

RETINA

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Mesa: António Sampaio, Luís Cabral, Mário Alfaiate

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A CORÓIDE EM DOENTES DIABÉTICOS: AVALIAÇÃO DO PERFIL CORÓIDEU USANDO EDI SD-OCT

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Purpose

To analyze choroidal thickness in healthy subjects and diabetic patients using enhanced depth imaging by spectral-domain optical coherence tomography

Design

A retrospective analysis was performed using data from healthy subjects and type 2 diabetic patients, in a case control study, to examine the profile of choroidal thickness in the macular area in different stages of diabetic retinopathy.

Methods

Study population: 52 eyes from 26 type 2 DM patients and 18 eyes from 9 healthy subjects were used. Inclusion criteria were age between 30 and 70 years and a previous diagnosis of type 2 diabetes and exclusion criteria were systemic disease other than diabetes, other ocular diseases, history of retinal surgery, refractive error of more than 4 diopters or physical variation from normal for patients; and normal visual acuity and absence of retinal or choroidal pathology on ophthalmoscopy, for healthy control subjects. The diabetic eyes were grouped on 3 groups: one with no diabetic retinopathy or mild diabetic nonproliferative retinopathy with no diabetic macular edema (NPDR with no DME group), second with mild or moderate diabetic nonproliferative retinopathy and diabetic macular edema (NPDR with DME group) and the third with proliferative diabetic retinopathy (PDR group). An Heidelberg Spectralis device was used. Choroidal thickness was measured at 37 points for each patient: the foveal center (F), and at 500 (1), 1500 (2), 3000 (3) μm temporal, nasal, inferior, superior, superotemporal 30°, superotemporal 60°, superonasal 30°, superonasal 60°, inferotemporal 30°, inferotemporal 60°, inferonasal 30° and inferonasal 60°. For a more readable graphic, averages for the quadrants were obtained in each of the fovea centered rings with a radius of 500, 1500 and 3000 μm .

Results

The choroid was thicker in the subfoveal region and progressively thins towards the periphery in all the groups ($P < 0,05$). Choroid was thinner in all the type 2 diabetic eyes when compared to the control group, controlling for age, in all the quadrants and subfoveal region ($P = 0,001$). The proliferative diabetic retinopathy patients -PDR group- had thinner choroids than the other diabetic groups in the nasal, temporal and inferior quadrants ($P = 0,046$; $P = 0,008$; $P = 0,020$). In foveal region of PDR group, the choroid was thinner than the retina ($P = 0,030$), contrarily to what was observed in the control group ($P = 0,001$).

Conclusions

Choroidal thickness is thinner in type 2 diabetic patients, regardless the stage of the disease, and this morphologic variation from normal seems to be related to the severity of retinopathy. However, very few studies have been published analyzing the choroidal profile in diabetic patients, so we believe that further studies are needed to understand whether the decreased choroidal thickness is a primary factor in the development of diabetic macular edema or is a result from the loss of cellular components that secondarily occurs in diabetic retinopathy.