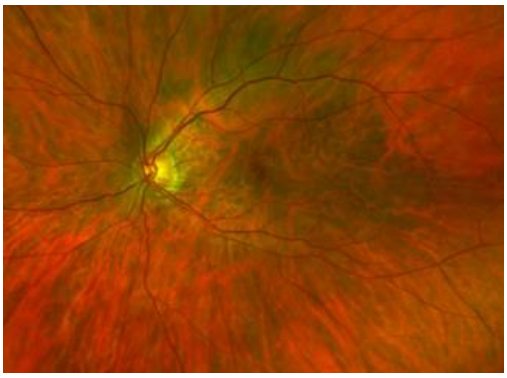

Fig 10 (D25) color optomap white dot less visible.

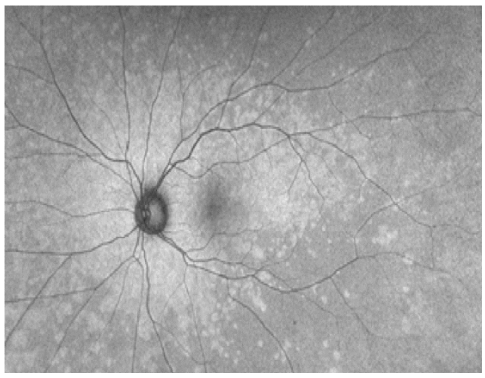

Fig 11 (D25) Coalencing white dots

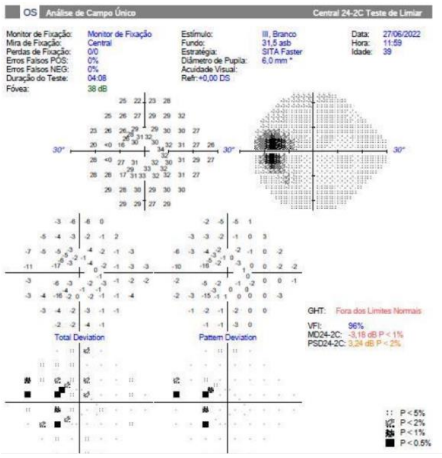

Fig 12 (D25) Visual Field similar aspect

D34 White dots less visible at color optomap. The Hiperautofluorescence reduced its confluence

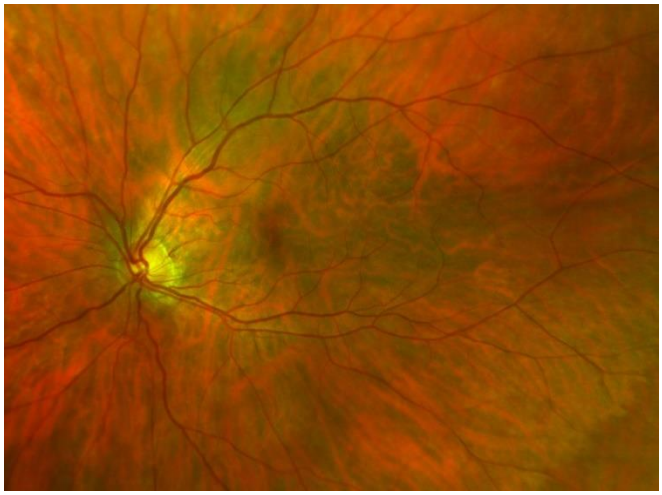

Fig *13 (D34) Color Optomap white dots less visible*

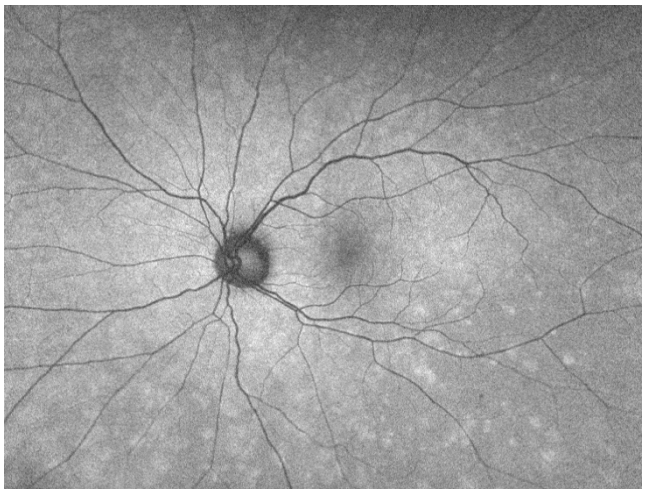

Fig 14 (D34) White dots still well visible

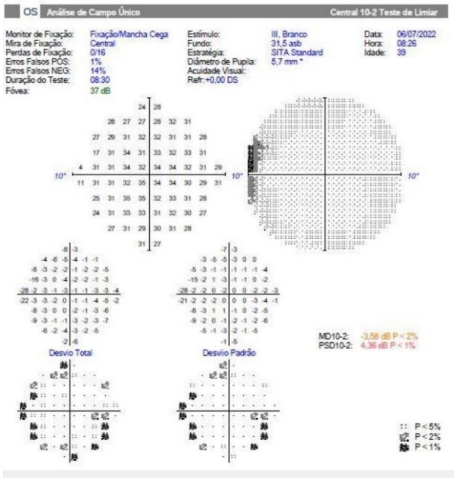

Fig 15 (D34) Central Visual Field 10x2 No scotomas

D62 White dots were not visible at color Optomap, the hyper-autofluorescents dots were almost not visible at autofluorecence and the blind spot reduced at the visual field exam. Solix OCT Angiovue didn't show detectable abnormalities, similar thickness in both eyes

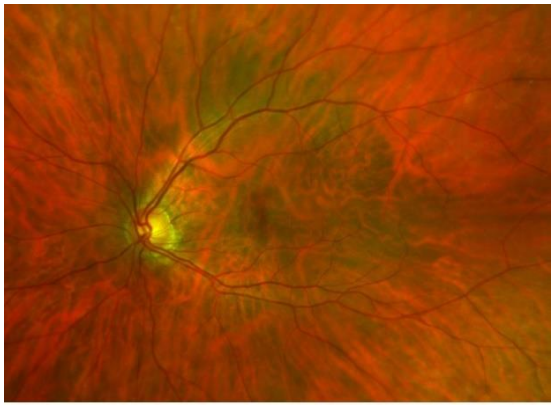

Fig 16 (D62) Color Optomap, white dots not visible.

