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

Retina Médica | Medical Retina

Moderadores | Chairs: Bernardete Pessoa (CHUP), Fernanda Vaz (CHLO), Isabel Pires (CHUC)

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O PAPEL DA BIOMECÂNICA CORNEANA COMO PREDITOR DE MEMBRANAS NEOVASCULARES COROIDEIAS EM OLHOS MÍOPES

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Financial Disclosure: All authors have no conflict of interest to declare. There was no funding for this work.

Ethical Considerations: This study was performed accordingly to the principles of the Declaration of Helsinki. Moreover, all exams performed are considered non-invasive. Approval was obtained from the 'Centro Hospitalar e Universitário doPorto Ethical Commission ', with the number 158-DEFI/160-CE. The informed consent from the patients was waived due to total anonymization and confidentiality of the data and the absence of detailed individual data.

Introduction and Objectives: Myopic maculopathy in the form of choroidal neovascularization may display a significant impact in visual function, frequently in active young patients. The present work was aimed to describe corneal biomechanics in myopic eyes with history of myopic choroidal neovascularization (mCNV) treated with intravitreal anti-VEGF and compare it with the fellow eyes. Secondary purposes were to make subgroup analysis within the group of mCNV eyes and to address predictors of disease and treatment response

Materials and Methods: Single center observational cross-sectional case-control study including individuals above 18 years old with myopia and history of mCNV treated with intravitreal anti-VEGF in one eye at Centro Hospitalar e Universitário do Porto. Data from clinical records was taken regarding treatment-related information. A questionnaire including personal demographic, biometric and lifestyle related data was performed. Biomechanical assessment was made by means of Scheimpflug camera, through Corvis ST® (OCULUS). Ocular biometric parameters were addressed by Anterion® (Heidelberg). Data from axial length (AL), White-to-white (W-T-W). Macular anatomical assessments were performed through the OCT platform Spectralis® (Heidelberg).

Results: 64 eyes from 32 patients were included, 87.5% females, with a mean age of 62.5+-13.3 years old. A tendency to lower HC-time was found in eyes with mCNV. Eyes with MBMH showed higher WEM Max time and TBI and belonged to individuals with more physical activity and more UV-light exposure. Several biomechanical parameters correlated with lifestyle habits. Membrane diameter was moderate-to-strongly correlated with softer biomechanical behavior, while number of intravitreal-VEGF injections associated without a consistent pattern. A pure biomechanical model was built to predict the presence of MBMH, including the WEM Max time and the TBI, with an AUROC of 0.808 and with no influence from AL, c-IOP or bIOP.

Conclusion: To the authors knowledge, this is the first study evaluating in vivo ocular biomechanics in mCNV. Biomechanics showed promising results as a predictor of mCNV, more specifically of macular Bruch Membrane holes. It seems to be associated with lifestyle factors and future studies should be performed to confirm our findings, paving the way to the introduction of a dynamic paradigm in mCNV risk assessment of myopic eyes.