Surgical treatment of vasoproliferative tumors.

Carlos E Veloso[1*], Virginia Mares[1], Jose S Pulido[2,3], Marcio B Nehemy[1]

[1]Department of Ophthalmology, Federal University of Minas Gerais, Belo Horizonte, MG, Brazil

[2]Department of Ophthalmology, Jefferson Kimmel Medical School, Philadelphia, PA, US

[3]Department of Ophthalmology, Mayo Clinic, Minnesota, USA

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Description

Vasoproliferative tumors are rare and benign retinal gliovascular proliferations that can be either idiopathic (74%) or secondary (26%) [1-3]. Primary VPTs are typically solitary while secondary VPTs, that can be caused by congenital, inflammatory, vascular, traumatic, dystrophic and degenerative ocular diseases, are usually multiple in nature [2,4]. Although most cases are unilateral, patients with secondary lesions may present bilateral involvement [3]. VPTs are commonly detected in the third and fourth decades of life and present as a peripheral yellow-red retinal mass, usually associated with subretinal fluid and exudation [3,5]. A minimally dilated or normal caliber retinal feeding artery and vein can also be detected. These tumors usually affect the inferior temporal retina, with approximately half of the cases arising in this location [3]. Further investigations are usually of limited value in establishing the diagnosis of this condition, but some tumor features, such as size and activity can also be assessed by B-mode ultrasound and fluorescein angiography, respectively.

The rarity of these lesions led to a lack of an evidence-based consensus on how best to treat these lesions [3]. Therefore, many treatment modalities have been proposed, including observation, laser photocoagulation, cryotherapy, plaque radiotherapy, transpupillary thermotherapy, photodynamic therapy, intravitreal steroids and intravitreal anti-Vascular Endothelial Growth Factor (anti-VEGF) therapy [1,2,3,6]. The choice of treatment depends on the wide range of clinical presentation and needs to be personalized on a case-by-case basis. Small asymptomatic tumors may be observed and can be stable for years. Vasoproliferative tumors with progressive increase in retinal exudation can be managed by more conservative treatments. However, if these treatments fail to control the growth of the tumor, if the diagnosis is uncertain or if vision-threatening complications are present, more invasive treatments, such as Plana Vitrectomy (PV), should be considered [7-10].

We recently studied the outcomes of VPTs submitted to surgical treatment for sight-threatening complications. In this retrospective study, we evaluated 25 eyes of 23 patients diagnosed with active VPT from January 2005 to December 2020 at the Instituto da Visão, Belo Horizonte, Brazil [10]. The most common indication for surgery was epiretinal membrane (59%), followed by retinal detachment (47%) and vitreous hemorrhage (18%). Most eyes had received prior conservative treatment for control of tumor activity (laser photocoagulation, cryotherapy or combined laser and cryotherapy). All eyes included in the study were submitted to PPV with endolaser/cryotherapy to control tumor activity and to treat the associated complications. Three cases with very large lesions and chronic or recurrent retinal detachment required tumor resection. At the end of follow-up (mean 55.4 months, range 2–305 months), no eye presented tumor activity, nor retinal detachment after one or two surgeries. There was no epiretinal membrane recurrence. The mean baseline Best-Corrected Visual Acuity (BCVA) was 1.2 ± 0.7 logMAR and the mean final BCVA was 0.7 ± 0.6 logMAR ($p<0.05$). BCVA improved two or more lines in 12 eyes (70.5%) at the end of follow-up.

In conclusion, our cases series that involved large active VPTs with associated complications refractory to conservative therapies, showed that surgical treatment allowed control of tumor activity in all patients and provided overall satisfactory anatomic and functional outcomes.

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***Correspondence to**

Dr. Carlos E Veloso

Department of Ophthalmology

Federal University of Minas Gerais

Belo Horizonte, MG, Brazil

E-mail: carlosoftalmo@gmail.com