Optical coherence tomography angiography (OCTA) of the anterior segment (AS) can provide visualization of the iris and sclera vasculature. We investigate how AS imaging can be utilized as a diagnostic tool for AS degenerative ocular diseases such as pterygium, inflammatory diseases such as scleritis and proliferative retinal diseases leading to neovascularization of the iris.

All 20 images were graded higher than 3 and were considered clinically useful. Figure 1 demonstrates a wide angle (18x12 mm) and a high-definition (6x6 mm) OCTA en face with minimum motion artifacts. The vessel architecture of a pterygium is visible on the wide field of view and in greater detail with the high-definition scan (b.1-2). Structural and flow projection on cross-sectional B-scans in Figure 2 highlight areas of increased vessel tortuosity (a.3), increased vascularity (b.3), and decreased vascularity (c.3).

AS OCTA imaging with the add-on lens attachment to a PLEX Elite instrument equipped with AS tracking, provides quality images of AS vasculature and is a promising diagnostic tool. Results show the capability of OCT/OCTA images in visualizing hypervascularity, pterygium, anterior atrophy, and structural abnormalities.

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