Purpose
To characterize the macular lesions in multifocal choroiditis (MFC) using multimodal imaging (MMI) and to evaluate optical coherence tomography angiography (OCTA) in distinguishing neovascular from inflammatory lesions.

Methods
Patients diagnosed with MFC and macular involvement underwent MMI, including fundus color photography, fundus autofluorescence (FAF), fluorescein angiography (FA), and spectral domain-optical coherence tomography (SD-OCT)- and OCTA. Multimodal imaging and OCTA characteristics of inflammatory active/inactive lesions and active/inactive choroidal neovascularization (CNV) were compared.

Results
Eighteen eyes of 13 patients (11 female) were analyzed. The mean age was 42.9 ± 13.4 years. Using OCTA, an abnormal blood flow was observed in all active CNV (9/9), most inactive CNV (5/6) but also in 2/14 lesions previously classified as active inflammatory lesions. On the contrary, no case of inactive inflammatory lesions showed abnormal blood flow. Therefore, the use of OCTA allowed a diagnosis of CNV that was not made through conventional MMI in 14% of cases of active inflammatory lesions. Nevertheless the comparison of OCTA features (collaterals, peripheral arcade, loops, dilated vessels, feeder trunk, dark halo) of active and inactive CNV were not statistically different.

Figure 1. Multimodal imaging (MMI) and OCTA of inflammatory spots and neovascularization in MFC.

Figure 2: Extension of neovascular lesions into preexisting inflammatory spots in multifocal choroiditis.

Conclusion
The combined findings of conventional imaging and OCTA demonstrate distinctive features of inflammatory lesions and CNV in MFC, allowing an appropriate management of these sight-threatening lesions. However, OCTA alone did not distinguish between active and inactive CNV and should be integrated into a MMI approach.

References