Background: The Coimbra Eye Study is the first population-based study on Age-Related Macular Degeneration (AMD) including Portuguese subjects. After our first report about the prevalence of the disease in a coastal town, this second report also includes the population of an inland town. Our aim was to determine the age- and gender-specific prevalence of early and late AMD in these two population-based samples and to identify its risk factors.

Material and methods: Cross-sectional population-based study. Between August 2009 and October 2013, we recruited subjects aged ≥ 55 years from two Portuguese primary health-care units in the central region of Portugal: one from a coastal (n=3,000) and another from an inland town (n=3,023). All participants underwent standardized interviews and ophthalmologic examination, including digital fundus imaging. Fundus photographs were graded according to an international classification and grading system. The main outcome measures consisted of age- and gender-adjusted prevalence of early and late AMD. Logistic regression analyses were used to assess the potential risk factors to explain AMD prevalence in our study population.

Results: Of the 6,023 subjects enrolled, 5,996 had gradable fundus images and were included in the analysis. The crude prevalence of early- and late-AMD in the coastal town was 6.99% and 0.67%, respectively. In the inland town it was 15.39% and 1.29%, respectively. Age- and gender-adjusted prevalence of any AMD for the Portuguese population was 12.48% (95% CI: 11.61–13.33), with late-AMD accounting for 1.16% (95% CI: 0.85–1.46). Neovascular-AMD (NV-AMD) and geographic atrophy (GA) accounted for 0.55% (95% CI: 0.36–0.75) and 0.61% (95% CI: 0.37–0.84) of the individuals, respectively. After adjusting for confounders, the prevalence of early- and late-AMD increased with increasing age (OR=1.33; 95% CI: 1.22–1.46 for early- and OR=3.10; 95% CI: 2.32–4.13 for late-AMD, per each decade of age increase, p<.001). After adjustment for age, gender, family history, smoking history, hypertension, diabetes and body mass index (BMI), subjects from the inland town presented a significantly higher OR of early and late AMD than subjects from the coastal town (OR 0.39, 95% CI: [0.32–0.47], p<.001 for early and OR 0.49, 95% CI: [0.25–0.93], p<.001 for late AMD).

Conclusions: The prevalence of early and late AMD in this Portuguese population was similar to other large-scale population-based cohorts. After controlling for confounders, age and study site of inclusion were significant independent predictors for both early and late forms of the disease. Further analysis will be needed to completely unravel the underlying reasons for this difference regarding geographic location.