



# OPTIC NERVE HEAD DRUSEN CAUSING CENTRAL RETINAL VEIN OCCLUSION

## CASE REPORT

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### PURPOSE

To describe a case of central retinal vein occlusion (CRVO) in a patient with optic disc drusen.

### INTRODUCTION

Optic nerve head drusen (ONHD) are usually calcified globular bodies located within the substance of the optic nerve head. They are present in up to 2% of the population and are often bilateral (75%)(1).

Symptoms are usually absent, but some patients may experience episodic blurring, possibly due to transient ischemia related to a crowding effect(1).

On SD OCT, ONHD appear as a focal, discrete, hyper-reflective, subretinal masses. Fundus autofluorescence (FAF) usually demonstrates drusen extremely well and Ultrasonography (US) shows calcified drusen as highly reflective foci(1).

### METHODS

Medical record review.

### CASE REPORT

A 75-year-old woman presented with a 1-year history of painless and sudden loss of vision in the right eye (OD). The patient had no known history of systemic diseases. Her best corrected visual acuity (BCVA) was 20/600 / 20/40. Slit-lamp anterior segment examination showed a moderate nuclear cataract bilaterally.

OD fundus revealed an elevated optic nerve head with multilobular yellowish-white nodules and vascular tortuosity. In the left eye (OS), funduscopy showed a crowded disc aspect (Pics 1A and 1B).

B-mode US (Pict. 2A and 2B) revealed a hyperechogenic appearance consistent with bilateral ONHD.

The FAF imaging showed oval hyperautofluorescent areas on the optic disc bilaterally (Pics 4A and 4B).

Fluorecein Angiography (FA) detected extensive areas of capillary non-perfusion and macular hyperfluorescence. Scatter laser spots could also be seen in the OD. The patient had previously undergone retinal panphotocoagulation treatment elsewhere (Pics 5A and 5B).

### CASE REPORT

An aspect of disc head swelling was present on SO OCT of the OR (Pics 3A and 3C) .

On the macular SD OCT of the OD, a cystoid macular edema was observed (Pics 3B and 3D).

Our diagnostic hypothesis was a CRVO secondary to ONHD in this patient's OR, causing important vision impairment due to retinal ischemia and cystoid macular edema.

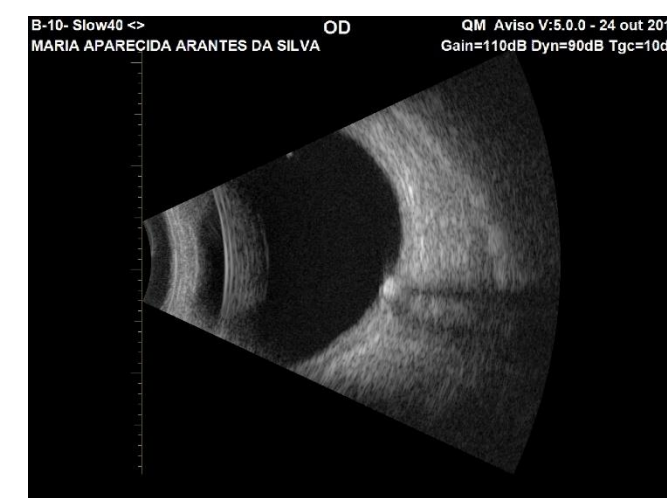
The patient is being currently treated with intravitreal anti-VEGF injections, with partial response so far.



