phenomena be explained by the increased permanent muscle activity?

### Conflict of interest

The authors declare no conflict of interest.

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GF Volk, K Geißler and O Guntinas-Lichius

Department of Otolaryngology, Head and Neck Surgery, Facial Nerve Center Jena,
Jena University Hospital,
Jena, Germany
E-mail: fabian.volk@med.uni-jena.de

*Eye* (2017) **31,** 977–978; doi:10.1038/eye.2016.306; published online 13 January 2017

**Sir,**

**Neovascular age-related macular degeneration: is it worthwhile treating an eye with poor visual acuity, if the visual acuity of the fellow eye is good?**

Age-related macular degeneration (AMD) is a bilateral disease and the incidence of neovascularisation (nAMD) in the fellow eye is about 20–42% in the first 2–3 years.[1,2] Many patients have a very different visual acuity (VA) in the two eyes at the first visit. Treatment of the first eye

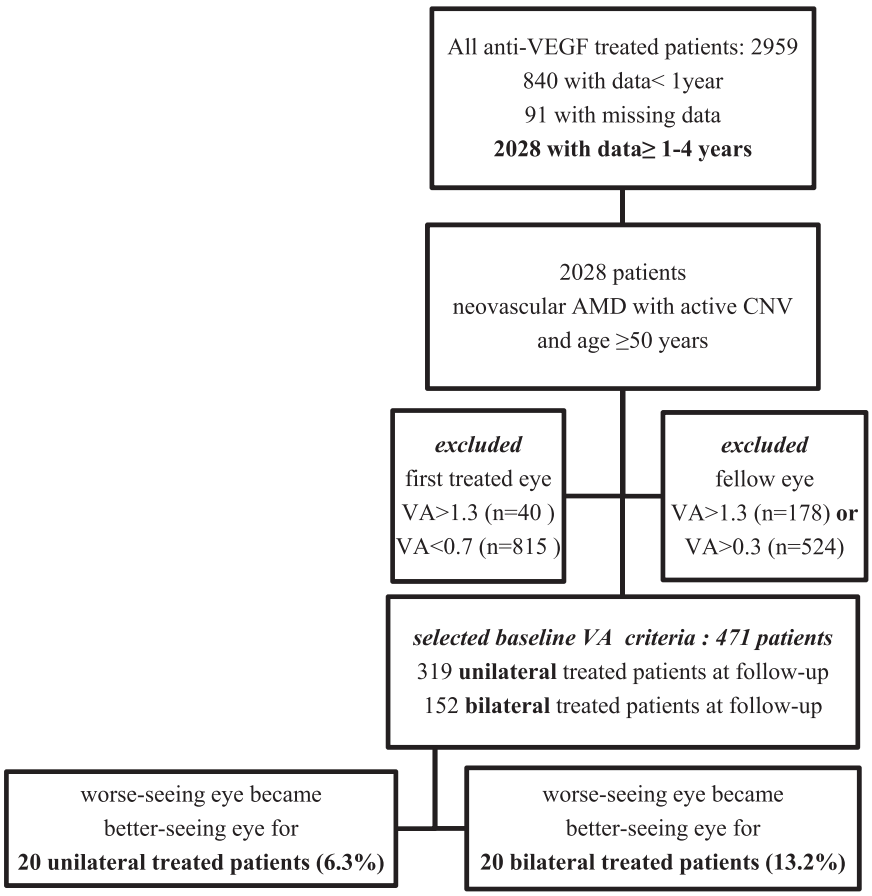


**Figure 1** Patients with neovascular AMD in a treatment protocol with intravitreal ranibizumab or aflibercept injections in a pro re nata regimen. Included patients fulfil a selected criteria in visual acuity (LogMAR), first-treated eye, visual acuity ≥ 0.7, and fellow eye visual acuity ≤ 0.3 and the patients have more than 1 year of follow-up.

**Table 1** Included patients fulfil a selected criteria in visual acuity (LogMAR), first-treated eye, visual acuity ≥0.7, and fellow eye visual acuity ≤0.3

