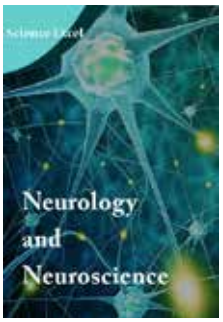
Neurology & Neuroscience

Case Report



Vascular Retinal Event Secondary to Ocular Ischemic Syndrome, Improved With QIAPI 1: Case Report

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Keywords

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Abstract

Ocular ischemic syndrome (OIS) is a rare condition, which is caused by ocular hypoperfusion due to stenosis or occlusion of the common or internal carotid arteries. Atherosclerosis is the major cause of changes in the carotid arteries.

Since OIS is associated with atherosclerosis, patients usually have other related co-morbidities. Hypertension is found in 73% of the patients and diabetes mellitus in 56%. The first case of OIS was reported in 1963 by Hedges as a case with retinal hemorrhages and venous dilatation in a patient with complete occlusion of the internal carotid artery (ICA). The only therapy is to treat the neovascular complications.

Recent studies suggest that OIS is associated with a significant risk of cerebrovascular, ocular, and systemic morbidity. OIS has a poor visual prognosis. It is imperative that the clinician be aware of the signs and symptoms of carotid disease to facilitate prompt diagnosis and appropriate referral, because OIS may be the presenting sign of serious ischemic cerebrovascular and ischemic heart disease. The 5-year mortality rate in OIS patients is as high as 40%. Most deaths are due to cardiac disease

Controversy in the management of OIS arises from the fact that most patients reported in the literature are part of small retrospective series or case reports. Besides the uncertainty about the physio-pathogenic of the disease. Pan-retinal photocoagulation (PRP) is the accepted treatment for retinal ischemia predisposing to neovascularization due to retinal ischemia supposedly triggers the production of angiogenic growth factors. However, the main stimulus to abnormal angiogenesis is hypoxia more than ischemia, and opposite the best antiangiogenic factor is high levels of oxygen in tissues.

Thereby, our discovery about the unexpected capacity of several organic molecules of the human body that can take the oxygen from intracellular water, like in plants, open a new way to treat these difficult cases, improving the prognosis.

Introduction

OOcular Ischemic Syndrome (OIS) is a severe form of chronic ischemia of both anterior and posterior segments of the eye as well other orbital structures supplied by the ophthalmic artery. It is thought to be due to chronic hypoperfusion when carotid artery stenosis is greater than 90% [1].

Ocular ischemic syndrome encompasses a spectrum of clinical findings that result from chronic ocular hypoperfusion. It is relatively uncommon, and the diagnosis may be difficult to make because of its variable presentations. The presence of an ocular ischemic syndrome always implies underlying severe carotid occlusive disease and may be its sole clinical manifestation [2]. Besides visual loss and ocular or orbital pain affected patients are also at risk for developing cerebral and myocardial infarction.

The ophthalmic artery being the first intradural branch of the carotid artery reflects the perfusion status of the vessel. Ocular ischemic syndrome (OIS) is a disorder of ocular function that occurs after the stenosis of the carotid artery. The acute manifestations of the disease are transient ischemic attacks and retinal artery occlusion. In contrast, the chronic manifestations are retinopathy and neovascularization and its sequel [3].

OIS is a serious blinding condition that occurs in the setting of carotid artery occlusion. Restoration of arterial perfusion and early diagnosis are critical for preserving visual function and reducing the risk of devastating ocular complications [4]. In the literature, the mean age of the patients was 63 +/- 8 years. Presenting visual symptoms included gradual (82.5%) or sudden (17.5%) onset of vision loss [5]. Pan-retinal photocoagulation did not prevent OIS from progressing but vitreous

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hemorrhage and rubeosis iris regressed. Carotid endarterectomy had some benefit in stabilizing or improving vision in patients with OIS.

Associated systemic diseases in these patients included diabetes mellitus (56%), arterial hypertension (50%), coronary artery disease (38%), and previous stroke or transient ischemic attack (31%); the incidence of diabetes, coronary artery disease, and cerebrovascular disease was much higher in patients with OIS than in the comparable general population, especially that of diabetes. Occlusion or severe stenosis (80%-99%) of the internal carotid artery was seen in 74% on the side of OIS [6].