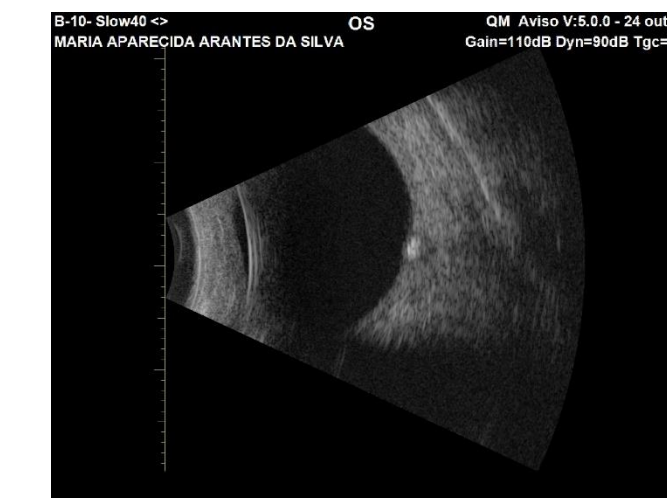
Pics 1A



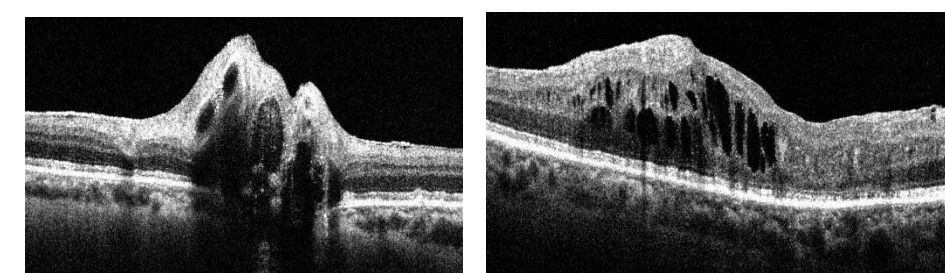
1B



Pics 2A

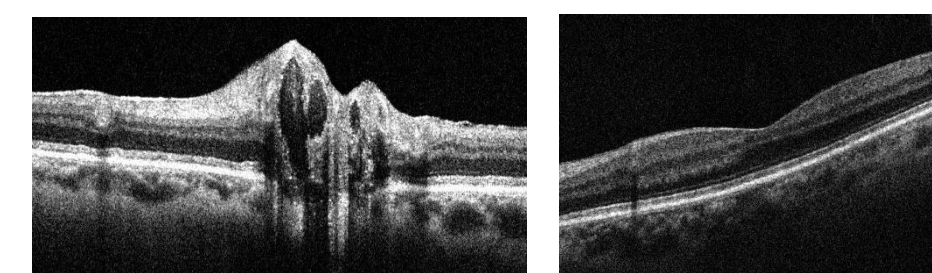


2B



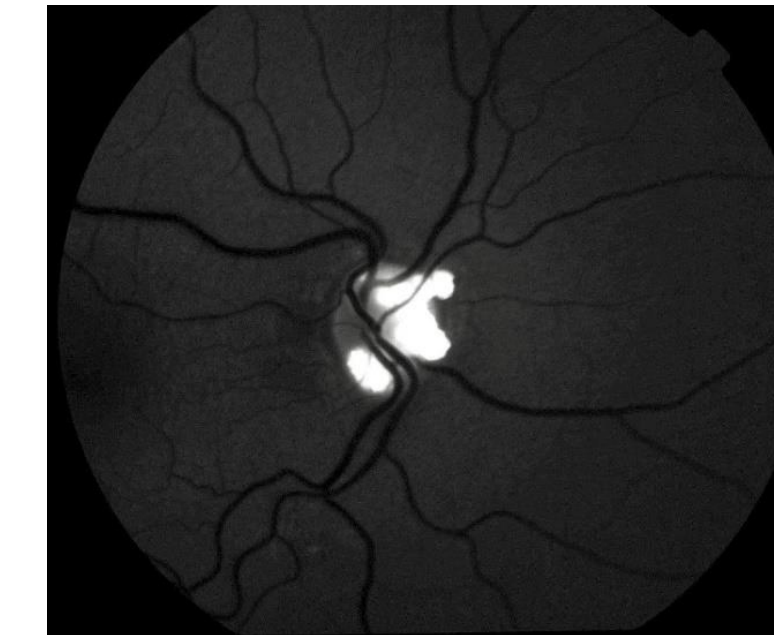
Pics 3A

3B

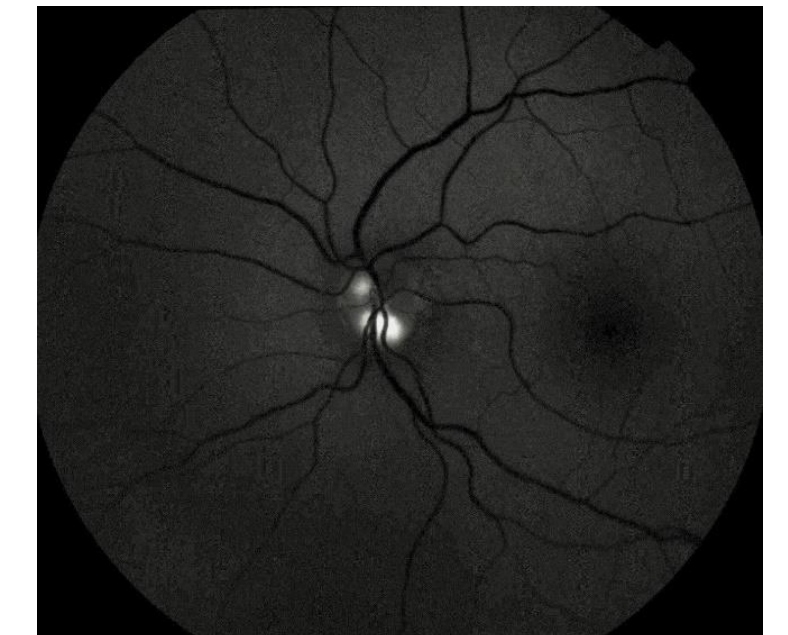


3C

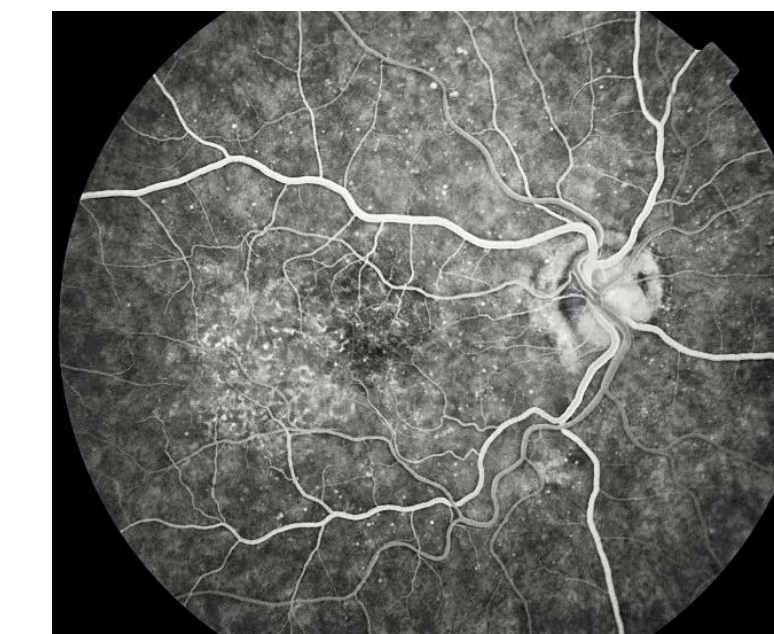
3D



Pics 4A



4B



Pics 5A



5B

### DISCUSSION

The anatomical changes caused by ONHD may alone increase the risk of CRVO. The presence of drusen alters the flow dynamics of the central retinal vein by altering the path and potentially constricting the vascular diameter. (2)

There is no proven treatment for ONHD. The management of associated vascular complications, such as CRVO, is similar to the management of these disorders in the absence of drusen (2).

### BIBLIOGRAPHY

- 1- Wilkinson C.P. et al. Ryan's Retina. 6th. ed. [S. l.]: Elsevier, 2017. 2681 p.
2. Hamann S. et. al. Optic disc drusen: understanding an old problem from a new perspective. Acta Ophthalmol. 2018 Nov;96(7):673-684.