

**Title: Distinguishing white dot syndromes with patterns of choroidal hypoperfusion on optical coherence tomography angiography**

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**Purpose**

To compare patterns of choroidal hypoperfusion in white dot syndromes using optical coherence tomography angiography (OCT-A).

**Methods**

Consecutive patients with white dot syndromes were imaged with either the Zeiss Angioplex OCT-A (Carl Zeiss AG, Germany) or Optovue AngioVue OCT-A (Fremont, CA) from February to November 2016. Four patients with acute posterior multifocal placoid pigment epitheliopathy (APMPPE), birdshot chorioretinopathy (BCR), presumed ocular histoplasmosis syndrome (POHS), and multiple evanescent white dot syndrome (MEWDS) were selected. This study was approved by the institutional review board (IRB) at Massachusetts Eye and Ear.

**Results**

Unique patterns of choroidal hypoperfusion were observed. In POHS and MEWDS, areas of choroidal hypoperfusion correlated well with clinically observed pathology (Figure 1) but in APMPPE and BCR, they were more widespread (Figure 2).

**Conclusion**

OCT-A can identify different patterns of choroidal hypoperfusion in APMPPE, BCR, POHS, and MEWDS, which appears to be a shared feature of white dot syndromes.

**Financial disclosure**

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Figures

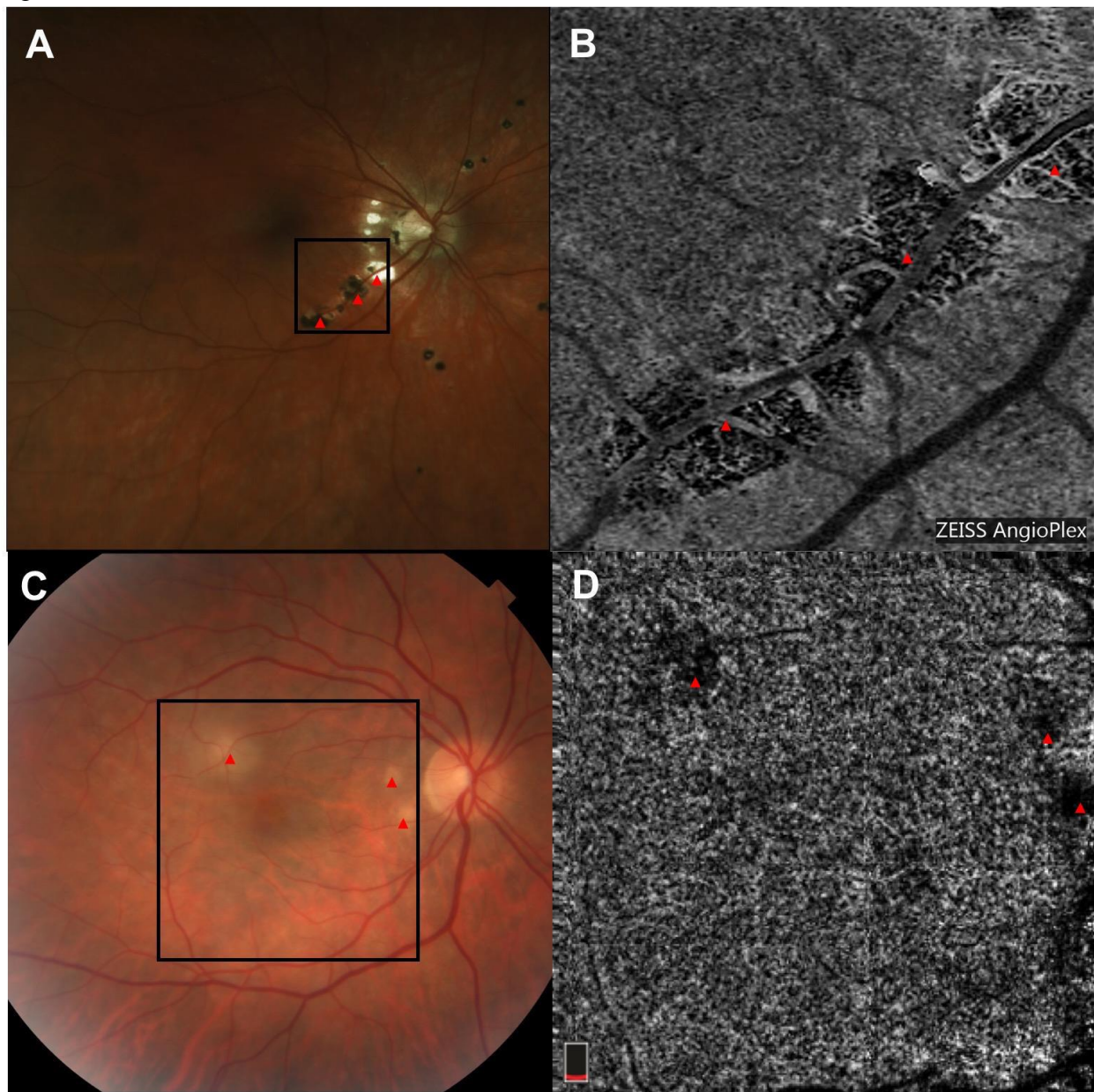
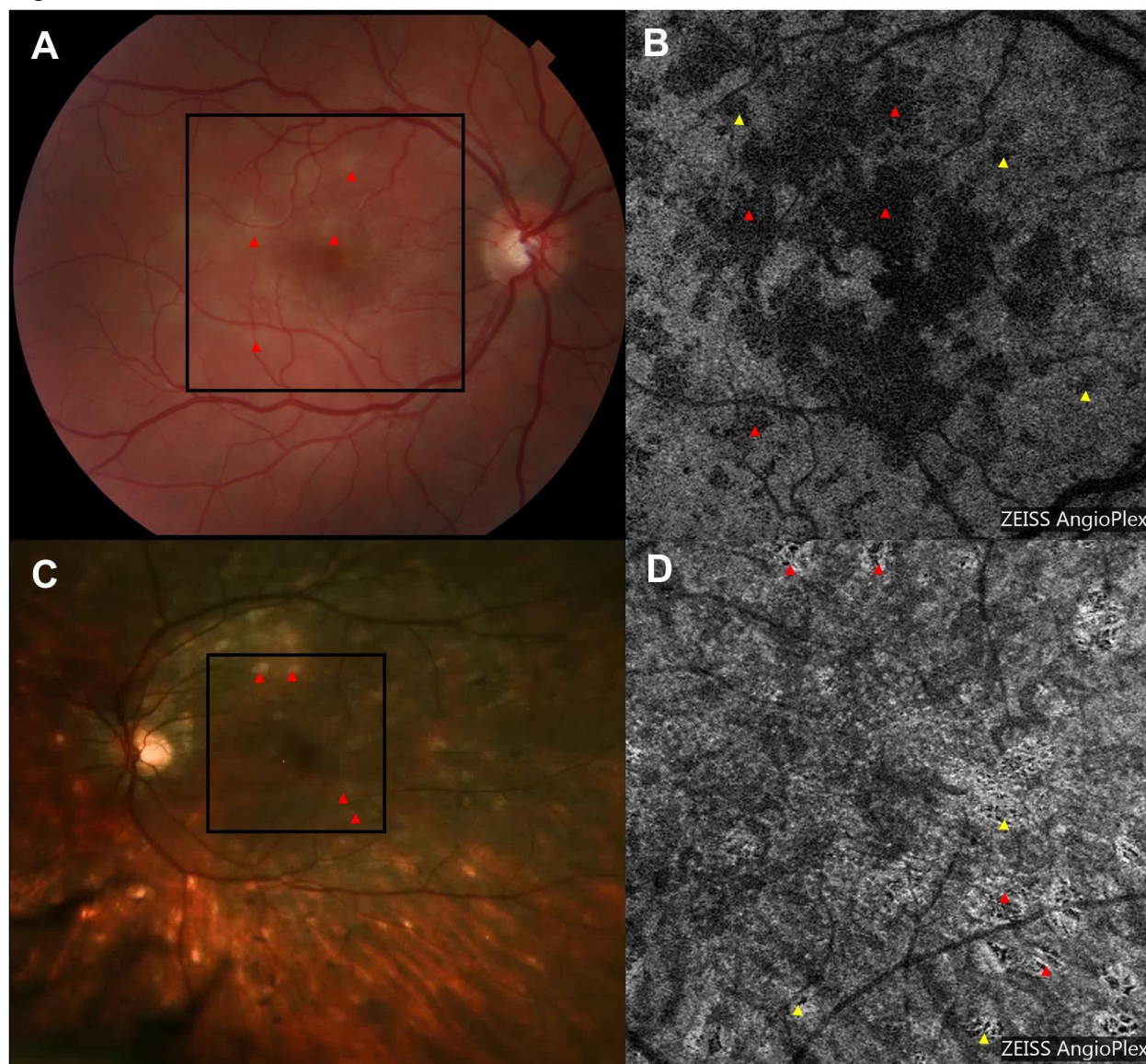


Figure 1. Color fundus photograph demonstrating discrete pigmented “punched out” scars in POHS (A) with corresponding OCT-A of the choriocapillaris (B). Color fundus photograph showing multiple small white dots with three larger lesions in MEWDS (A) with corresponding OCT-A of the choriocapillaris (D).

Figure 2.



Color fundus photograph showing multiple round creamy plaques in APMPPE (A) with corresponding OCT-A of the choriocapillaris (B). Color fundus photograph showing multiple scattered yellow hypopigmented lesions in BCR (C) with corresponding OCT-A of the choriocapillaris (D).

\*Black squares on fundus photographs indicate area of OCT-A scan. Red arrowheads show corresponding lesions of interest on fundus photograph and OCT-A while yellow arrowheads show areas of choriocapillaris hypoperfusion without corresponding fundus lesions.