Incidence and Prevalence of Complete RPE and Outer Retinal Atrophy Secondary to AMD Assessed Using OCT in a Population in Gloucestershire, UK

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INTRODUCTION

There is limited information on the number of patients with foveal and non-foveal geographic atrophy (GA) who may benefit from upcoming treatment.

Our study aims to investigate the incidence and prevalence of centre involving and non-centre involving GA secondary to AMD as assessed on Optical Coherence Tomography (OCT) imaging, in Gloucestershire UK (Figure 1).

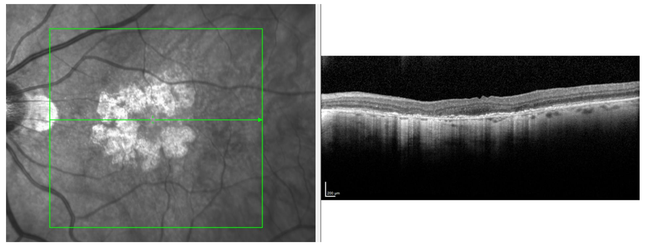


Figure 1: Example of non-foveal Geographic Atrophy.
Left : En-face OCT, Right: Cross-sectional OCT.

METHODS

Retrospective analysis of all eyes in persons ≥55 years with diagnosis of AMD on Medisoft electronic medical record seen in Gloucestershire NHS hospitals between 01/07/18 - 30/06/23.

The Classification of Atrophy Meeting (CAM) consensus definitions[1,2] of complete RPE and outer retinal atrophy (cRORA) and Incomplete retinal pigment epithelial (RPE) and outer retinal atrophy (iRORA) were used.

Trained graders assessed OCT and infrared images for complete RPE and Outer Retinal Atrophy (cRORA), foveal involvement and lesion size.

RESULTS

- There were 2495 patients who had a GA diagnosis in at least one eye. The median age of the patient at first eye diagnosis was 85.2 years (IQR: 79.2 to 89.8).
- Estimated prevalence of GA in at least one eye was 1.0% for population of Gloucestershire ≥55 years, increasing with age (Figure 2).
- The incidence of foveal involving GA in at least one eye was 3.6 per 10000 person-years and the incidence of non-foveal GA was 3.3 per 10000 person-years over study period.
- Of those with GA, 43.2% had non-foveal involvement with better LogMAR visual acuity (VA) of 0.26 (IQR: 0.14 to 0.38) compared to 0.61 (IQR 0.38 to 0.94) in eyes with foveal involvement (Figure 3).

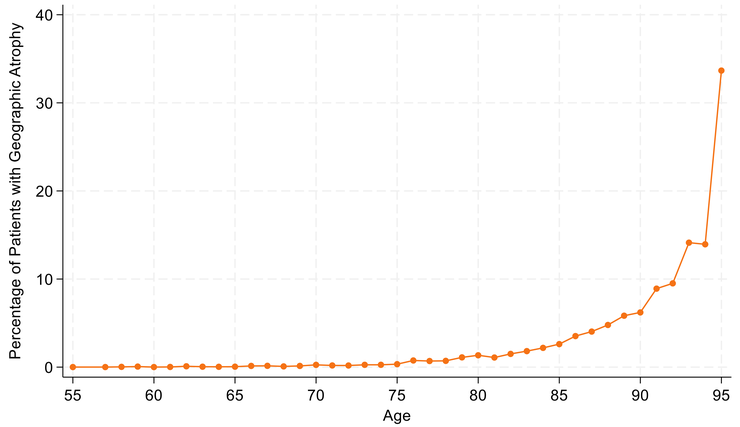


Figure 2: Prevalence of geographic atrophy by age

DISCUSSION

The estimated prevalence of GA in at least one eye in those aged >55 years was 1.0% in the Gloucestershire population. 32.1% of these patients would have been eligible for the Pegcetacoplan OAKS/DERBY study.

There are likely to be more undiagnosed cases of GA which may be referred in light of recent therapeutic advances.

Careful planning of service provision will be required. It will be important to prioritise patients with better VA (mostly those with non-foveal GA) to maintain their VA.

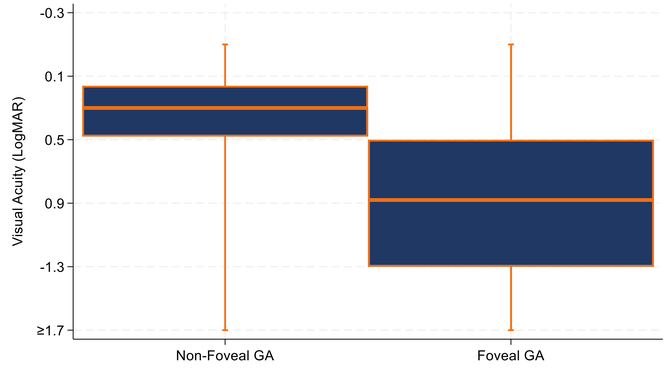


Figure 3: Box plot showing the distribution of visual acuity levels in patients with non-foveal GA vs those with foveal GA

References:

1. Sadda, S. R., Guymer, R., Holz, F. G., Schmitz-Valckenberg, S., Curcio, C. A., Bird, A. C, et al (2018). 'Consensus Definition for Atrophy Associated with Age-Related Macular Degeneration on OCT: Classification of Atrophy Report 3', Ophthalmology, 125(4), pp. 537-548. PMID: 29103793.
2. Guymer R. H., Rosenfeld, P. J., Curcio, C. A., Holz, F. G., Staurenghi, G., Freund, K. B, et al (2020). 'Incomplete Retinal Pigment Epithelial and Outer Retinal Atrophy in Age-Related Macular Degeneration: Classification of Atrophy Meeting Report 4', Ophthalmology, 127(3), pp. 394-409. PMID: 31708275.