It was published as treatment of complications of OIS serial anti-VEGF injections with interspersed pan retinal photocoagulation (PRP); however, the disease recurred each time injections were stopped. Therefore, in patients with open-angle NVG secondary to OIS, serial monthly anti-VEGF injections may be necessary combined with PRP to suppress underlying neovascular drive and regress anterior segment neovascularization, maintain physiologic IOP, and prevent synechia angle closure [7], the course of lifetime monthly anti-VEGF injections, which may be continued in perpetuity.

Almost a third of patients treated with repeated intravitreal injections require surgery to control intraocular pressure or vitrectomy [8]. For decades, PRP has been the mainstay treatment for neovascular glaucoma (NVG) secondary to OIS [9]. More recently, anti-VEGF injections, including bevacizumab, have been shown to provide rapid onset anti-neovascular effects, including regression of anterior segment neovascularization and reduction of IOP if the angle is not already synechia closed [10].

However, there is a paucity of literature regarding the treatment of NVG specifically secondary to OIS using PRP and/or anti-VEGF injections, probably due to the high frequency of bad clinical results.

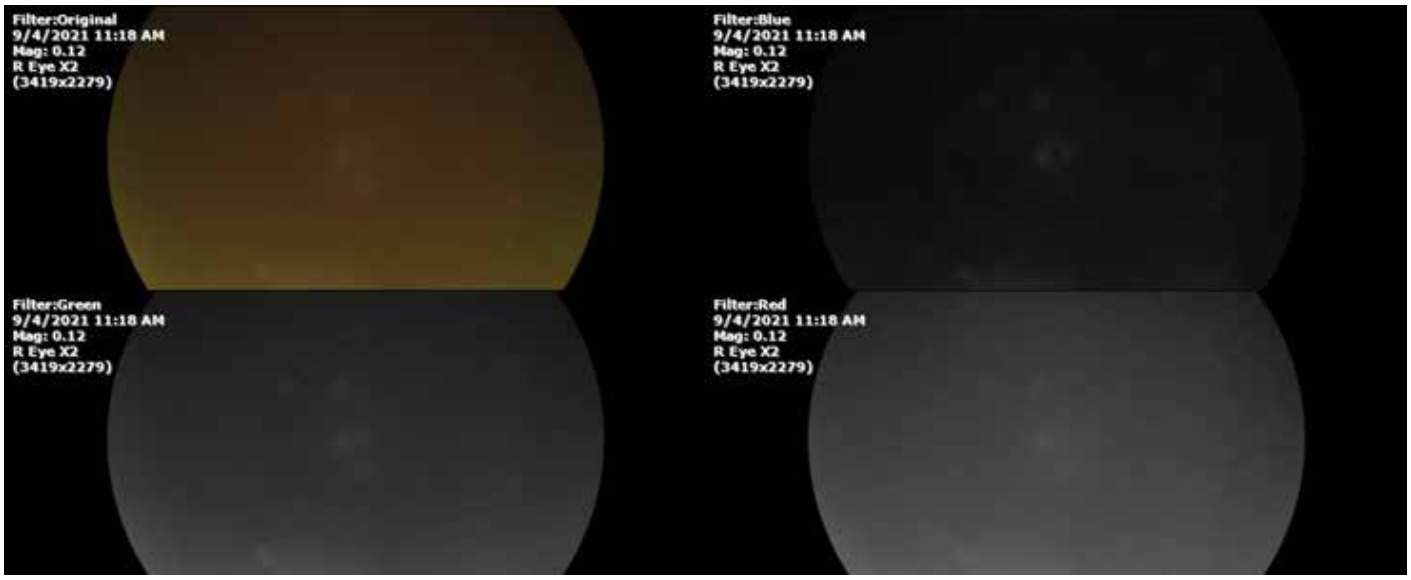

Figure 1. *It is not possible to get an imagen from ocular fundus in the right eye, due to the hematic vitreous impregnation.*

