

Evaluation of the efficacy in visual function improvement of brolucizumab with aflibercept in neovascular age-related macular degeneration

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Background:

Age-related macular degeneration (AMD) is the leading cause of blindness among the elderly in the developed world. Currently, there are 4 available intravitreal anti-VEGF therapies (papatnib, bevacizumab ranimizumab and aflibercept). Brolucizumab is a newly developed anti-VEGF molecule for neovascular AMD treatment. Based primarily on the results of the phase III HAWK and HARRIER trials brolucizumab was recently approved in the US for the treatment of exudative (wet) AMD. In this paper we summarize the safety, visual and anatomic outcomes of brolucizumab in the treatment of neovascular AMD.

Aim:

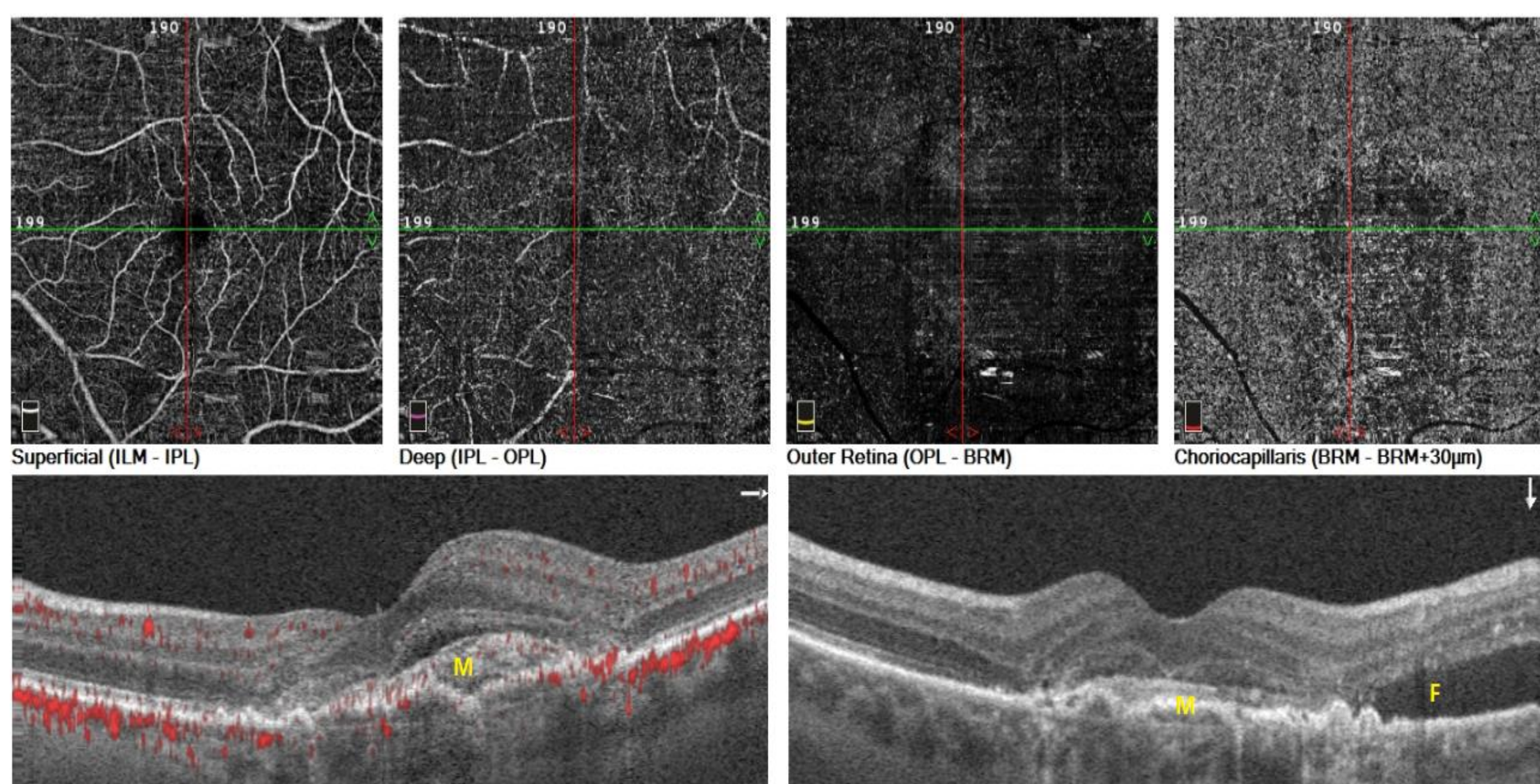
The aim of the study was to evaluate the efficacy in visual function improvement of brolucizumab with aflibercept in neovascular age-related macular degeneration (AMD).

