( ) R1 ( ) R2 ( ) R3 (X) PG0 ( ) PG1 ( ) Estagiário ( ) Tecnólogo ( ) PIBIC Last Name - Navajas First Name - Eduardo Middle - Vitor

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Characterization of the Network Vascular Elements and Ingrowth Site Identification by Indocyanine Green Angiography in Patients With Polypoidal Choroidal Vasculopathy

Eduardo Vitor Navajas, Rogério Alves Costa, Daniela Calucci, Jose Augusto Cardillo, Michel Eid Farah **Purpose:** To evaluate the feasibility of neovascular network ingrowth site identification in patients with polypoidal choroidal vasculopathy (PCV) by using conventional high-resolution digital indocyanine green (ICG) angiography. **Design:** Cross-sectional study. **Participants:** Sixteen consecutive patients (22 eyes) with PCV of whom fourteen underwent PCV network ingrowth site treatment. **Intervention:** Comprehensive ophthalmic evaluation in which a modified two-fold dye infusion scheme was utilized for conventional ICG angiography. For PCV network ingrowth site treatment, ICG-mediated photothrombosis was utilized. **Main Outcome Measures:** PCV network vascular elements characterization and ingrowth site identification were extracted from sequentially arranged angiographic frames. Angiographic findings throughout and early after treatment in fourteen patients were also evaluated. **Results:** Early-phase sequentially arranged ICG angiographic frames enabled clear recognition of the PCV network vascular elements in 21 out of 22 studied eyes. Based on angiographic peculiarities, these elements were considered neovascular vessels (NVs) and classified in two distinct varieties. Typically, some NVs characterized by early filling (concomitant to the retinal arteries filling) and rapid transit (Type-A) were seen followed by the filling of several dilated and tortuous NVs in which an extended dye transit period was observed (Type-E). The location of the PCV network ingrowth site, derived from type-A NVs disposition, was peripapillary in 14 eyes (mostly at the supero-temporal region), within de macular region in 6 eyes, and extra-macular in one. Focal treatment of the PCV ingrowth site by ICG-mediated photothrombosis led to immediate hypoperfusion of the PCV complex in all 14 cases. **Conclusions:** By the use of a two-fold dye infusion scheme for conventional ICG angiography, identification of the neovascular network ingrowth site was achieved in 95.5% of the patients with PCV. The immediate angiographic effects induced by the PCV network ingrowth site photothrombosis suggest the existence of one major stalk of which the neovascular PCV complex originated. Further studies are warranted to assess the influence of focal treatment at such sites in the natural course of PCV.