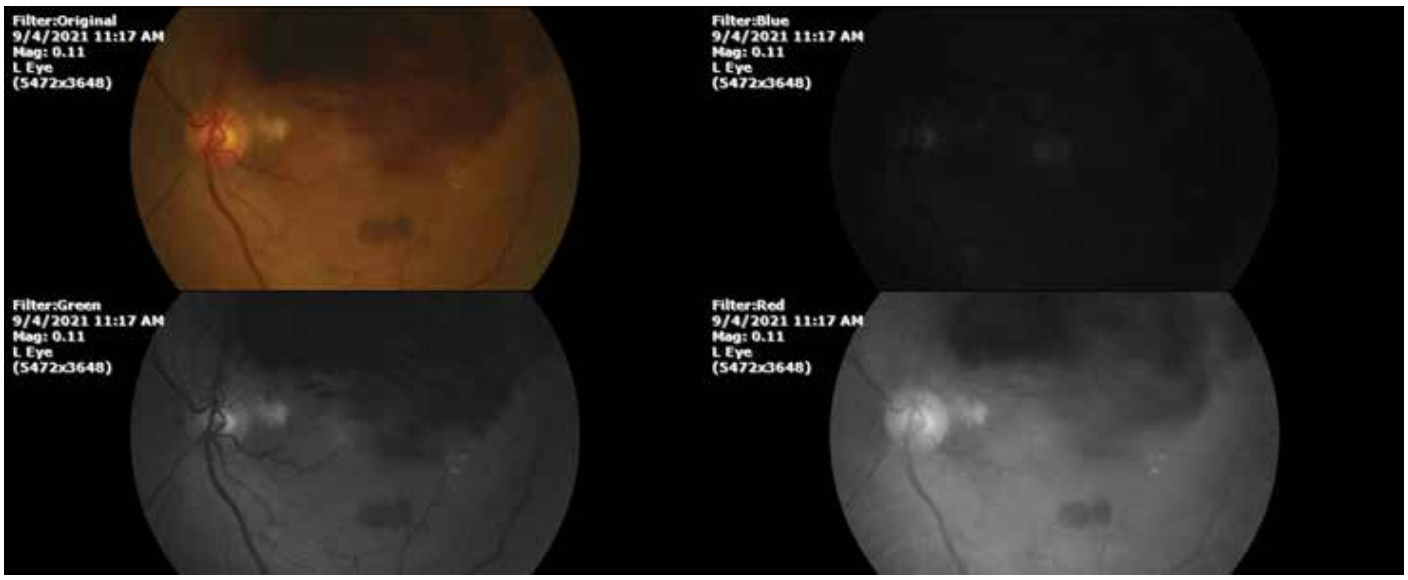

Figure 2. *The findings in the right eye are compatible with retinal vascular event, with venous predominance.*

We are introducing a different therapeutic approach, based on our discovery of the unsuspected capacity of human body to take oxygen from inner water, like plants do it [11]. Since the XVII it was noticed that oxygen was scarce in atmosphere. In XVIII, it was possible to determine that the oxygen levels inside our body was 5 times those of atmosphere. Since then, the explanation about the origin of these huge oxygen levels inside human body has been matter of controversy [12].

Our finding about the unexpected capacity of human body to take oxygen and hydrogen from water molecule, through its dissociation, like plants [13] could be the ultimate explanation to this long-term mystery.

It is thought that retinal ischemia theoretically triggers the production of retinal angiogenic growth factors that stimulate retinal (NVE) and optic nerve head (NVD) new vessel growth [14]. However, the main pro-angiogenic stimulus is hypoxia and the best antiangiogenic factor are the high levels of oxygen into the tissues [15].

Therefore, if we intensify by means of drugs the intrinsic property of the various organic molecules that the body possesses, which can dissociate water, like plants, increasing almost naturally the bioavailability of oxygen and hydrogen, coming from the water molecule, tissues tend to repair themselves.

Case report

Female patient, with date of birth August 1941. Systemic arterial hypertension since 2000, treated with antihypertensive drugs. The patient has problem to walk, their movements are slow; and important loss of vision of the right eye since 2015 of progressive appearing. In August 2021 she noticed a sudden loss of vision in the left eye. The intraocular pressure was 16 mm Hg, in both eyes.

The above photographs were taken during first consultation on September 4, 2021 (Figures 1 and 2).

After explained the process to the patient and once consent informed was signed, treatment with QIAPi 1™ (n patent proceedings) was starting at dose of three sublingual drops every hour during daytime.

