

Multifocal Electroretinographic Long-term Follow-up in 12 Cases of Minimally Classic or Occult SRNV in ARMD Treated with Pegaptanib Sodium (Macugen)

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PURPOSE

Electrophysiological and clinical follow-up of central retinal function in patients with minimally classic or occult SRNV in wet ARMD undergoing intravitreal therapy with Pegaptanib-Natrium (Macugen).

METHODS

Eight patients with minimally classic and five patients with occult SRNV underwent intravitreal injections of 0.3 mg Pegaptanib sodium in 90 µl every six weeks. Pretreatment and follow-up testing was conducted using multifocal electroretinography (mfERG, VERIS) as well as best corrected visual acuity (VA), angiographically determined lesion diameter (LD) and leakage of the SRNV as well as retinal thickness measurement using optical coherence tomography.

RESULTS

Each patient received a mean of 4.15 ± 0.86 injections during follow-up of 20 ± 5.3 weeks. A statistically non-significant improvement in VA of $\log\text{MAR} = 0.67 \pm 0.3$ to $\log\text{MAR} = 0.65 \pm 0.17$ (mean \pm s.d.) was observed. OCT measurements revealed a decrease from 394 ± 87 µm to 363 ± 66 µm central retinal thickness (n=5). Differences in VA showed a negative correlation with values in mean differences of greatest SRNV-LD especially of classic SRNV-components before and at the end of follow-up (mean value of baseline LD = 3254 ± 1040 µm). Coincidentally, less leakage was present in fluorescein angiography during follow-up. MfERG-responses evinced mean reductions of P1-amplitudes particularly in the inner kernel responses of 32, 20 and 16% for R1, R2 and R3, respectively, while reductions in peripheral ring responses (R4-6) were averaged at -14% after 16.6 ± 2.6 weeks (n=12). N1-amplitudes were reduced by 22.8 and 9.3% for R1 and R2, respectively. Implicit times for N1 and P1 remained stable or decreased slightly.

CONCLUSION

In a partially pretreated group of patients (3 of 12) with minimally classic or occult SRNV due to ARMD the use of intravitreal injections of Pegaptanib sodium after 20 ± 5.3 weeks resulted in stabilisation of visual acuity. Long-term results originating from mfERG as well as lesion diameter sizes correlated negatively with the course of visual acuity.

* Financial interest disclosed