Material and methods:

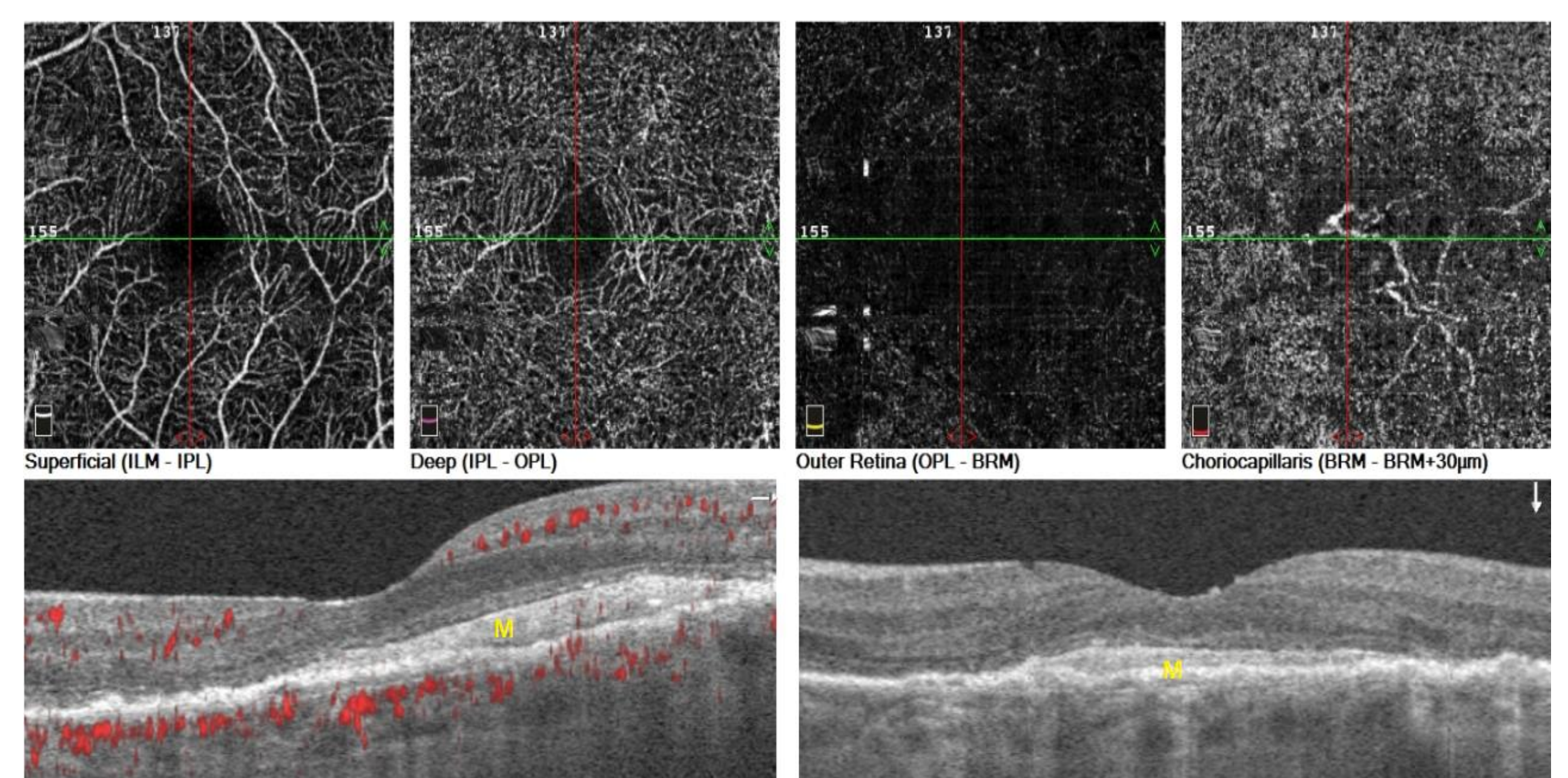
Fourteen patients, aged > 50 years, with untreated, active choroidal neovascularization due to age-related macular degeneration in the study eye. Eligible participants were randomized 1:1 to intravitreal injections of brolucizumab (6mg/50 µl) or aflibercept (2mg/50 µl). Both groups received 3 monthly loading doses and were then treated every 8 weeks. Brolucizumab demonstrate non inferiority to aflibercept in BCVA change from baseline.