On March 16, 2022, the patient was examined for second time, and the photographs taken at that time are shown as Figures 3-6.

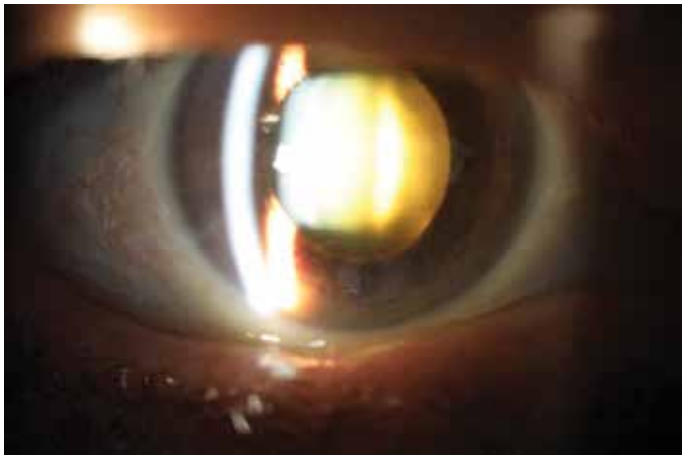

Figure 3. *Anterior segment photography of right eye shows a hematic impregnation of vitreous body, a characteristic of Ocular Ischemic Syndrome.*

Figure 4. *The anterior segment photography of the left eye, shown a vitreous body with normal characteristics.*

