

The Relative Systemic Safety of Differing AMD Therapies

Ivan J. Suner, MD (Durham, NC)*

PURPOSE

Currently employed treatment strategies for AMD include photodynamic therapy (PDT) that is essentially photo-ablative and vaso-occlusive, pharmacologic blockade of VEGF that can be both selective and non-selective, and pharmacotherapy primarily directed at modulating the immune response. This study assesses the relative systemic safety of these several approaches.

METHODS

Safety profiles of PDT were assessed using data from the TAP study. Safety profiles for selective VEGF inhibition were derived from the VISION trials. Data regarding non-selective VEGF blockade were derived from recent reports of the MARINA, FOCUS, and ANCHOR trials. Animal studies are reviewed for clinical relevance, and anecdotal experience from small clinical series and early application of changing practice patterns are included.

RESULTS

Systemic tolerability profiles reported in the TAP study speak to minimal systemic safety concerns for PDT. Two-year safety data show that intravitreal (IVT) administration of selective VEGF blockade administered as an aptamer affords excellent systemic safety, with no evidence of induced hypertension, serious hemorrhagic events, or increased incidence of thromboembolic (TE) complications. Recent trial data summaries of several hundred patients receiving non-selective VEGF blockade with an antibody have recorded rare systemic adverse events. These preliminary data suggest a systemic safety signal exists for TE events and deaths associated with nonselective VEGF mechanisms. While the amounts of such non-selective IVT agents are an order of magnitude lower than those used for intravenous chemotherapy regimens currently employed, similar increased risk of TE events exist.

CONCLUSION

PDT and selective VEGF blockade via IVT injection have good systemic safety profiles. Early reports of IVT administration of non-selective VEGF blockers may indicate a higher propensity for TE events, an established concern for systemic non-selective VEGF blockade. Until complete data exist, clinicians need to weigh both systemic and ocular safety as well as efficacy in clinical decision-making.

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