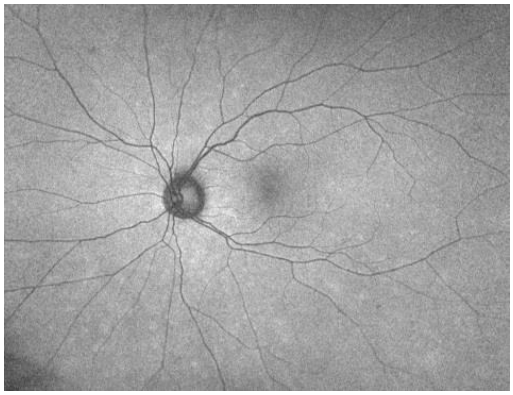

Fig 17 (D62) Hyper-AF dots almost desapeared

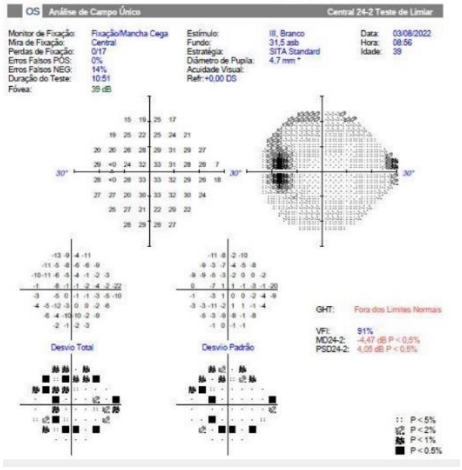

Fig 18 (D62) visual field almost normal

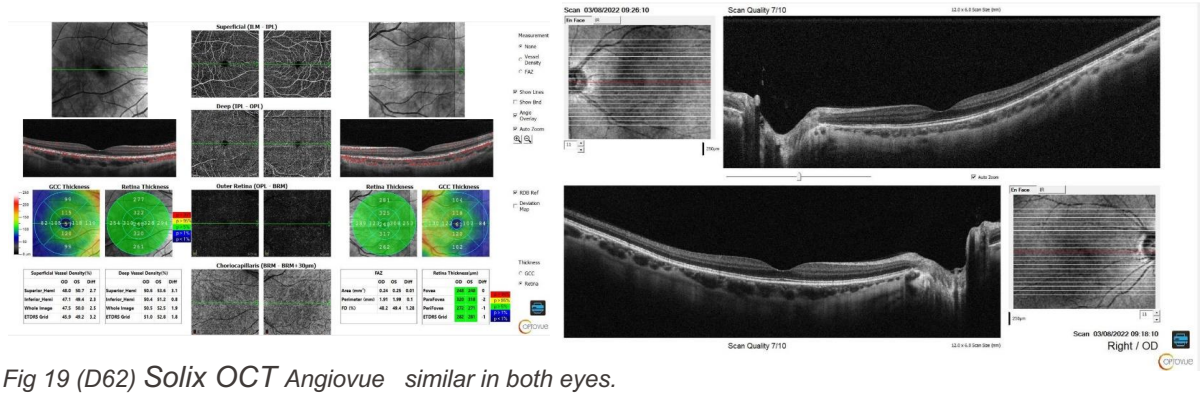

Fig 19 (D62) Solix OCT Angiovue similar in both eyes.

DISCUSSION: We present a case of initial diagnostic confusion, where the symptoms were nonspecific (photopsia, blurred vision, no signs of inflammation, with an apparently normal eye fundus), but the autofluorescence images performed by Optomap without the need for pupil dilation, clearly demonstrated the retinal changes (Hyper-Autofluorescent spots) and the computerized visual field performed afterwards confirmed the increase in the blind spot. Subsequent examinations showed an increase in the Hiper-AF spots which then reduced and almost disappeared by day 62. In the early D3 phase OPTOMAP was difficult to visualize while it was very easy to see in Autofluorescence. As the white dots increased, color OPTOMAP appeared better, but soon disappeared as the lesions coalesced. The scotoma (increased blind spot) in the visual field slowly reduced over time. No medication was used.

FINAL COMMENTS: The importance of presenting this case was the demonstration that photopsia symptoms should be evaluated in the search for retinal tears and the OPTOMAP exam without pupil dilation could rule out tears, but autofluorescence can be decisive in the diagnosis of other disease as this case of MEWDS.

References

1. Jampol LM, Sierving PA, Pugh D, et al. Multiple evanescente White dot syndrome. I clinical findings. Arch Ophthalmol 1984; 102: 671-674.
2. Marsiglia M, Gallego-Pinazo R, Cunha de Souza E, Munk MR, Yu S, Mrejen S, et al. Expanded Clinical Spectrum of Multiple Evanescent White Dot Syndrome with Multimodal Imaging. Retina. 2016;36(1):64-74
3. Shelsta H, Rao RR, Bhatt HK, Jampol LM. Atypical presentations of multiple evanescent white dot syndrome (MEWDS) without white dots: a case series. Retina 2011;34:973–976.

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