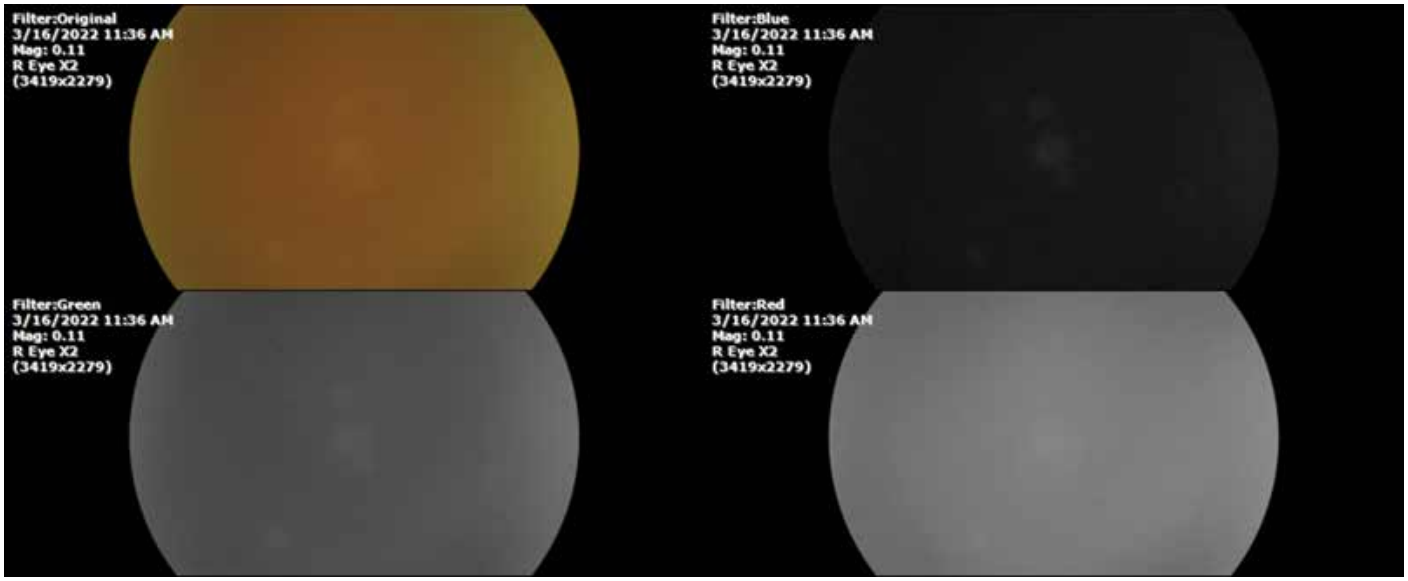

Figure 5. *Still, the ocular fundus of the right eye is not observable.*

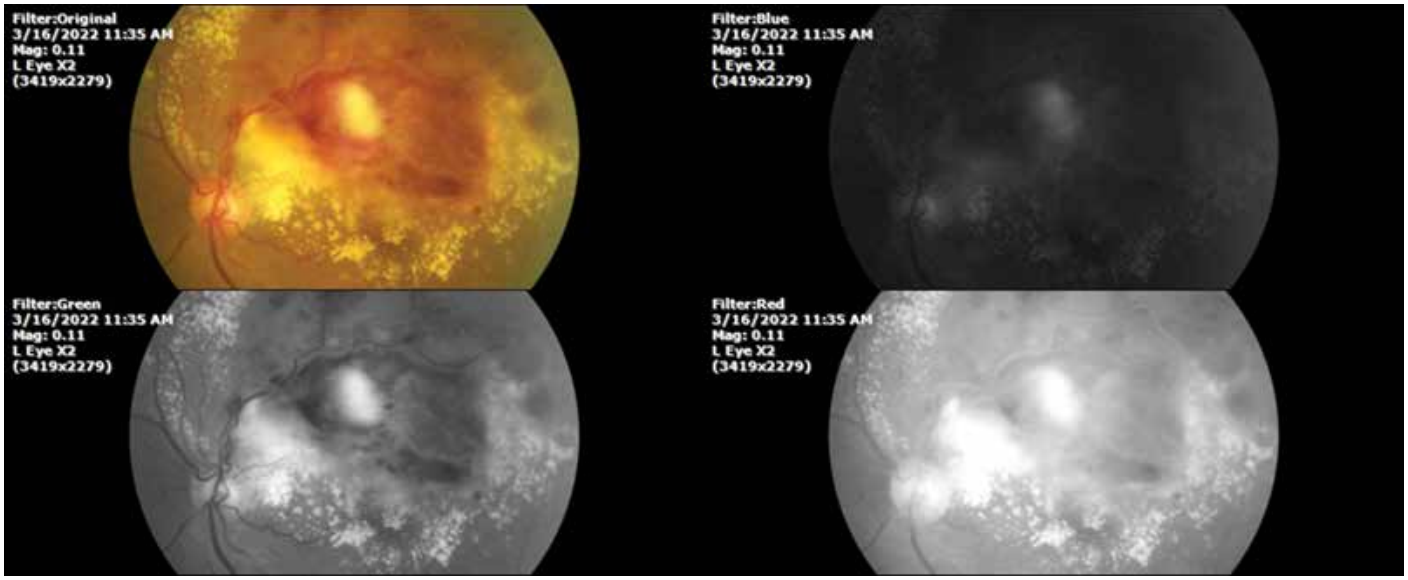

Figure 6. *The ocular fundus of the left eye, shows a moderate improvement, overall, in hemorrhages and edema.*

Figure 7. *Anterior segment of the right eye. A sclerotic crystalline lens.*

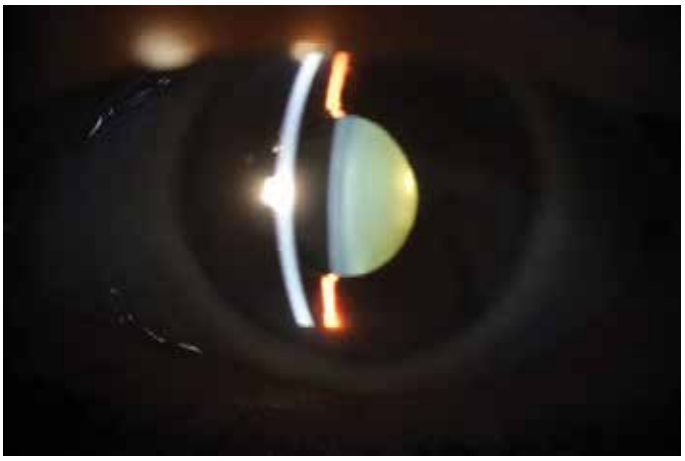

Figure 8. *The photographs of the anterior segment of the left eye, shown an acceptable transparency of crystalline lens.*

