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## **The comparison of Spectral Domain Optical Coherence Tomography (SD-OCT) to histopathology in a patient with diffuse macular drusen**

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**Background:** Spectral Domain Optical Coherence Tomography (SD-OCT) has become a gold standard technique in ophthalmologic practice, and has revolutionized the diagnosis and treatment of retinal disease. As SD-OCT uses low interference interferometry and mathematical algorithms to produce detailed theoretical cross-sectional images of the retina, it is crucial to examine correlations between SD-OCT images and their corresponding histopathologic slides.

**Methods:** In the present study, careful correlative light microscopy was performed on the eye that was enucleated from an elderly patient who had a uveal melanoma and early age-related macular degeneration evident clinically as soft drusen. SD-OCT was performed prior to enucleation and the eye was fixed optimally using a technique that prevents artifactitious retinal detachment.

**Results:** The retina remained attached to the RPE in the correlative microscopic sections. However, light microscopy disclosed a diffuse deposit of soft drusenoid material on the basal surface of the RPE, which had detached artifactitiously from Bruch's membrane. The basal laminar deposit was poorly adherent to Bruch's membrane predisposing to RPE detachment.

**Conclusions:** The accurate interpretation of SD-OCT's imagery requires a strong understanding of ocular histopathology. Careful correlative light microscopy can lead to more accurate interpretation of SD-OCT images.