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Short-term Outcomes in Over 500 Intravitreal Bevacizumab Treatments for Retinal or Choroidal Vascular Disease at the New York Eye & Ear Infirmary

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PURPOSE
Assess the short-term outcomes in patients who received intravitreal Bevacizumab, an anti-vascular endothelial growth factor monoclonal antibody, for the treatment of retinal or choroidal vascular disease.

METHODS
This is a retrospective review of over 500 consecutive intravitreal injections of Bevacizumab (Avastin) at the New York Eye and Ear Infirmary. The patients received treatment for ocular neovascularization or macula edema secondary to retinal or choroidal vascular disease. The initial patient evaluation included fluorescein angiography and ocular coherence topography (SLO-OCT or OCT). Patients underwent indocyanine green angiography if there was significant hemorrhage or scarring. The outcome measures were visual acuity, retinal thickness and retinal topography evaluated both pre- and post treatment. The patients were also monitored for potential side-effects.

RESULTS
Patients treated for ocular neovascularization included those with a diagnosis of age-related macular degeneration, diabetes, vaso-occlusive disease, neovascular glaucoma, myopia, angioid streaks, and IRVAN; patients treated for macula edema included those with a diagnosis vaso-occlusive disease, diabetes, idiopathic polypoidal choroidal vasculopathy and radiation retinopathy. 42% of patients improved at least one or more lines of vision post-injection while the vision remained the same in 34%; 23.7% of patients lost one or more lines of vision with none losing more than two lines of vision. Retinal thickness and topography were improved in all the patients even when the visual acuity was the same or worse. 3 cases of mild inflammation that resolved with or without topical medication were noted post-injection. Of the patients with previous photodynamic therapy, only one developed mild inflammation post-injection. There were no incidences of endophthalmitis or retinal detachment.

CONCLUSION
The treatment of retinal and choroidal vascular disease leading to fluid accumulation with intravitreal Bevacizumab appears to decrease retinal thickness and improve retinal surface contour maps based on SLO-OCT imaging with no significant sideeffects. In addition, patients without extensive scarring may potentially recover functional vision with anti-VEGF treatment.