Pigment Epithelial Detachment in Age-Related Macular Degeneration: Long Term Visual Acuity May Improve with Higher Injection Index

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Purpose:
To define injection index (ii) and assess the impact of anti-vascular endothelial growth factor (anti-VEGF) injection index on visual acuity (VA) in patients with retinal pigment epithelial detachment from age-related macular degeneration (PED / AMD) over 5 years.

Methods:
Injection index (ii) is defined as the average number of injections per year from presentation. A retrospective study was conducted in patients with PED / AMD from two tertiary academic practices after institutional review board approval to determine whether or not the ii impacts visual outcomes independent of treatment strategy or other variables. Patients were stratified by ii (high: ≥9, low: <9 ). Mean logMAR VA was calculated at baseline and for years 1-5 for each ii group.

Results:
Baseline characteristics showed no differences across both ii groups. Mean (and range) follow-up, in years, was 5.02 (1.04-12.74) for all patients regardless of ii group and were 2.70 (0.84-4.96) and 2.64 (0.84-5.05) for the high and low ii groups, respectively (p=0.73). Baseline mean logMAR VA were 0.60 and 0.56 for the high and low ii groups, respectively (p=0.53). Mean logMAR VA were 0.52 and 0.59 at year 1 (p=0.33), 0.45 and 0.67 at year 2 (p=0.02), 0.38 and 0.66 at year 3 (p=0.003), 0.41 and 0.89 at year 4 (p<0.001), and 0.35 and 0.79 at year 5 (p=0.004) for the high and low ii groups, respectively. Linear regression analysis showed a gain of 0.5 approxETDRS letters with each additional injection per year.

Conclusions:
This multi-center, retrospective study showed better mean VA outcome with increased ii suggesting that long-term continuous VEGF suppression may improve VA in eyes thought to carry a poor prognosis. Further inquiry may help elucidate the relationship between VA and continuous VEGF suppression.