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

**Retina Médica | Medical Retina**

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

**CO 92**

## VITAMIN D LEVELS IN THE PROGRESSION OF AGE-RELATED MACULAR DEGENERATION: A 5-YEAR RETROSPECTIVE STUDY

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**Introduction**: Age-related macular degeneration (AMD) is a major cause of blindness among people over 60 years worldwide. Multiple metabolic, genetic, and environmental factors have been involved in the physiopathology of AMD. There have been controversial results regarding the 25-hydroxy vitamin D [25(OH)D] role in AMD. This study aimed to investigate the prevalence of changes in vitamin D in a population of neovascular AMD patients and study the correlation between vitamin D levels and the rate of progression of AMD over time.

**Methods**: A single-center, five-year retrospective, observational analysis of patients with neovascular AMD. Serum 25(OH)D levels were evaluated and compared with a control population that was adjusted to age, gender, and ethnicity. We recorded their best-corrected visual acuity (BVCA), AMD phenotype, number of intravitreal injections (IVI), and macular OCT parameters at baseline and five years after. Statistical analysis was conducted using SPSS Statistics 28.0 software.

**Results**: A total of 38 eyes of 24 AMD patients (66.6% females) and 30 controls (63.6% females) were enrolled in this study with a mean age of 75.77±9.07 and 72.63±7.81, respectively. The patients with late AMD had significantly lower levels of 25(OH)D (20,06±7.46 ng/ml) compared to controls (25.67±8.84) ($p<0.001$). At baseline, there was a statistically significant association between lower levels of 24(OH)D and neuroepithelium thickness, but not with total retinal thickness. Also, there was no correlation between vitamin D levels and BCVA or the number of IVT. We then followed the same patients for 5 years and re-evaluated them. Ten patients lost follow-up (50% died) and the remaining 14 patients (24 eyes) who kept their follow-up, had at least moderate vitamin D deficits. Only the superior and nasal neuroepithelium significantly differed from the baseline ($p=0.032$ and $p=0.030$). Regarding the BCVA, it was significantly lower ($p<0.001$) in these patients with 25(OH)D deficits, and there was no correlation between the number of IVI and lower levels of 25(OH)D ($p=0.055$). Additionally, there was no difference in 25(OH)D levels between patients with or without disciform scars ($p=0.745$).

**Conclusions**: Diverse studies have researched associations between AMD and metabolic biomarkers, like vitamin D with controversial results. Our study shows that vitamin D levels were statistically lower in AMD patients, especially the ones with disciform scars. On the other hand, we didn't find any differences in macular thickness or the number of IVI over time in patients with moderate vitamin D deficits. Therefore, this study leads to controversial results on the role of vitamin D in AMD. Nonetheless, this study has a small population, and due to different vitamin D level cut-offs between studies, a comparison must be made carefully. That being the case, bigger and more prospective studies, including studies with vitamin supplementation, need to be made.