Evaluation of trends in incidence of sight impairment registration in patients treated for neovascular Age Related Macular Degeneration over a ten year period (2009-2018) in Oxfordshire

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Background

Certification of vision impairment (CVI) is important to identify individuals in need of support. It also provides an indicator of vision impairment both in local communities and at a national level but also provides information on the impact of advances in treatment. The rate of CVI certifications reflects the quality of healthcare provision and possibly the need to identify the causes of reversible sight loss and the need to use resources appropriately. Age related macular degeneration (AMD) is the leading cause of irreversible visual loss and is one of the indicators in the public health outcomes framework.

Purpose

The aim of this study is to evaluate trends of sight impairment registration in patients with AMD attending the Oxford University Hospitals NHS Foundation Trust (OUHFT) over a 10-year period.

Methods

CVIs for patients seen at the OUHFT between the 1st of January 2009 to the 31st of December 2018 were retrospectively analysed.
Our study focused on those registered with a diagnosis of AMD.
The certifications were grouped into 2 categories: dry AMD and wet AMD
If a patient had wet or dry AMD, even if they had other pathologies, they were included in the respective groups. Patients with dry AMD in one eye and wet AMD in the other were included in the wet AMD group.
These classifications were cross tabulated against the sex, age and ethnicity and analysed by patient.

Results

- A total of 2232 patients were certified as visually impaired in Oxfordshire between 2009 and 2018, with an average of 223 registrations per year (range 172-269 registrations per year).
- AMD was the most common cause of blind registrations. An average of 65 (range: 47-93) registrations per year had a diagnosis of wet AMD, whereas the mean number of registrations involving dry AMD was 39 per year (range: 28-48).
- Most CVI registrations for wet AMD were noticed at year 2009 with 93 registrations and year 2018 with 82 registrations. The years with the least numbers of registrations were 2011 and 2016 with 55 and 47 registrations respectively. The CVI registrations for dry AMD peaked at years 2009 and 2014 with 47 and 48 registrations respectively, whereas 2012 was the year with the least number of registrations (28) (Figure 1).

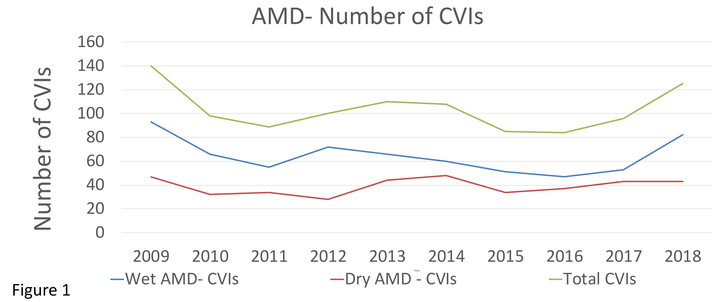


Figure 1

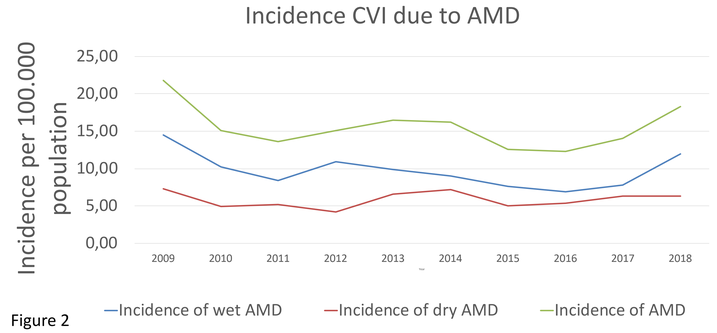


Figure 2

- The incidence of CVI registrations due to AMD (wet and dry) peaked at 2009 and 2018 with 22 and 18 per 100.000 population respectively, whereas 2015 and 2016 were the years with the least amount of registrations due to AMD with 13 and 12 registrations per 100.000 of population. A similar pattern was noticed with the CVI registrations due to wet AMD , whereas the incidence of CVI registrations due to dry AMD showed less fluctuation with time (Figure 2).
- From 2009 until 2018, 1035 patients with AMD were registered as either sight impaired (SI) or severe sight impaired (SSI). Of those patients, 645 (62%) had a wet AMD and 390 (38%) had a dry AMD. Of the 645 CVIs for wet AMD 394 (61%) were SSIs and 251 (39%) were SIs. Of the 390 CVIs for dry AMD 216 (55%) were SSIs and 174 (45%) were SIs.
- Of the 1256 SSI registrations a total of 353 (28%) were due to wet AMD and 239 (19%) were due to dry AMD. On average 59 patients with AMD (wet and dry) were registered as SSI per year.
- Of the 974 SI registrations 215 (22%) were due wet AMD and 196 (20%) due to dry AMD. On average 44 patients with AMD (wet and dry) were registered as SI per year.
- 68% of the patients who had a CVI registration for wet AMD were female and 67% of patients who had a CVI registration for dry AMD were female.
- The mean age of patients registered for CVI with wet AMD was 85 years (range: 67-98) and that for dry AMD was 85 years (range: 62-97).
- Of the 1035 CVI registrations for AMD, 1004 patients (97%) were white, 10 (1%) were Asian, 4 (0.4%) other and 17 (1.6%) unknown.

Conclusions

In our study the incidence of blindness from wet AMD reduced from 2009 until 2016 but increased again in 2018. Although the effect of the initiation of antiVEGF injections in the treatment of wet AMD was not included in our dataset, the effect of the ANtiVEGF injections on the prevalence of CVI registrations was obvious. The increase in 2018 could be explained by the aging population in Oxfordshire.
In our dataset most of the CVI registrations were due to wet AMD, whereas in previously published studies dry AMD was more common cause of CVI registrations. This might have to do with the fact that the patients with mixed AMD were added to the wet AMD group rather than a separate one.
In our cohort SSI registrations accounted for more CVIs compared to SIs, in contrast to previous data published from England and Wales. The explanation for that trend is not clear.
Most of the patients registered for a CVI were females, which is in keeping with previously published data.
In keeping with results from England and Wales, in our study 97% of the patients registered as sight impaired because of AMD were white, which reflects the lower incidence of the disease in other ethnic groups.

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