Loss of Characteristic Findings of PCV on B Scan OCT After Antiangiogenic Therapy

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Purpose:
Antiangiogenic therapy is the standard of care for exudative age-related macular degeneration (AMD). Despite dramatic visual and anatomic improvement following antiangiogenic therapy, a significant number of eyes have persistent fluid or blood (anti-VEGF resistance). Polypoidal choroidal vasculopathy (PCV) is the only subtype of exudative AMD that is associated with anti-VEGF resistance; thus, its diagnosis is important to guide treatment. PCV is best diagnosed with indocyanine green angiography (ICGA). However, as ICGA is not available in many clinics, this study aims to use the more widely available OCT B scan imaging modality to differentiate between PCV and typical AMD.

Methods:
This retrospective study compared clinical features of eyes with PCV diagnosed on ICGA with the scanning laser ophthalmoscope (Spectralis HRA+OCT; Heidelberg Engineering, Heidelberg, Germany) to eyes with exudative AMD without PCV. For this study, eyes with PCV were required to have a definite polypoidal lesion imaged on B scan OCT, which appears as an inverted U-shaped elevation of the retinal pigment epithelium with heterogenous reflectivity. The persistence of polypoidal lesions, prevalence of sub-retinal fluid (SRF), macular edema (ME), subretinal hyperreflective material (SHRM), and retinal pigment epithelial detachment (RPED) were compared at baseline and after 6-9 months of antiangiogenic therapy.

Results:
84 eyes of 79 patients were included. 41 of the eyes were diagnosed with PCV and 43 with typical AMD. Compared to AMD eyes, PCV eyes had an increased prevalence of subretinal fluid at baseline and after 6-9 months of antiangiogenic treatment, but the prevalence of ME, SHRM, and RPED was similar at baseline and at 6-9 months. In PCV eyes, the presence of a visible polypoidal lesion decreased to 41.5% (17/41 eyes) after treatment.

Conclusions:
If PCV is suspected in an anti-VEGF resistant case of exudative AMD, in the absence of ICGA availability, it is important to look at baseline B scan OCT prior to therapy, as the characteristic polypoidal lesion on B scan OCT resolved in 59% of PCV eyes following antiangiogenic therapy. Subretinal fluid was more prevalent in PCV eyes than non-PCV AMD eyes.