1 de Dezembro **08h30 | 10h00 – Sala 1**

Retina Médica | Medical Retina

Moderadores | Chairs: Maria Luz Cachulo (CHUC), Diogo Cabral (HGO), Luis Mendonça (HB)

CO 8

PROGNOSTIC IMPACT OF HYPERREFLECTIVE FOCI IN NONSYNDROMIC RETINITIS PIGMENTOSA

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Introduction and Purpose: Hyperreflective foci (HRF) on spectral domain optical coherence tomography (SD-OCT) have been described in several retinal diseases, including age-related macular degeneration, diabetic retinopathy, and recently retinitis pigmentosa (RP). HRF have been proposed as biomarkers of disease progression and worse visual prognosis, however their pathogenic role in RP remains undetermined as long-term studies are currently lacking. The purpose of this study was to evaluate the association between the presence of HRF on SD-OCT and RP severity and progression over a minimum follow-up of 24 months.

Materials and Methods: Retrospective, observational study conducted at an inherited retinal disease (IRD) referral center in Portugal. Genetically-tested RP patients with a minimum follow-up of 24 months were identified using the IRD-PT registry. Clinical data including demographics, genetic testing results and ETDRS best-corrected visual acuity (BCVA) at baseline and follow-up were collected. Horizontal and vertical SD-OCT scans, at baseline and follow-up, were analysed by 2 independent graders. Outer nuclear layer (ONL) thickness and ellipsoid zone (EZ) width were manually measured in horizontal and vertical scans. HRF were identified and classified according to location on SD-OCT: outer retinal layers within the central 3mm (central-HRF), outer retinal layers beyond the central 3mm (perifoveal-HRF), and choroid (choroidal-HRF). Central macular thickness (CMT), central point thickness and choroid thickness at baseline and follow-up were also recorded.

Results and Discussion: A total of 175 eyes from 94 RP patients (47.9% female, mean age 50.7±15.5 years) were included. Mean follow-up time was 29.24±7.17 months. Mean ETDRS BCVA decreased from 60.05±23.26 letters at baseline to 57.37±25.63 letters at the last follow-up ($p<0.01$). At baseline, 72 eyes (41.1%) showed central-HRF, 110 eyes (62.9%) had perifoveal-HRF and 149 eyes (85.1%) exhibited choroidal-HRF. Central-HRF and perifoveal-HRF were associated with worse baseline and follow-up BCVA, as well as greater BCVA deterioration (all $p<0.02$), while choroidal-HRF showed no significant associations with BCVA. All HRF were associated with worse baseline and follow-up CMT (all $p<0.03$), with only central-HRF being associated with a larger decrease in CMT ($p<0.01$). Smaller EZ widths, vertically and horizontally, at baseline and follow-up, were associated with the presence of all types of HRF (all $p<0.05$). Choroidal thickness, at baseline and follow-up, was only positively associated with the presence of choroidal-HRF (both $p<0.04$). We found an association between a larger number of HRF locations and greater BCVA decline ($p<0.001$). Age was not associated with the presence of HRF ($p=0.185$).

Conclusion: HRF are highly prevalent in RP patients and appear to have a negative prognostic impact in visual function, central macular thickness and EZ width, particularly those present in the central and perifoveal outer retinal layers.