Patient History
A 48 year-old African-American female presented for comprehensive eye examination. She reported that six months prior she had been diagnosed with Type 2 Diabetes and was prescribed Metformin, however she had not yet filled the prescription. She did not know her HbA1C but stated that her blood sugar was “never higher than 140.” Best corrected visual acuity was 20/20 OD, OS.

Clinical Examination & Diagnostic Imaging
Anterior segment biomicroscopy was unremarkable. Fundoscopic examination revealed mild attenuation of the retinal vasculature bilaterally without evidence of diabetic retinopathy OD. There was evidence of exudation nasal to the macula in the left eye without other background diabetic retinopathy. Color fundus photography highlighted the nasal distribution of exudation with central foveal sparing. (Figure 1) Spectral Domain OCT confirmed the presence of exudates in the outer plexiform layer without evidence of clinically significant macular edema and overall good integrity of the retinal layers. (Figure 2) OCT Angiography (OCTA) provided excellent resolution of the inner retinal vasculature at the level of the superficial and deep capillary plexi. OCTA enabled visualization of an enlarged foveal avascular zone with evidence of perifoveal ischemia, capillary loops suggestive of microaneurysms, and fine vessel tortuosity. In-depth evaluation of the segmentation maps allowed for intraretinal depth localization of the microaneurysms. (Figure 3)

Conclusion
Despite the quiescent nature of the fundus appearance and OCT, significant ischemia and corresponding retinal vascular changes were visualized with OCTA emphasizing the need for better management of this patient’s microvascular disease.

Case study courtesy of Julie Rodman, OD, FAAO

www.optovue.com