



Consider IOP monitoring and prophylactic treatment in patients undergoing repeat intravitreal anti-VEGF injections

The Science behind the Tip

Intravitreal anti-vascular endothelial growth factor (anti-VEGF) injections are now in widespread use for a plethora of retinal diseases. It is recognised that there is a transient intraocular pressure (IOP) rise after intravitreal anti-VEGF therapy although the exact mechanism of this is unclear.

In most patients the IOP normalises but in approximately 10% patients there is a sustained pressure elevation^{2,4}. Patients with ocular hypertension or glaucoma and patients having repeated intravitreal anti-VEGF injections appear to be more susceptible to the IOP rise and delayed recovery¹⁻⁴. Repeated anti-VEGF injections may also increase the future risk of developing glaucoma or ocular hypertension³.

IOP monitoring, prophylactic measures or an adjustment in injection interval should be considered when administering repeated intravitreal anti-VEGF injections, particularly in glaucoma patients.

References

- 1) Bressler SB, Almkhatar T, Bhorade A. Repeated intravitreal ranimzumab injections for diabetic macular edema and the risk of sustained elevation of intraocular pressure or the need for ocular hypotensive treatment. *JAMA Ophthalmol* 2015; 133(5): 589-97
- 2) Zhou Y, Zhou M, Xia S. Sustained elevation of intraocular pressure associated with intravitreal administration of anti-vascular endothelial growth factor: A systemic review and meta-analysis. *Sci Rep* 2016; 6:39301
- 3) Wingard JB, Delzell DAP, Houlihan NV. Incidence of glaucoma or ocular hypertension after repeated anti-vascular endothelial growth factor injections for macular degeneration. *Clin Ophthalmol* 2019; 13: 2563-2572
- 4) Hoguet A, Chen PP, Junk AK. The effect of anti-vascular endothelial growth factor agents on intraocular pressure and glaucoma. A report by the American Academy of Ophthalmology. *Ophthalmology* 2019; 126: 611-622