ECRONICON OPEN ACCESS

OPHTHALMOLOGY
Letter to Editor

Comment on "Retinal Vein Occlusions Preferred Practice Pattern Guidelines"

Dan Călugăru[1] and Mihai Călugăru[2]

[1]*Department of Ophthalmology, University of Medicine Cluj-Napoca/Romania*
[2]*Department of Ophthalmology, University of Medicine Cluj-Napoca/Romania*

***Corresponding Author:** Mihai Călugăru, Department of Ophthalmology, University of Medicine Cluj-Napoca/Romania.

Received: December 08, 2015; **Published:** December 09, 2015

In their review, Pulido., *et al*. [1] provided comprehensive guidance for the pattern of practice in patients with retinal vein occlusions (RVOs) based on the best available scientific data. We would like to address some issues regarding the intravitreal therapy in patients with central retinal vein occlusions (CRVOs). The article has several shortcomings that partially prevent the validation of their RVOs preferred practice pattern guidelines and that can be summarized as follows:

1. The part of the guidelines dealing with the intravitreal corticosteroid/antiangiogenic therapy of CRVOs is disproportionately low than that pertaining to branch retinal vein occlusion treatment. The extension of the two parts in the paper should have been at least equal.

2. Nothing was stated regarding prevention of neovascular glaucoma (NVG) in patients with CRVOs. We documented, for the first time, [2] that NVG prevention could be enhanced by intravitreal bevacizumab (IVB; Avastin; Genentech Inc., San Francisco, CA, USA) injections administered as early as possible after the onset of occlusion. Thus, the rate of the cumulative prevalence of NVG was 4.08% (95% Confidence Interval [CI], 0.49-13.97) in patients with acute (≤ 1 month after the occlusion was diagnosed) central/hemi central retinal vein occlusions (central/hemi-CRVOs) over the course of 3 years. We believe that at a dose of 2.5 mg injected before occurrence of neovascularization and intraocular pressure (IOP) elevation, IVB may offer promise for the prevention of NVG in patients with acute central/hemi-CRVOs [2].

3. The reference data were not updated with the available long-term results of the trials, which had dealt with the efficacy of therapy with ranibizumab [3] (Lucentis, Genentech Inc., South San Francisco, CA, USA), aflibercept [4,5] (Eylea, Regeneron Pharmaceuticals, Inc., Tarrytown, NY, USA), and bevacizumab [6] for macular edema secondary to CRVOs. Specifically, the RETAIN study [3] extended the follow-up for CRVO patients treated with ranibizumab to 51.4 months after baseline. At the end of the study, 44% of the patients treated with pro re nata (PRN) 0.5 mg ranibizumab had remarkable visual results. However, the other 56% of patients still required frequent injections, and had reduced visual potential with a guarded prognosis. In addition, the 76-week results from the GALILEO study [4] with intravitreal aflibercept were poor i.e., eight patients progressed to neovascularization, panretinal photocoagulation was performed in 2 of the patients, and worsening of macular edema appeared in 39.4% of the patients. Also, the evaluation of the long-term outcomes in the COPERNICUS study [5] i.e., the 100-week results, is missing in the review. Thus, at the end of the follow-up, a decline in the visual and anatomic improvements from those gained at week 52 occurred (mean loss of 6.2% in patients who gained at least 15 Early Treatment Diabetic Retinopathy Study (ETDRS) letters; mean loss of 3.2 ETDRS letters in best corrected visual acuity score; mean increase of 23 μm in foveal thickness).

In 2015, we published a prospective clinical study [6] on the 3-year outcomes of bevacizumab treatment at a dose of 2.5 mg (0.1 ml) in patients with acute (≤ 1 month after the occlusion was diagnosed) central/hemi-CRVOs. Of these patients, 50% had ischemic central/hemi-CRVOs. No adverse effects or ocular toxicity, including clinically evident sterile or infectious endophthalmitis, IOP increase, retinal ruptures, retinal detachment, and systemic tromboembolic events were encountered during the study. The results of this study showed, for the first time, evidence suggesting that early treatment administered immediately after clinical onset of the venous occlusion provides significant and sustained improvements in visual acuity and foveal thickness with inactive disease (dry retina and stable visual acuity for at least 6 months after the last injection) in most phakic patients with acute central/hemi-CRVOs, making this treatment option a rational

and viable therapeutic strategy. Considering our currently acquired experience with intravitreal injections of 2.5 mg (0.1 ml) bevacizumab [6] we believe that after an initial aggressive treatment with 4 consecutive injections administered off-label approximately 45 days apart, the therapy may be continued with subsequent dosing given PRN until stabilization of the best corrected visual acuity score. Therapy with antivascular endothelial growth factor agents must be promptly applied as soon as possible after the CRVO onset. Every delay of therapy adversely influences the delayed deterioration of visual functions, which are difficult to restore even with subsequent treatment.

Dan Călugăru, MD, PhD
Cluj-Napoca, Romania

Mihai Călugăru, MD, PhD
Cluj-Napoca, Romania

Acknowledgments

Both authors (D.C and M.C) were involved in design and conduct of the study; collection, management, analysis and interpretation of the data; and preparation, review or approval of the manuscript.

Author Disclosure Statement

There were no commercial associations that might create a conflict of interest in connection with the submitted manuscript. The authors have no proprietary or commercial interest in any of the materials discussed in this article. No competing financial interests exist.

Bibliography

1. Pulido JS., *et al*. "Retinal vein occlusions preferred practice pattern guidelines". *Ophthalmology* 2015;DOI: http/dx.doi.org/10.1016/j.ophtha.2015.10.045. published online: November 12, 2015.
2. Călugăru D and Călugăru M. "Prevention of neovascular glaucoma". *Ophthalmology* 120.7 (2013): 1507-1508.
3. Campochiaro PA., *et al*. "Long-term outcomes in patients with retinal vein occlusion treated with ranibizumab. The Retain study". *Ophthalmology* 121.1 (2014): 209-219.
4. Ogura Y., *et al*. "Intravitreal aflibercept for macular edema secondary to central retinal occlusion. 18-month results of the phase 3 Galileo study". *American Journal of Ophthalmology* 158.5 (2014): 1032-1038.
5. Heier JS., *et al*. "Intravitreal aflibercept injection for macular edema due to central retinal vein occlusion. Two-year results from the Copernicus study". *Ophthalmology* 121.7 (2014): 1414-1420.
6. Călugăru D and Călugăru M. "Intravitreal bevacizumab in acute central/hemicentral retinal vein occlusions: three-year results of a prospective clinical study". *Journal of Ocular Pharmacology and Therapeutics* 31.2 (2015): 78-86.

Volume 3 Issue 1 December 2015