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Retinal Vessel Caliber Change and Electrophysiology Findings After Intravitreal Ranibizumab in Ischemic Central Retinal Vein Occlusion

*First Author: Yu-chien **CHUNG***
*Co-Author(s): An-fei **LI**, Ling-ing **LAU**, Shih-jen **CHEN***

Purpose: To evaluate vessel caliber change and electrophysiology findings along with visual acuity and central macular thickness after monthly injections of ranibizumab in ischemic central retinal vein occlusion (CRVO).

Methods: A prospective interventional case series. Patients who had treatment-naive ischemic CRVO were enrolled in this study. All patients underwent monthly intravitreal ranibizumab with a total of 6 injections. Best corrected visual acuity in EDTRS letters, optical coherence tomography (OCT), and fundus photography were recorded at baseline and in every monthly visit. Fluorescein angiography and electroretinogram were done at baseline, 1 month after the third injection (midterm), and 1 month after the sixth injection (final). Retinal vessel calibers (CRAE, CRVE, AVR) were measured using semiautomated imaging software (IVAN software).

Results: There were 10 patients enrolled in the study. Nine patients completed the protocol. One patient underwent the 3-month treatment, but dropped out of the study due to personal reasons. After treatment, significant improvements in EDTRS letters and central macular thickness (CMT) were found (mean EDTRS letters: 41.0 at baseline, 61.4 at midterm, 68.9 at final, $P = 0.002$; mean CMT: 643.0 µm at baseline, 267.6 µm at midterm, 245.8 µm at final, $P = 0.000$). Trends of decrease in central retinal vein equivalent (CRVE) (mean CRVE: 216.9 µm at baseline, 200.7 µm at midterm, 168.9 µm at final), increase in central retinal artery equivalent (CRAE) (mean CRAE: 94.9 µm at baseline, 96.4 µm at midterm, 99.3 µm at final), and increase in artery-to-vein ratio (AVR) (mean AVR: 0.46 at midterm, 0.53 at final) were also found. Implicit time of both a and b wave in scotopic condition significantly reduced after 3 months of treatment (implicit time of a wave: 22.61 ms at baseline, 20.44 at midterm, $P = 0.007$; b wave: 58.89 ms at baseline, 52.67 at midterm, $P = 0.001$).

Conclusions: Our results showed positive clinical and electrophysiological treatment response in ischemic CRVO after intravitreal ranibizumab. A trend of vessel caliber change was observed, but a greater number of patients is needed for further analysis.

E-Poster No.: EP-0403

Role of Transpupillary Thermotherapy in Treatment of Central Serous Chorioretinopathy

*First Author: Durgesh **KUMAR***

Purpose: We evaluated transpupillary thermotherapy (TTT) for treating sub/extrafoveal leaks in fresh and chronic central serous chorioretinopathy (CSCR).

Methods: One hundred three eyes of 93 patients diagnosed with CSCR of 2 weeks to 6 months duration were recruited during a period of 5 years, with 3 cases of more than 1 year duration. Minimum follow-up was 9 months' duration. Visual acuity test, FA, and optical coherence tomography (OCT) were performed. A single leak was noticed in 63% of cases on FA. All leaks were treated by diode 810 nm TTT laser beam focused on them in a subthreshold dose (ie, 10% to 15% less laser power needed than to produce faint blanching on the retina). In the majority of patients, spot size of 0.6 or 1 mm for 90 seconds and power of 90 to 270 mW was required.

Results: In 76% of eyes, macular elevation reduced by 75% to 83% on OCT with 2 to 4 Snellen lines of improvement after 1 week. The earliest total resolution was seen on the tenth post-TTT day in a fresh case and at the seventh week in chronic cases. Complete resolution of subretinal fluid was achieved in 94.2% of cases. Even cases of more than 1 year's duration resolved completely by the fourth month, with improvement of 2 to 4 Snellen lines. No complications of treatment to the subfoveal leak were observed.

Conclusions: This study suggests that TTT is a promising, safe, and effective modality for treating CSCR as it drastically reduces morbidity.

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Serum Homocysteinemia: Risk Factor for Retinal Vein Occlusion

*First Author: Neha **CHANDAK***

Purpose: To determine homocysteine levels and their association with visual outcome in patients with retinal vein occlusion (RVO) in a tertiary care hospital in rural central India.

Methods: This was a case control study with participants >18 years old. We measured homocysteine in 100 newly diagnosed RVO patients and 96 age- and sex-matched healthy controls (77 BRVO, 15 CRVO, 5 HCRVO, 3 macular RVO). Strict inclusion and exclusion criteria were used. Blood samples were drawn after overnight fast of at least 8 hours and measured by high performance liquid chromatography and fluorescence detection (normal homocysteine: 5–13.9 µmol/L).

Results: Mean homocysteine was higher in cases than controls. Hyperhomocysteinemia was seen in 78% of