00562 Multimodal Imaging-based Phenotyping of a Newly Established Cohort of High Myopia Patients

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Aims: To investigate how frequently highly myopic (HM) patients present with anisometropia of > 3mm and other related features.

Methodology: HM patients (<-6.00 D and/or > 25 mm axial length (AL) in at least 1 eye) clinically diagnosed with staphyloma, recruited from a HM clinic between January - October 2017, were evaluated retrospectively. The following was performed for all patients: dilated retinal exam, IOLMaster axial length (AL) measurement, fundus photography/autofluorescence and wide-field swept-source optical coherence tomography (SSOCT).

Result: Three hundred and sixteen HM patients (69% female, 62 ± 14 years old, range 19-92) were evaluated. Excluding unilateral eyes < 25 mm, AL was 29.4 ± 2.2 mm (25-36.7 mm). Using the Meta-analysis of Pathologic Myopia (Meta-PM) classification to assess the degree of myopic macular degeneration (MMD) revealed 20% with tessellated fundus MMD Category (MMDCat) 1, 42% with MMDCat2 (diffuse atrophy), 20% with MMDCat3 (patchy atrophy) and 15% with MMDCat4 (macular atrophy). Forty-one percent of patients had foveoschisis, 26% had myopic choroidal neovascularization, 25% had dome-shaped macula, 17% had vitreomacular adhesion and 11% had macular/lamellar hole. 15% of patients had high axial anisometropia in which at least one eye had high axial myopia, and there was a difference of at least 2.5 mm in axial length between the two eyes in a given patient (range 3-11.2 mm).

Conclusion: Standard, wide-field imaging such as SSOCT can readily diagnose various pathologies commonly found in highly myopic eyes. We have established an important clinical cohort with a wide-range of pathology that will serve as the basis for longitudinal studies that search for potential imaging biomarkers for development and progression of myopic maculopathy.