Purpose: To analyze, with spectral domain optical coherence tomography, submacular choroidal thickness (CT) of diabetic retinopathy (DR) patients and to compare it with healthy controls. Methods: Cross-sectional study, developed in 4 ophthalmology centers. Thirty-two healthy controls and 35 diabetic patients were recruited. Patients were classified in 3 groups: mild nonproliferative DR without maculopathy (NPDR, n=10); nonproliferative DR and history of treated diabetic macular edema (DME) (NPDR+DME, n=11); treated proliferative DR (PDR, n=14). The line of retinal pigment epithelium/Bruch membrane complex and line of scleral/choroid interface were marked manually in 5 central B-scans. In centrofoveal B-scan, CT was determined automatically. The mean and standard deviation of all the CT values included in a circumference of 1mm diameter centered in the fovea were also determined – central choroidal thickness (CCT). Results: NPDR+DME patients showed a significant reduction on CCT compared with normal inferred values (249.7±71.6 versus 279.2±41.7µm, p=0.04). In the centrofoveal B-scan, CT was significantly reduced in 6 of the 13 performed measurements. PDR patients showed similar results: CCT was significantly thinner (280.7±79.4µm) than the normal inferred values (320.0±42.0µm, p=0.02) and CT was also reduced in 5 of the 13 centrofoveal B-scan locations. In NPDR group, no significant differences were found in the CT measurements. Conclusions: The submacular CT is reduced in the advanced stages of DR. This study introduces a new choroidal measure - the CCT- which is clinically relevant as it represents a mean of all the determinations performed in the central macular area, instead of single evaluations in isolated points.