

MACULAR TELANGIECTASIA TYPE 2: INTEREST OF INTRAVITREAL INJECTIONS OF ANTI-VEGF

H. Okieh^{1*}, K. F. Oummarou Sambou², I. Jeddou², A. Fiqhi³, Khooya A.³, Y. Bouabid³, Y. Mouzari² and A. Oubaaz

*Ophthalmology, Mohamed V Military Training Hospital, Rabat, Morocco.



*Corresponding Author: H. Okieh

Ophthalmology, Mohamed V Military Training Hospital, Rabat, Morocco.

Article Received on 14/08/2024

Article Revised on 03/09/2024

Article Accepted on 24/09/2024

ABSTRACT

Introduction: Type 2 macular telangiectasias are juxtafoveal capillary abnormalities, often bilateral, that become symptomatic when they cause cystoid macular edema. Initially considered a vascular disease, they are now seen as a neurodegenerative disease. **Clinical Observation:** The case studied is that of a 53-year-old woman with no notable ophthalmological history, presenting a progressive decline in visual acuity for one year. The examination reveals a corrected visual acuity of 4/10 in the left eye (LO) and 9/10 in the right eye (RO), with mild hyperopia in both eyes. The fundus shows dilation and tortuosity of the perimacular vessels in the LO. **Treatment and Conclusion:** The aim of the study is to evaluate the efficacy of anti-VEGF injections to treat type 2 macular telangiectasia. The results suggest that these injections are not effective on the proliferative form but it seems that encapsulated cell therapy secreting CNTF may be beneficial to reduce macular edema and improve visual acuity.

KEYWORDS: Initially considered a vascular disease, they are now seen as a neurodegenerative disease.

INTRODUCTION

Type 2 macular telangiectasias are unilateral or bilateral alterations of juxtafoveal capillaries that are dilated and abnormally permeable. They are most often located in the temporo-macular region and become symptomatic when they cause cystoid macular edema. Although MacTel was previously considered a primarily vascular disease, the thinking on its pathogenesis has evolved to the fact that it is now considered primarily as a neurodegenerative disease. We report the case of a 53-year-old female patient with type 2 macular telangiectasia. The aim of our observation is to study the interest of anti-VEGF injections in type 2 macular telangiectasias.

CLINICAL OBSERVATION

A 53-year-old woman, with no notable ophthalmological or general history, presents with a progressive decrease in visual acuity that has been developing for one year.

Ophthalmologic examination reveals corrected visual acuity of 4/10 OG with a hyperopia refraction of +0.75 OG. Slit lamp examination of the anterior segment is unremarkable, and intraocular pressure is 11 mmHg in OG. Fundus examination of the OG reveals dilation and tortuosity of the perimacular vascular caliber with poor retinal reflex.



Figure A: showing the fundus of the left eye with a superior temporal para macular focus.

On the other hand, the OD examination highlights a corrected visual acuity of 9/10 OD with a hyperopia refraction of +1.00 OD. The slit lamp examination of the anterior segment is unremarkable. The intraocular pressure is 13 mmHg OD. The fundus of the OD has a normal appearance.

In autofluorescence, pigmented points are shown with depigmented areas. Fluorescein angiography shows at the level of the OG the presence of multiple capillary dilations from the early stage, located in the temporo-macular with a low diffusion over time.



Figure B: Autofluorescence image of the OG showing pigmented spots with depigmented areas.

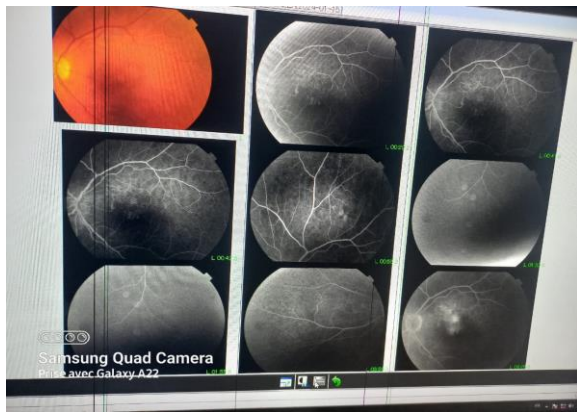


Figure C: AGF of the OG the presence of multiple capillary dilations from the early stage, located in the temporo-macular region with low diffusion over time.

Macular optical coherence tomography of the OG reveals perifoveal cystic lodges with focal rupture of the ellipsoid zone and thickening of the macular region.