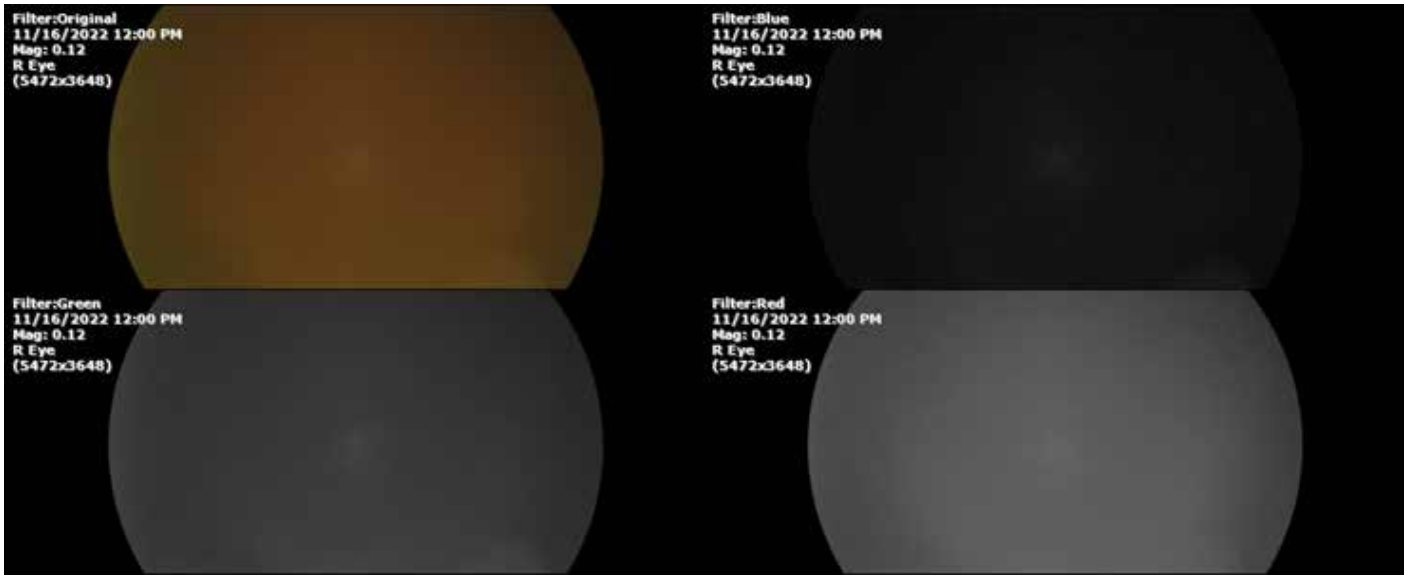

Figure 9. *It is not possible yet to get a reckonable imagen of the right eye fundus.*

