

Journal Article Review

A Prospective, Comparative, Observational Study on Optical Coherence Tomography of the Anterior Eye Segment

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Summary

Purpose

To compare image quality and structural detail of anterior segment OCT images from two different spectral domain OCT (SD-OCT) systems, the SPECTRALIS® and the RTVue®.

Methods

Twenty-nine patients were recruited for this prospective, observational, and comparative study. Subjects were examined with both devices in a single visit. Cornea, anterior chamber angle, and scleral scans were performed. The primary endpoint was the identification of corresponding structures and pathologies. The secondary endpoint was the comparability of the clinical interpretation of the ocular structures.

Discussion

SD-OCT technology provides enhanced visualization of anterior ocular structures such as the cornea, anterior chamber angle, and sclera, compared to the older, time-domain OCT technology. Both of the SD-OCT devices in this study showed excellent results in illustrating anatomical details and clinically relevant changes. However, the SPECTRALIS OCT with Enhanced Depth Imaging (EDI) showed better performance in imaging deep anterior segment structures like the sclera and ciliary body. This capability is not available in the RTVue device.

Conclusion

- SD-OCT imaging enables detailed, noninvasive anterior segment examinations.
- “The SPECTRALIS OCT tended to perform better in the illustration of deep anterior segment structures like the ciliary body and sclera.”

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