( ) R1 ( ) R2 ( ) R3 (X) PG0 ( ) PG1 ( ) Estagiário ( ) Tecnólogo ( ) PIBIC Last Name - Dotto First Name - Patrícia Middle - de Freitas

Service (sector) Retina and Vitreous - Clínica Oftalmológica - FMUSP Nº CEP

STUDY OF RETINAL NEUROEPITHELIUM IN BEST DISEASE

AUTHORS: DOTTO PF, OYAMADA MK, HIRATA MA, TAKAHASHI WY. PURPOSE: The authors describe the morphology and visual function of the macula in eyes with Best disease. METHODS: Detailed ophthalmoscopy, fluorescein angiography, electrooculogram and optical coherence tomography (Stratus OCT 3-Zeiss) were performed on 47 eyes of normal volunteers (mean age =33 years) and 24 eyes of 14 patients with Best disease (mean age= 26 years). A first order multifocal electroretinogram (mfERG) of the central 60 degrees of the retina was obtained using the Reti-System (ROLAND), recording 61 hexagons flickered according to a binary m-sequence. Mean luminance was 100 cd/m2, contrast was set at 97 %. The mfERG recordings were compared to the control group using analyses of variance (ANOVA). RESULTS: The macular lesions were bilateral in all patients and varied from the typical vitelliform (5 eyes), faded vitelliform (6 eyes), retinal pigment epithelium (RPE) atrophy (3 eyes), and a normal fovea associated with small flecks around the macula (10 eyes). Electrooculogram was subnormal (Arden ratio <1.8) in all the patients with Best disease. The mfERGs P1 and N1 peak amplitudes were significantly reduced only in central and pericentral responses (rings 1 and 2) . The implicit times were a little prolonged. N1 and P1 implicit times and peak times were not affected in patients with a subnormal EOG and a normal fovea. The macular lesions were clearly delineated on OCT, with different patterns of images according to the stage of this disease. CONCLUSIONS: The mfERG is a response of the cone photoreceptor cells that can detect focal retinal dysfunction which is not apparent in the summed retinal response recorded with full field ERG. The markedly reduced mfERG amplitudes with only slightly increased implicit times in central rings may indicate damage of cone photoreceptor system in Best disease, restricted to the macula. The OCT images of macular region demonstrated patterns of retinal morphology that can be allied to the local function responses observed in mfERG to possible explain the maintenance of visual acuity in Best disease and to evaluate the evolution of retinal dysfunction in these patients.