



Case report

Hypertensive crisis with massive retinal and choroidal infarction

Cyrus Golshani ^{a, b, *}, Ronni M. Lieberman ^b, Robert M. Fischer ^b, Scott E. Brodie ^a^a Department of Ophthalmology, Icahn School of Medicine at Mount Sinai, 1 Gustave L. Levy Pl, New York, NY, USA^b Department of Ophthalmology, Elmhurst Hospital Center, Icahn School of Medicine at Mount Sinai, 79-01 Broadway, Elmhurst, NY, USA

ARTICLE INFO

Article history:

Received 5 November 2016

Received in revised form

7 January 2017

Accepted 28 February 2017

Available online 14 March 2017

Keywords:

Hypertensive crisis

IgA nephropathy

Retinal infarction

Retinal neovascularization

1. Case report

A 30-year-old female with no prior ophthalmic complaints presented with a 1-week history of bilateral gradual painless vision loss. Her blood pressure was 225/115 mm Hg (Hypertensive crisis is defined as a systolic reading of 180 mm Hg or higher or a diastolic reading of 110 mm Hg or higher). Past medical history included chronic renal failure from IgA nephropathy requiring hemodialysis for the past 8 years. She had a history of noncompliance with her dialysis which led to multiple hospital admissions, where she was found to be in hypertensive crisis but never reported visual complaints.

Visual acuity was hand motion in the right eye and counting fingers in the left eye. Slit lamp examination was unremarkable in both eyes. Funduscopic examination revealed disc swelling, diffuse retinal hemorrhages, and sclerotic and attenuated vessels with sheathing in both eyes (Fig. 1). Optical coherence tomography revealed massive intraretinal thickening with loss of layered retinal architecture (Fig. 2). Fluorescein angiography revealed neovascularization of the disc, complete loss of retinal capillaries,

absent choroidal flush, and severe venous beading (Figs. 3 and 4). Blood pressure normalized with hemodialysis and oral anti-hypertensives but visual acuity did not improve. She received one intravitreal injection of Bevacizumab and one session of pan-retinal photocoagulation in each eye but was lost to further follow up.

2. Discussion

We present a severe case of hypertensive crisis leading to massive retinal and choroidal infarction. There have only been a few cases in the literature reporting severe proliferative retinopathy from hypertension. For example, Stryjewski¹ reported a case of proliferative hypertensive retinopathy with visual acuity of counting fingers in the right eye and hand motion in the left eye with similar angiographic findings of large areas of retinal ischemia, poor filling of the choroid, and neovascularization with leakage. However, in contrast to our case, their case was more chronic with evidence of a tractional retinal detachment.

Our patient's findings are atypical for the retinopathy of IgA nephropathy, which is characterized by milder vision loss and includes telangiectasis, retinal hemorrhages, capillary non-perfusion,

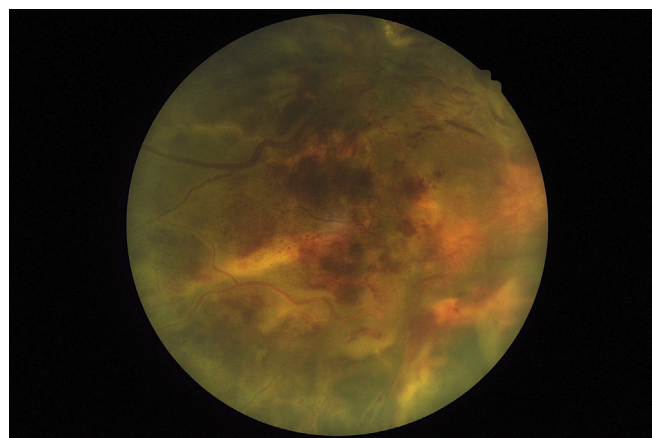


Fig. 1. Fundus photograph of the patient, demonstrating disc swelling, diffuse retinal hemorrhages, and vascular attenuation with sheathing in the right eye.

* Corresponding author. Department of Ophthalmology, One Gustave L. Levy Place, Box 1183, New York, NY 10029, United States.

E-mail address: Cyrus.golshani@gmail.com (C. Golshani).