Results:

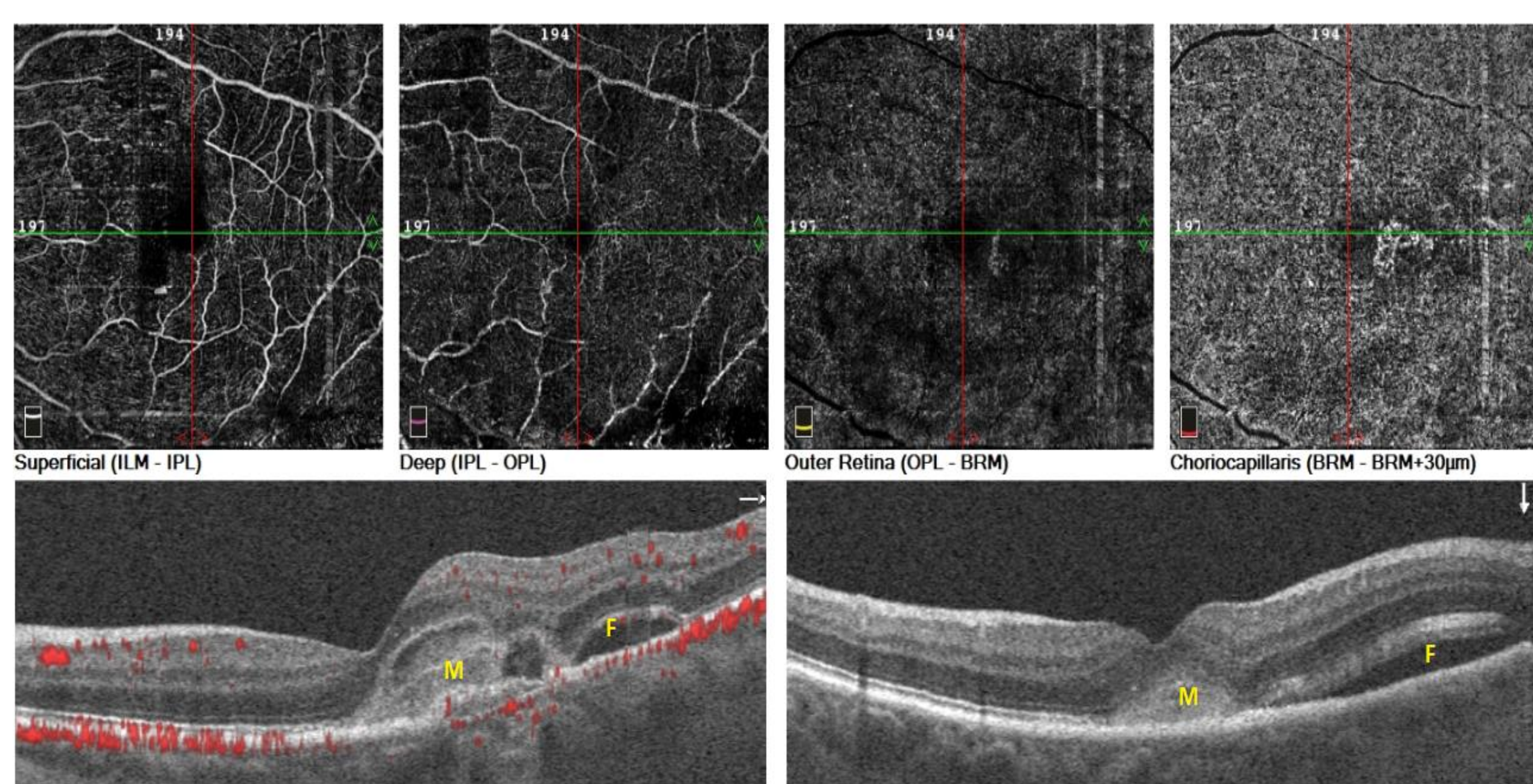
Optical Coherence Tomography Angiography(angio-OCT, OCTA) is the latest diagnostic tool In ophthalmology. It allows to visualize blood flow in the vessels of the retina and choroid In a non invasive manner. Angio-OCT is based on technology that uses laser light reflection from the surface of moving red blood cells. The movement of erythrocytes enables the visualization of the flow In the blood vessels. OCTA algorithms create an images(from 3mm² to 12mm²) that are normally divided into four zones: superficial retinal lexus, deep retinal lexus, outer retina and choriocapillaries



