

Complicated Arterial Retinal Macroaneurysm

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Abstract

Case Report

Retinal macroaneurysm is a rare complication of uncontrolled IHT. It is responsible for exudative phenomena with DSR which can threaten visual function especially if it is macular localization. The prognosis depends on the importance of exudation and alteration of photoreceptors. Treatment remains essentially physical.

Keywords: Retinal macroaneurysm, IHT, photoreceptors, metamorphosis macular syndrome,

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INTRODUCTION

Retinal macroaneurysm is a rare complication of uncontrolled IHT. It is responsible for exudative phenomena with DSR which can threaten visual function especially if it is macular localization. The prognosis depends on the importance of exudation and alteration of photoreceptors. Treatment remains essentially physical.

Retinal arterial macroaneurysm is an ectasia of the arterial wall affecting the second and third-order arteries, most often dependent on the upper temporal arch.

It occurs in people between 60 and 80 years, most often hypertensive, and can be either asymptomatic or complicated: exudation or hemorrhage thus compromising the functional prognosis.

CASE REPORTS

A 65-year-old male who consults for decreased visual acuity of OD with metamorphosis macular syndrome, relatively positive scotoma of sudden onset without pain or other associated signs. There was no history of traumatism or eye disease outside of the treatment of poorly observed IHT.

Eye Examination

Improved corrected visual acuity (Snellen)

Right Eye (OD): 2/10, P1

Left Eye (OS): 8/10, P3

Eye motility/alignment: complete, free and painless in all eyes

Intraocular pressure (IOP)

OD: 16 mmHg

OS: 18 mmHg

Pupils: OR Round, regular and responsive to light

Crystalline Clain

FO: exudative maculopathy with preretinal hemorrhage

Fluorescein angiography objectified a macroaneurysm in the upper temporal artery with exudative maculopathy (Figure 1) better visualized in macular OCT (Figure 2).



Figure 1a: Fluorescein angiography of the eye left: arterial macroaneurysm along the path of the upper temporal artery with maculopathy exudative

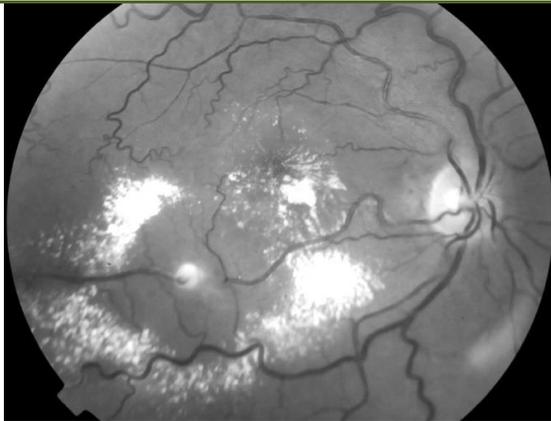


Figure 1b: Red free



Figure 3a: Red free

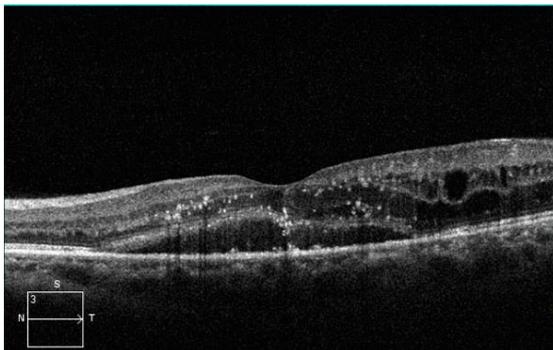


Figure 2: OG OCT: macular edema with exudates

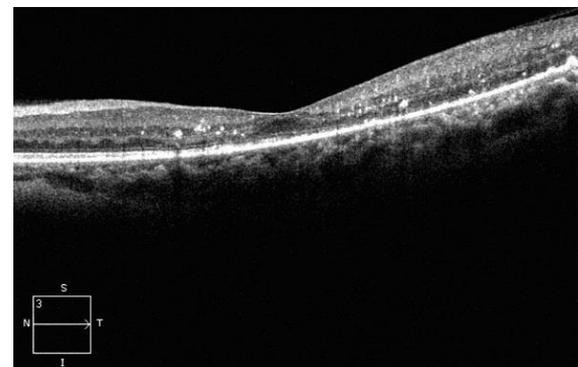


Figure 4: Regression of edema and exudative maculopathy

An ARGON laser photocoagulation was carried out around the aneurysm, before the persistence of macular edema an anti-VEGF injection of Ranibizumab was carried out.