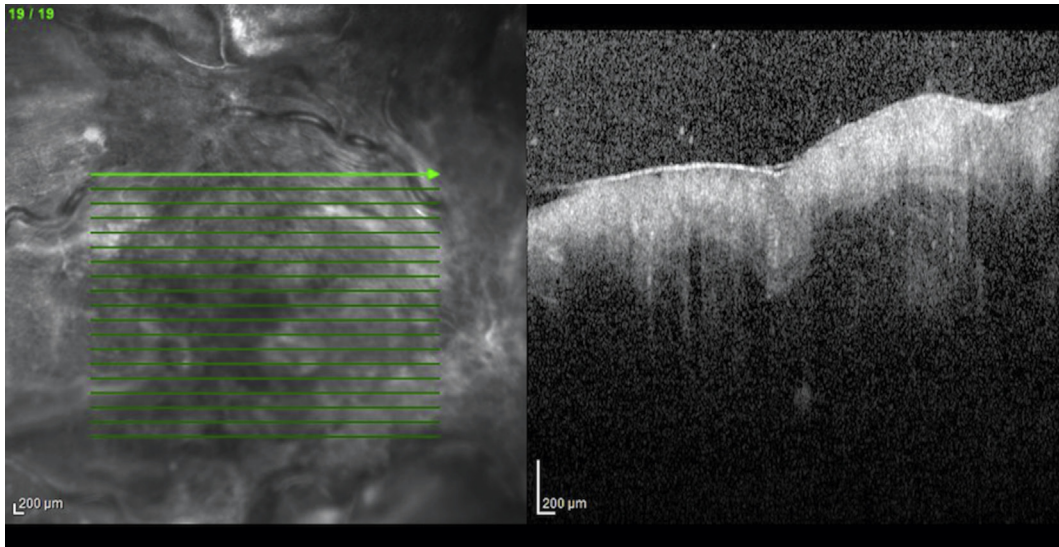


Fig. 2. Optical coherence tomography of the right eye demonstrating intraretinal thickening with loss of layered retinal architecture.

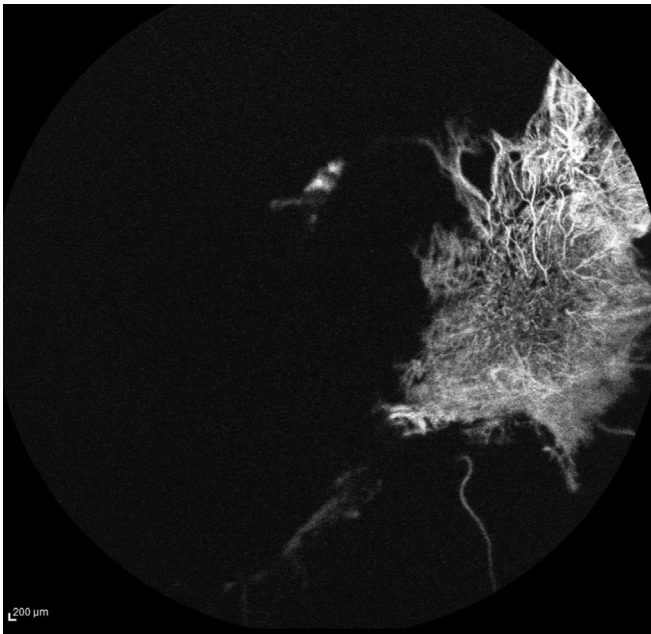


Fig. 3. Fluorescein angiography (early phase) of the right eye demonstrating neovascularization of the disc and no visible choroidal or retinal blood flow.

neovascularization, macular edema, and serous retinal detachments.²

3. Conclusion

This case underscores severe findings of hypertensive crisis, which are rarely seen today, in a patient with chronic renal failure. The patient remains at risk for neovascular complications such as rubeosis, absolute glaucoma, and phthisis.

Funding

No funding or grant support.

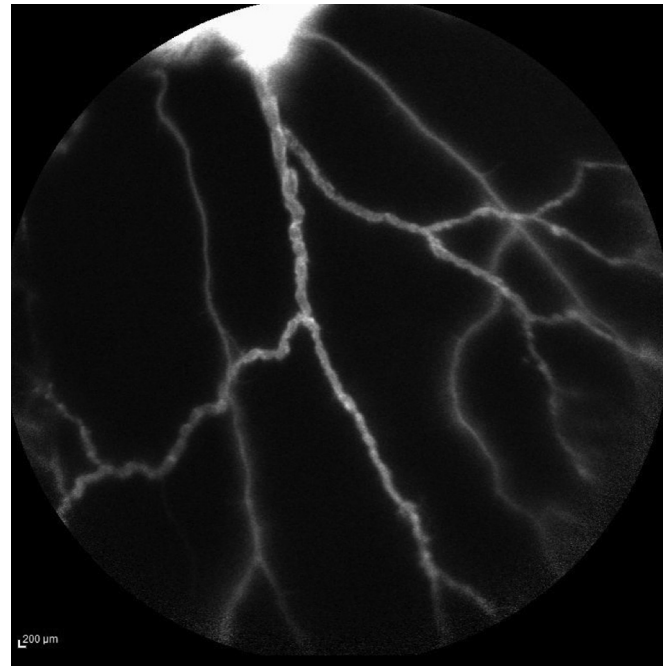


Fig. 4. Fluorescein angiography (mid-phase) of the left eye demonstrating severe venous beading and no visible choroidal or retinal capillary blood flow.

Conflicts of interest

The following authors have no financial disclosures: CG, RL, RF, SB.

Authorship

All authors attest that they meet the current ICMJE criteria for authorship.

Acknowledgments

None.

References

1. Stryjewski TP, Papakostas TD, Vavvas D. Proliferative hypertensive retinopathy. *JAMA Ophthalmol.* 2016;134:345–346.
2. Taban M, Chand D, Sears J. Ocular findings in IgA nephropathy with renal failure and hypertension. *J Pediatr Ophthalmol Strabismus.* 2006;43:378–380.