( ) R1 ( ) R2 ( ) R3 (X) PG0 ( ) PG1 ( ) Estagiário ( ) Tecnólogo ( ) PIBICLast Name - Sacai First Name - Paula Middle - Yuri

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Assessment of central retina function in patients with retinitis pigmentosa using the multifocal eletroctroretinogram

P. Y. Sacai, J. M. Pereira, S. E. S. Watanabe, S. R. Salomão,A. Berezovsky Clinical Electrophysiology of Vision Lab, Dept. of Ophthalmology, Federal Univ of São Paulo, São Paulo, Brazil. **Purpose.** Deterioration of retinal function in patients with retinitis pigmentosa (RP) initially involves the periphery and mid-periphery. In many RP patients, only the central visual function is preserved. The purpose of this study was to investigate the residual retinal function in patients with RP by multifocal electroretinogram (mfERG). **Material and Methods**. mfERGs were prospectively recorded from 103 retinal locations within the central 25o with VERIS ScienceTM 5.1.2 Imaging System. Inclusion criteria were: previously diagnosed RP considering fundus findings and full-field ERG abnormalities; presenting distance visual acuity ≥0.6 logMAR (20/80) and consent form. Sixteen eyes from 16 patients were examined (11 males and 5 females; mean age = 35.5; sd = 15.0). Parameters of response densities (nV/deg²) and latencies (ms) for N1 and P1 components of the first order kernel were determined from the sum of the central seven responses (central 5 deg) and from “peripheral region”, defined as the sum of 84 responses outside the 7.5 deg (7.5 deg to 23 deg). mfERG amplitudes and latencies were compared with normative data from our lab. **Results:** The mfERG amplitudes from the central 5 deg were markedly smaller in 15 of the 16 patients (mean: 10.9nV/deg², sd: 8.0) - only one of the sixteen patients had demonstrated normal values. In all patients, the multifocal latencies to the 5 deg were within the normal range (mean: 28.1ms, sd: 2.5). Regarding the peripheral region, in 15 patients the amplitude was severely reduced (mean: 2.1nV/deg², sd: 2.6), 9 patients showed a delayed peripheral response (mean: 33.6ms, sd: 2.5) and 1 patient have non-detectable peripheral responses. **Conclusions:** Central retinal function assessed by multifocal ERG was mildly affected in this selected group of RP patients. On the other hand, extreme sensitivity loss was found with reduced amplitude and latency delays in the periphery. These findings provide a quantitative approach to confirm and extend RP clinical course. Assessing central function in RP patients might be helpful in defining visual prognosis and rehabilitation.