



**Supplementary Figure 1.** Image processing procedure for detecting vortex vein engorgement. (A, D) Representative middle phase ultra-widefield indocyanine green angiography images after stereographic projection. (B, C, E, F) To determine number of engorged vortex vein, the brightness of images was adjusted from dark to bright until the medium sized choroidal vessels in the inter-vortex space were visible.