Angiography and a control OCT were performed 3 months later and showed a clear reduction of the aneurysm and a regression of the exudative maculopathy (Figures 3 and 4). Corrected visual acuity of the right eye was 6/10 Parinaud 2.



Figure 3a: GL fluorescein angiography regression of exudative retinopathy and impacts of indirect photocoagulation around the aneurysm

DISCUSSION

Retinal macroaneurysms were originally described by Loring in 1880. It is only in 1920 that Fernandez highlights the relationship between macroaneurysm and hypertension. In 1973 Robertson managed to individualize the amount of macroaneurysm and give a precise definition [1]. Retinal macroaneurysms are a rare condition that occurs in subjects over 60 years of age and most often affects women. These sacciform or more rarely fusiform vascular ectasis are, in most cases, isolated and located in the path of a temporal artery at an arterial bifurcation or arteriovenous crossing [2, 3]. They occur frequently in patients at cardiovascular risk, mainly high blood pressure, arteriosclerosis, and dyslipidemia [4, 5,6] which is the case for our patient, where the occurrence of the macro aneurysm is secondary to the loss of elasticity of the muscular layers of retinal arterioles [7].

The clinical diagnosis of MAR at the back of the eye: it is a whitish lesion located on an arterial bifurcation. Fluorescence angiography shows an ectasis of the arterial wall more or less hyalinised, allowing the coloring to diffuse at a later time sign of an alteration of the blood-retinal barrier [8]. The presence of massive pre-revolutionary hemorrhage or lipid exudates may

mask the observation of the macroaneurysm, hence the use of ICG angiography (indocyanine green) to highlight MAR [9, 10].

The spontaneous evolution of a macro aneurysm can take place in three evolutionary modes:

- Spontaneous obliteration: after a more or less large phase of exudation and small hemorrhages, arterial ectasia thrombosis and light repair can be observed with functional recovery [10].
- Haemorrhagic complications: they may occur after a phase of chronic evolution or reveal anomalia. These hemorrhages are secondary to cracking or rupture of the arterial wall [10].
- The development of exudative retinopathy: in some cases the macro aneurysm is responsible of chronic exudative phenomena and progressive visual decline with the appearance of circinated exudates and macular edema, Especially when it sits at the level of a superior temporal artery, which is the case of our patient.

Initially macular edema mainly concerns the external layers, most of the MAR cause vascular diffusions responsible for macular edema and secondary lipid dis- polar: exudates.

Macular edema and its consequences are considered the main cause of vision loss in about 30% of patients.

Chronic macular edema will lead to the destruction of photoreceptors responsible for impaired vision (Tsuji-hawa *et al.*, 2009) [11].

Apart from correction of cardiovascular risk factors

Essentially high blood pressure and dyslipidemia which is the case of our patient, the main treatment of macro aneurysms is laser photocoagulation, indicated in symptomatic macroaneurysms with exudates. The goal of the treatment is to stop the evolution of macroaneurysm, regress the dilation of the capillaries, thereby eliminating the source of peri- lesion exudation and macular edema [15].

Direct or indirect peri-aneurysm photocoagulation, using an Argon-type laser, with spots of 100 Um diameter, an exposure time of the order of 0.2 seconds and a power of 100—300 mW [12].

When the macroaneurysm is located far from the arteries to foveolar the perilesional photocoagulation is carried out without risk as is the case of our patient.

Otherwise, the risk of complications is high: mainly ischemia in the macular distribution, hemorrhage and late onset of fibrosis [7, 15]. The prognosis after photocoagulation depends on the amount of lipid deposition in the macular region and irreversible alterations of the outer layers that may prevent good visual recovery.

In the case of our observation we have demonstrated the interest of intravitreal injections of anti-VEGF (Ranibizu- mab) in symptomatic macro- neuroses, allowing a faster regression of exudative phenomena in case of insufficient photocoagulation alone [13, 14]. Anti-VEGF for earlier functional recovery.

CONCLUSION

Retinal macroneurisms, although exceptional, must be mentioned before a table of macular exudates or macular hemorrhage, in an elderly person with cardiovascular risk factors, especially since he is male. Several therapeutic options are possible, not yet subject to strict consensus.

Finally, optimal correction of cardiovascular risk factors is essential in these patients, as it plays a significant role in reducing morbi-mortality.

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