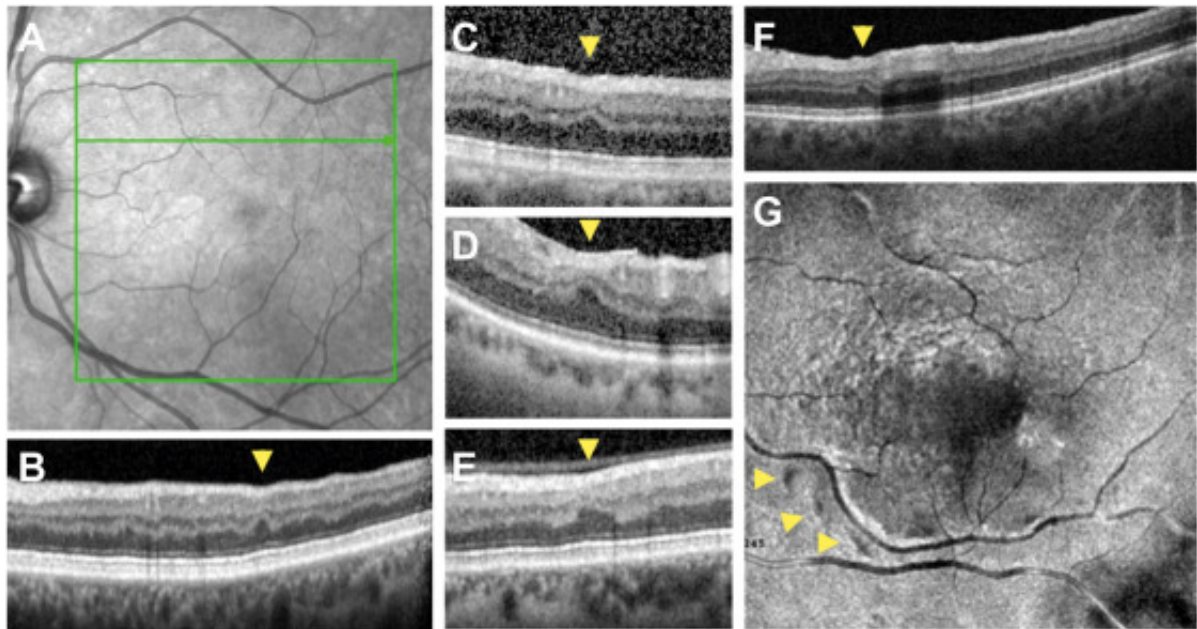


Retinal Ischemic Perivasculular Lesions, a Biomarker of Cardiovascular Disease



Cardiovascular disease is the leading cause of morbidity and mortality in the world. Many individuals are unaware that they may have cardiovascular disease, and the disease may go undetected until the occurrence of serious adverse events such as a stroke or heart attack. Therefore, identification of occult cardiovascular disease and early institution of medical interventions and lifestyle modifications is of paramount importance. Individuals with cardiovascular disease are at higher risk of developing retinal artery and vein occlusions, and even in the absence of overt retinal vascular occlusions, these patients may exhibit signs of subclinical retinal ischemia. We previously demonstrated that lesions indicative of previous episodes of focal retinal ischemia, which we termed retinal ischemic perivasculular lesions (RIPLs), are prevalent in patients with

cardiovascular disease. We showed that RIPLs, which are detected on routinely obtained spectral-domain (SD) OCT images, are associated with increased odds of having cardiovascular disease, even after adjusting for confounding variables, including common cardiovascular risk factors. As a legacy of paracentral acute middle maculopathy, RIPLs represent inner nuclear layer (INL) infarcts and have been documented in various conditions with ischemic etiologies, including hypertension (HTN) and in the fellow eyes of patients with unilateral retinal vein occlusion. In this study, we sought to determine whether detection of RIPLs in a clinical setting led to the identification of previously undiagnosed cardiovascular disease. We present the results of cardiovascular workup from a consecutive cohort of patients with no preexisting cardiovascular disease in whom RIPLs were noted during the retinal examination.