Purpose: To evaluate choroidal morphology and thickness in the posterior pole of normal eyes in the Portuguese population and determine a correlation with sex, age and refractive error.

Methods: Choroidal thickness of 200 eyes from 100 volunteers, without any ophthalmologic pathology, was measured in the center of fovea and 500 µm, 1000 µm and 1500 µm in the cardinal directions (superior, inferior, nasal, temporal) using enhanced depth imaging (EDI) spectral-domain optical coherence tomography (SD-OCT) from Spectralis HRA+OCT ® (Heidelberg®).

Results: The choroid was thickest underneath the fovea 349.86 ± 74.95µm. Mean age was 34.68 ± 20.16 years. All choroidal thickness measures presented inverse correlation with age (p<0.001), being greater in pediatric population (p<0.001) and becoming thinner above 60 (p<0.001). Male presented thicker choroid in all measures, except in temporal side. Multivariate analysis showed direct correlation between spherical equivalent and choroidal thickness (p=0.036).

Conclusion: Choroidal thickness in the posterior pole depends on its location. Sex, age and refractive error are critical determinants for correct interpretation of choroidal thickness changes.