Purpose: To compare the central retinal thickness (RT) measurements by Lenstar LS 900 optical low-coherence reflectometer and Spectralis optical coherence tomography (OCT).

Materials and Methods: Right eyes of 33 (51.6%) male and 31 (48.4%) female healthy subjects aged between 15-55 years (mean 31.03±8.98) and having 3 diopters of spherical and 1 diopters of cylindrical refractive error were included in this cross-sectional study. All RT measurements were performed within one session by the same experienced operator. All RT measurements were performed in the morning hours with random sequence. The central RT measurements were evaluated using Bland-Altman plot. Results: The mean RT measurements using optical low-coherence reflectometer and OCT were 214.34±16.38 µm (range 181-261) and 220.53±12.60 µm (range 193-246), respectively. In the Bland-Altman plot the 95% limits of agreement was approximately 29 µm for optical low-coherence reflectometer and OCT measurements. In the Bland-Altman plot mean difference between optical low-coherence reflectometer and OCT measurements was 5.25 µm. Conclusions: In the clinical practice, RT measurements acquired using optical low-coherence reflectometer is not interchangeable with OCT due to high variation of the results.