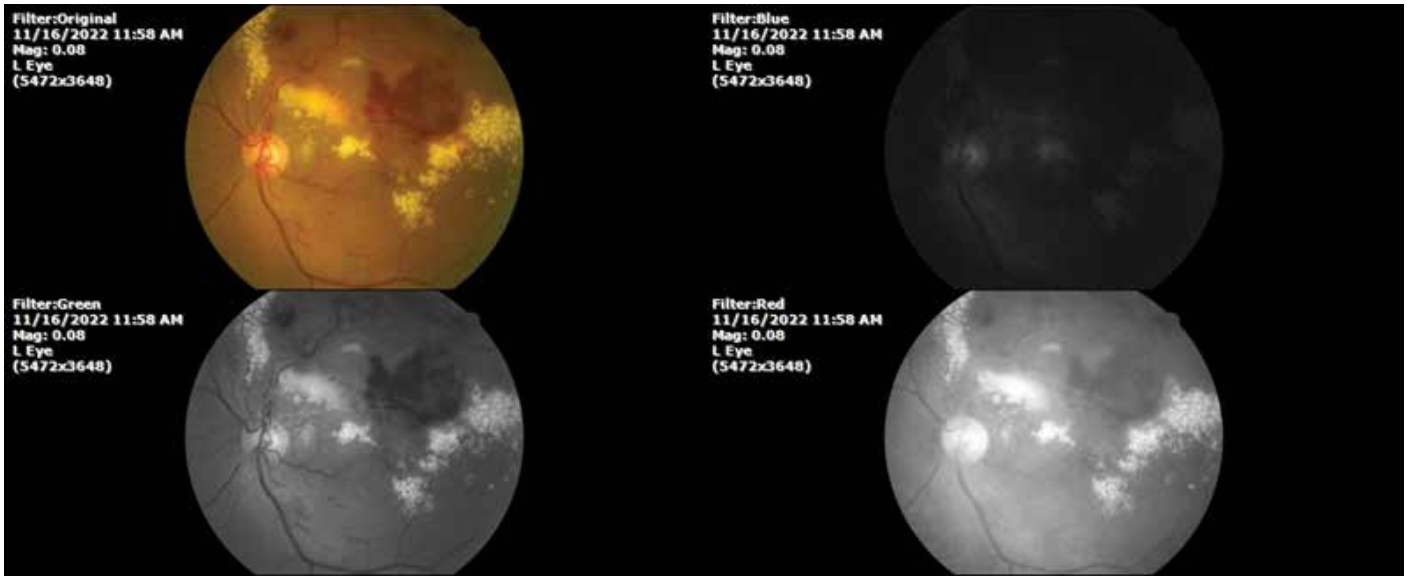

Figure 10. *The general appearance of ocular fundus of the left eye is remarkably good, taking in account that we don´t use neither laser photocoagulation nor intravitreal injections. .*

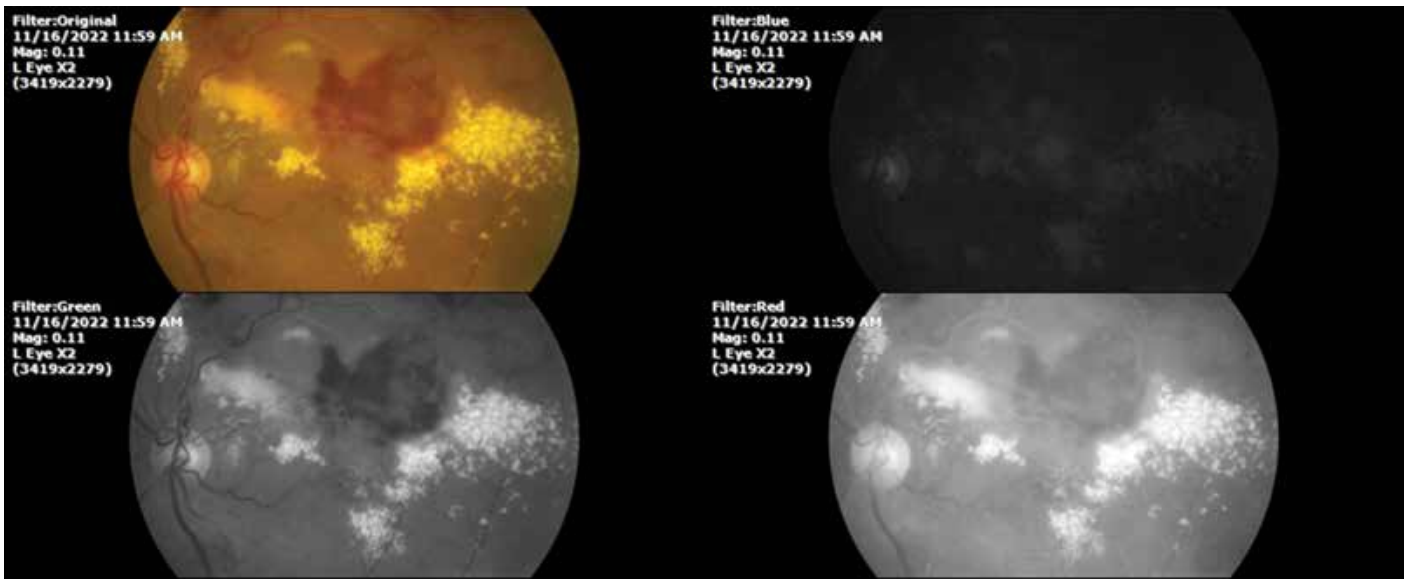

Figure 11. *In the left eye the edema, hemorrhages, and exudates shown a significant improvement. The vision is 20/40.*

The treatment was continued and in the next examination, on November 16, 2022, the photographs are shown as Figures 7-11:

The improvement in the tissues affected by the retinal vascular event is striking. The biology of the eye tends to be improved and preserved, without the need for heroic measures such as the controversial pan-photocoagulation, the application of intravitreal injections, or extreme surgeries.

