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THE MOVING EYE. A REVIEW OF THE UNIFYING BIOMECHANICAL HYPOTHESIS ON THE PATHOGENESIS OF MACULA DISORDERS"

Oral

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Purpose:

To present a summary of the facts that show the impact of the constant stress on the posterior pole due to ocular movements.

Methods:

A review of our presentations during Rome past meetings from 2014 to 2022 is presented. Image related evidence and FEM simulation are developed.

Results:

Strong evidence arise that show the correlation between ocular movements and macula lesions as seen in OCT images. A mechanical simulation with a FEM model supports the hypothesis. We were able to provoke layer separation and makula rhexis with sole biomechanics conditions, based on literature data on tissue elastic properties.

Conclusions:

Ocular movements and their biomechanical effects on the posterior pole may play a major pathogenetic factor to the expression of macula pathology of various disorders.