| *All patients* | *Age (years)* | *Females* | *Baseline VA* | *Most recent VA* | *Follow-up days* | *Subgroup patients* | *Baseline VA* | *Most recent VA* |
|---|---|---|---|---|---|---|---|---|
| With selected visual criteria | | | | | | Where worse-seeing eye -> better-seeing eye | | |
| *Unilateral-treated 319 patients* | 78 | 58% | | | 855 | *Unilateral-treated 20 patients* | | |
| First eye | | | 0.85 (42.3) (CL: 0.89–0.85) | 0.59 (55.7) (CL: 0.64–0.54) | | First eye | 0.82 (43.8) | 0.19 (75.3) |
| Fellow eye | | | 0.14 (78.2) (CL: 0.15–0.12) | 0.13 (78.5) (CL: 0.15–0.11) | | Fellow eye | 0.19 (75.3) | 0.43 (63.4) |
| *Bilateral-treated 152 patients* | 80 | 76% | | | 1144 | *Bilateral-treated 20 patients* | | |
| First eye | | | 0.89 (40.7) (CL: 0.92–0.85) | 0.80 (45.2) (CL: 0.89–0.74) | | First eye | 0.80 (45.2) | 0.43 (63.4) |
| Second eye | | | 0.17[a] (76.6) (CL: 0.18–0.15) | 0.37 (66.7) (CL: 0.43–0.31) | | Second eye | 0.20[a] (75.0) | 0.96 (37.1) |

Abbreviations: CL, confidence limit; ETDRS, Early Treatment Diabetic Retinopathy Study.
Mean values, 95% CL.
Number of ETDRS letters in parenthesis next to visual acuity (LogMAR).
Note that visual gains are limited in this cohort compared with other cohorts as it is a select group with a long follow-up time.
[a] Baseline VA for second eyes was assessed before diagnosis of nAMD in second-treated eye.

may be of little value for binocular visual performance, but of value if severe visual loss develops in their second eye. The first-treated eye often has greater disease progression due to, for example, delayed treatment and/or reduced awareness because of better VA in the fellow eye. As such, the worse-seeing eye would not be expected to become the better-seeing eye.

This study examined data of patients with nAMD, including age, gender, baseline, and most recent VA (LogMAR) and follow-up time. Patients were included only if VA of the initial treated worst-seeing eye was ≥0.7 (≤50 EDTRS) and VA of the better-seeing eye was ≤0.3 (≥70 ETDRS). The cut-off values are considered clinically relevant as a VA ≥0.7 prohibits reading, but driving a vehicle is possible with a VA ≤0.3 (Figure 1).

The cohort of 2028 patients had a mean age of 80 years, with time 1/3 of patients progressed to bilateral treatment. The required visual criteria comprised 471 (23%) patients; 319 of whom received unilateral treatment and 152 bilateral (Table 1).

Among the unilaterally treated patients, VA for the untreated fellow eyes was stable during the years. Twenty patients (6.3%) experienced the worst-seeing eye to become the better-seeing eye mostly due to great improvement in VA from baseline to final VA of 0.82–0.19, respectively.

For bilaterally treated patients, twenty patients (13.2%) experienced the worst-seeing eye to become the better-seeing eye. The tendency was deterioration in VA in second-treated eyes from baseline to final VA of 0.20–0.96, respectively. The type of neovascular lesion, cataracts or cataract surgery did not appear to influence the visual outcome for any patients where worst-seeing eye became the better-seeing eye.

The authors of a 7 year follow-up study[3] found 50% of the fellow eyes at risk, to convert to nAMD. The other half, 81% had VA ≤0.3 (≥70 ETDRS) and 6% ≥1.0 (≤35 EDTRS) at baseline; after 7 years 75% still had VA ≤0.3 and 6% ≥1.0 and the eyes never developed nAMD.

Another study[4] found 50% of patients, who started anti-VEGF within 2 years, not to have any OCT abnormalities at baseline. Late AMD as unilateral, bilateral and geographic atrophy might represent different clinical profiles. Genetic disposition correlates to the risk of second eye involvement and late AMD,[5] but in practice the identification of patients that may develop nAMD in the second eye is difficult.

With time roughly 50% will develop bilateral CNV and for 13% of patients the worst-seeing eye will be the better-seeing eye. The other 50% may live with a rather stable BCVA of the fellow eye for years. Thus, together with other predictors, clinical decision-making regarding the first eye must continue to be done individually in consultation with the patient.

## Conflict of interest

AR received travel support from Novartis. JF received travel support from Novartis. LHH is an advisory board member for Bayer and received travel support and lecture fees from Novartis. ML is an advisory board member for Novartis, Pfizer, Thrombogenics and received lecture fees from Novartis, Pfizer, Novo Nordisk and GlaxoSmithKline. The remaining authors declare no conflict of interest.

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A Rasmussen[1,2], J Fuchs[1,2], LH Hansen[1,2], M Larsen[1,2], B Sander[1,2] and H Lund-Andersen[1,2]

[1]Department of Ophthalmology, Rigshospitalet-Glostrup Hospital, Glostrup, Denmark
[2]University of Copenhagen, Copenhagen, Denmark
E-mail: annette.rasmussen@regionh.dk

*Eye* (2017) **31,** 978–980; doi:10.1038/eye.2016.324; published online 20 January 2017