Tissues damage resulting from vascular occlusion, especially those with venous predominance, are so far difficult to improve. However, the restoring of the very first chemical reaction of life, i.e., water dissociation, gives a good result in comparison with laser treatment, intraocular injections, or surgery.

Conclusion

Since the seventeenth century it was found that the amount of oxygen in the atmosphere was relatively small. In 1750, it was discovered that plants took oxygen from the water they absorbed mainly by the root.

In the eighteenth century, it was detected that oxygen levels inside the body were almost five times higher than those in the atmosphere, and since then multiples attempts have been made to find a logical explanation, but it had not been possible; so, the dogma was maintained that the lung, by some unknown mechanism, could concentrate atmospheric oxygen and introduce it into the bloodstream.

The controversy has come to an end, with our discovery of the unsuspected ability of the human body to take oxygen from water, like plants; That is: dissociating the water that the cells contain in their interior.

The response of the body is remarkable, the tissues, when properly dissociating the water molecule, tend to repair themselves. This opens a new era in ophthalmology and medicine in general.

Acknowledgements

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.References

1. Dugan JD Jr, Green WR. Ophthalmologic manifestations of carotid occlusive disease. Eye (Lond). 1991;5 (Pt 2):226-238.
2. Mendrinos E, Machinis TG, Pournaras CJ. Ocular ischemic syndrome. Surv Ophthalmol. 2010;55(1):2-34.
3. Sood G, Siddik AB. Ocular Ischemic Syndrome. In: StatPearls. Treasure Island (FL): StatPearls Publishing; November 21, 2021.
4. Hazin R, Daoud YJ, Khan F. Ocular ischemic syndrome: recent trends in medical management. Curr Opin Ophthalmol. 2009;20(6):430-433.
5. Chen KJ, Chen SN, Kao LY, et al. Ocular ischemic syndrome. Chang Gung Med J. 2001;24(8):483-91.
6. Mizener JB, Podhajsky P, Hayreh SS. Ocular ischemic syndrome. Ophthalmology. 1997;104(5):859-64.
7. Asif H, Si Z, Quan S, et al. Neovascular Glaucoma from Ocular Ischemic Syndrome Treated with Serial Monthly Intravitreal Bevacizumab and Panretinal Photocoagulation: A Case Report. Case Rep Ophthalmol Med. 2022;2022:4959522.
8. Wakabayashi T, Oshima Y, Sakaguchi H, et al. Intravitreal bevacizumab to treat iris neovascularization and neovascular glaucoma secondary to ischemic retinal diseases in 41 consecutive cases. Ophthalmology. 2008 Sep;115(9):1571-80, 1580.e1-3.
9. Olmos LC, Lee RK. Medical and surgical treatment of neovascular glaucoma. International Ophthalmology Clinics . 2011;51(3):27–36.
10. Duch S, Buchacra O, Milla E, Andreu D, Tellez J. Intracameral bevacizumab (Avastin) for neovascular glaucoma: a pilot study in 6 patients. J Glaucoma. 2009;18(2):140-143.
11. Herrera AS, Esparza MdCA. Oxygen from the Atmosphere Cannot Pass Through the Lung Tissues and Reach the Bloodstream. The Unexpected Capacity of Human Body to Dissociate the Water Molecule. Journal of Pulmonology Research & Reports.2022; SRC/JPRR-133: e 4(1): 1-4.
12. Gjedde A. Christian Bohr og De syv små Djaevle: Et laerestykke i 4 akter om iltdiffusionsstriden mellem Christian Bohr og August Krogh [Christian Bohr and the Seven Little Devils]. Dan Medicinhist Arbog. 2004;13-39.
13. Herrera AS, Del C A Esparza M, Md Ashraf G, Zamyatnin AA, Aliev G. Beyond mitochondria, what would be the energy source of the cell?. Cent Nerv Syst Agents Med Chem. 2015;15(1):32-41.
14. Malhotra R, Gregory-Evans K. Management of ocular ischaemic syndrome. Br J Ophthalmol. 2000;84(12):1428-1431.
15. Hopf HW, Gibson JJ, Angeles AP, et al. Hyperoxia and angiogenesis. Wound Repair Regen. 2005;13:558–564