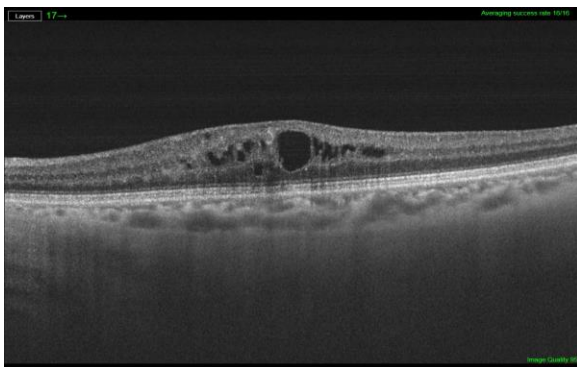


Figure D: Macular OCT of the left eye which highlights a perifoveal cystic lodge with macular thickening and forward displacement of the fovea.

A complementary frontal OCT A acquisition of the macula of the left eye confirms the multiple dilation of the capillary plexus located temporally.

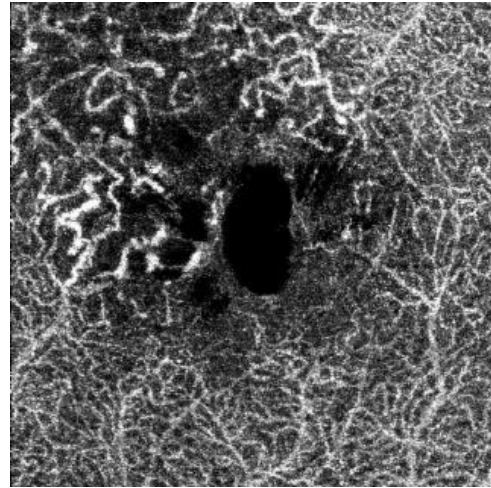


Figure E: OCTA of the OG which clearly illustrates the dilations of the temporal capillary plexus. The various explorations were normal at the level of the OD.

Given this picture and after excluding differential diagnoses such as venular occlusions, hypertensive retinopathy and diabetes, we retained the diagnosis of macular telangiectasia type 2 without complication of choroidal neovascularization.

The patient underwent a series of 3 intravitreal injections of anti-VEGF, and the follow-up examination revealed a corrected visual acuity of 1/10 OG. Optical coherence tomography of the OG as well as other morphological explorations (OCT A, fluorescein angiography and autofluorescence) showed an enlargement and an increase in the number of lodges in OCT.

DISCUSSION

Several recent studies have shown the sensitivity of OCTA in the diagnosis and monitoring of this disease.

Repeated injection of anti-VEGF does not provide any visual benefit but can delay the onset of neovascularization.

On the other hand, a prospective non-randomized interventional study comparing the efficacy and safety of ranibizumab clearly shows the efficacy of anti-VEGF in proliferative macular telangiectasia type 2 and concludes that anti-VEGF is not recommended for the non-proliferative disease stage. This Yannuzzi classification into proliferative and non-proliferative disease seems to be compatible with the pathophysiology of this disease and is strongly correlated with treatment strategies of interest in this study.

Our case is classified as stage 1 according to the Yannuzzi classification, therefore non-proliferative, and shows a deterioration in visual function with a worsening of the anatomical structure without the appearance of complications.

Several other therapeutic approaches have been used namely ranibizumate associated with PDT does not seem to be effective in improving visual acuity or atrophy. A subthreshold micropulse laser with pulses of 15 ms duration was used in 10 eyes of MacTel. A reduction in internal and external retinal gaps with preservation of retinal thickness and improvement of visual acuity of 10 letters was observed in these patients. Pars plana vitrectomy (PPV) associated with ILM peeling does not improve the anatomical or functional outcome in MacTel.

Therefore, the management of this disease is still controversial. Nevertheless, new treatments on phase III clinical trials of cellular implant secreting CNTF (ciliary neurotrophic factor) offer perspectives.

CONCLUSION

Our observation on macular telangiectasia type 2 raises important questions about the efficacy of intravitreal anti-VEGF injections in the management of this pathology. Our clinical case illustrates well the anatomical inefficacy after a series of injections, the absence of apparent visual benefit suggests an underlying complexity in the response to treatment. Multicenter studies are needed to support this hypothesis. Innovative approaches, such as encapsulated CNTF-secreting cell therapy, could open new promising perspectives for the treatment of this complex condition.

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