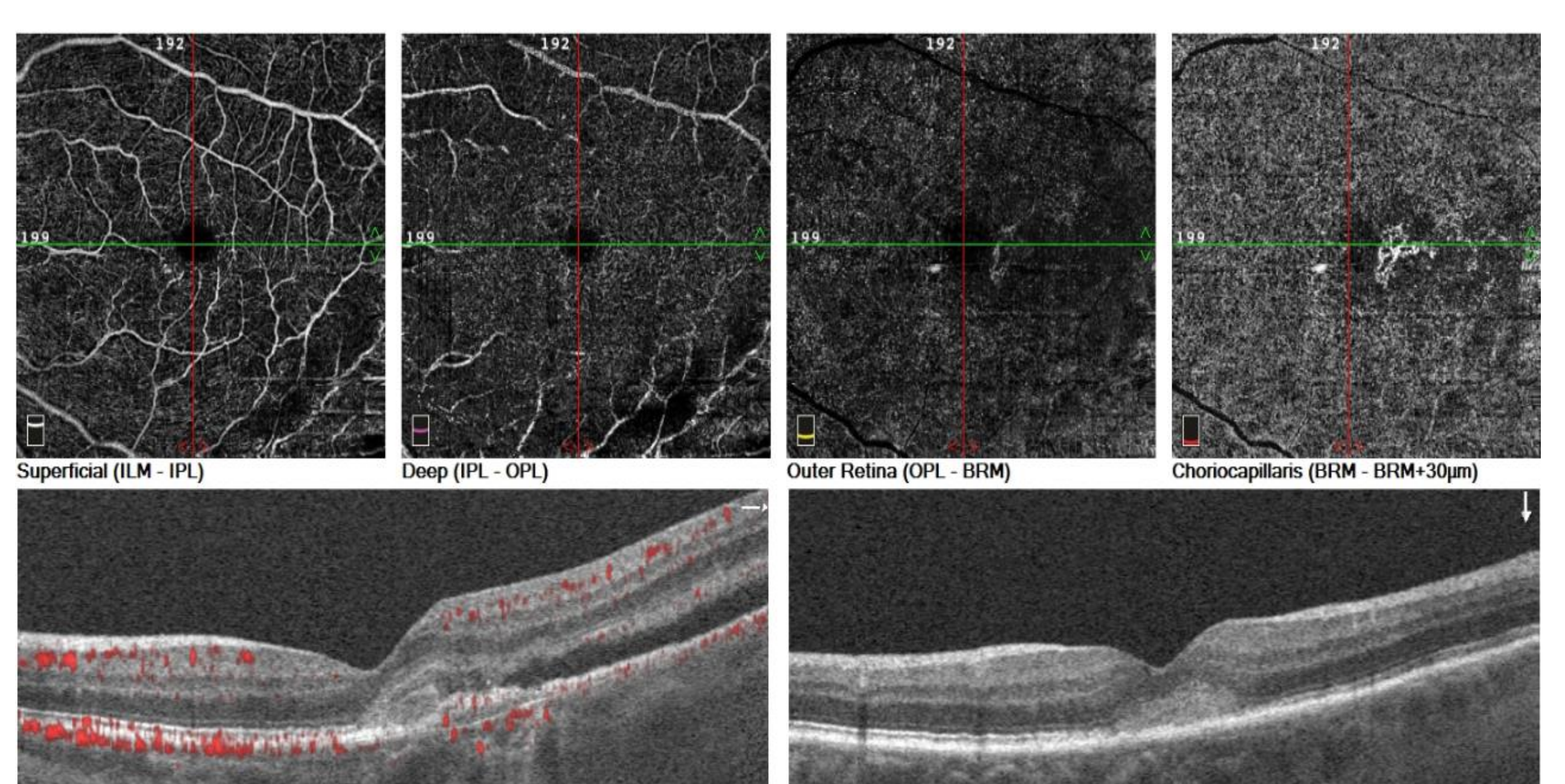
An angioOCT of 75-year-old woman with neovascular age-related macular degeneration. OCTA shows a neovascular membrane (M)with subretinal fluid (F) before first brolucizumab intravitreal injection.



AngioOCT after monthly brolucizumab intravitreal injections, with complete resolution of subretinal fluid(F). Improvement in Pelli Robson contrast sensitivity chart tests and decrease of metamorphopsia In Amsler test were observed.



An angioOCT of 74-year-old man with neovascular age-related macular degeneration. OCTA shows a neovascular membrane (M)with subretinal fluid (F) before first brolucizumab intravitreal injection



AngioOCT after monthly brolucizumab intravitreal injections

Conclusion:

Brolucizumab was superior to aflibercept in visual function like contrast sensitivity and decrease of metamorphopsia. Anatomic outcomes favored brolucizumab over aflibercept.



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