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

Retina Médica | Medical Retina

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

CO 4

GENETICS AND THE MEDITERRANEAN DIET: WHAT IS THE RISK FOR AGE-RELATED MACULAR DEGENERATION?

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Introduction: Age-related macular degeneration is a degenerative disease of the macula responsible for severe vision loss. It is a multifactorial and complex disease, with genetics, lifestyle and environmental factors contributing for its establishment and progression. An adherence to the Mediterranean diet has been suggestive of being protective for disease, but the evidence on the interaction between diet and genetics is scarce.

Purpose: With this work, we intend to assess the effect of the adherence to the Mediterranean diet on age-related macular degeneration stratified by the genetic risk score, in a well-characterized Portuguese population.

Methods: Participants performed ophthalmological exams and answered a validated food and a lifestyle questionnaire. The adherence to the Mediterranean diet was assessed with mediSCORE, a score ranging from 0 (low adherence) to 9 (high adherence). The score was determined individually for each participant, as the sum of the score of 9 food groups in which the food items from questionnaire were organized. A cut off value of ≥ 6 was used as high adherence. Grading was performed using Rotterdam Classification. Participants' genotyping was performed in collaboration with The European Eye Epidemiology Consortium. The Genetic Risk Score was calculated for each participant considering the number of alleles at each variant and their effect size. Odds ratio for the adherence to the Mediterranean diet within strata of high and low genetic risk score were calculated, adjusted for age, sex, physical exercise, and smoking.

Results: People at high genetic risk for age-related macular degeneration benefited from adhering to the Mediterranean diet with a 60%-risk reduction (OR=0.386, 95%CI 0.182-0.821, p=0.013). For subjects with low genetic risk (OR=0.435, 95% CI 0.177-1.072, p=0.070), a risk reduction was also seen, but not significantly. In subjects with a high genetic risk, age increased the risk of having AMD in a 2- and 3 time-fold, for ages 70-75 (p=0.034) and over 75 (p<0.001), respectively. The same was seen for smoking (OR=2.165), though not significantly (p=0.068). Performing physical exercise presented as a protective factor (OR=0.564, p=0.035).

Conclusions: Genetics and Mediterranean diet interact to cause age-related macular degeneration, suggesting there is an interplay between genetics and lifestyle factors.