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VISION ACADEMY VIEWPOINT

The Vision Academy is a partnership between Bayer and ophthalmic specialists, established with the aim of addressing key unmet needs in the field of retinal diseases: www.visionacademy.org.

Fundamental Principles of an Anti-VEGF Treatment Regimen

Background

Intravitreal anti-VEGF therapy is now considered the standard of care in the treatment of various retinal disorders. As therapy has evolved, so too have the treatment regimens employed by physicians in clinical practice; visual outcomes observed in the real world, however, have typically not reflected those reported in clinical trials. There are several possible reasons for this, including a lack of consensus on how best to administer anti-VEGF therapy and what should be the aims of treatment.

The Vision Academy Steering Committee agreed upon a series of fundamental principles of an anti-VEGF treatment regimen, using evidence from the literature to substantiate each point. Literature searches were performed using the MEDLINE/PubMed database (cut-off date: March 2016).

Endorsed by the Vision Academy in September 2016.

Full consensus Variations in opinion

Viewpoint

Four principles were identified that are fundamental to any treatment regimen for anti-VEGF management of retinal diseases:

1. **Maximize and maintain visual acuity (VA) benefits for all patients**[1–7]
   - This should be the aim of anti-VEGF treatment for all patients, not just those who respond well to therapy
   - Early initiation of therapy and a sufficient frequency of injections are both essential for maximizing and maintaining gains in visual acuity
2. **Decide when to treat next, rather than whether to treat now** [5,8–10]
   - Success of anti-VEGF treatment depends not only on the treatment of active disease but also on the prevention of disease recurrence and/or worsening
   - Planning the date of the next anti-VEGF treatment helps to minimize the possibility of delays in treatment, allows time where needed for treatment approval to be obtained, and facilitates clinic management. Patients may also benefit from being able to plan for their next injection in good time
   - A proactive treatment approach allows physicians to stay ahead of the disease and, by minimizing the need for intervening visits, helps to ease the burden on clinics and patients
3. **Titrate the treatment intervals to match patients' needs**[10–15]
   - The duration of VEGF suppression varies between patients and differs between anti-VEGF agents
   - Anti-VEGF agents with greater durations of action allow for longer extension of treatment intervals than for those with short durabilities
   - Customization of the treatment interval to the individual patient removes the need for interim monitoring, while achieving optimal outcomes for the patient
4. **Treat at each monitoring visit**
   - Monitoring and treating within the same appointment helps to eliminate the possibility of disease resurgence that can occur between separate monitoring and treatment appointments
   - The number of appointments per patient is reduced, helping to ease clinic flow and patient burden

The Vision Academy Steering Committee comprises Bora Eldem, Alex Hunyor, Antonia M. Joussen, Adrian Koh, Jean-François Korobelnik, Paolo Lanzetta, Anat Loewenstein, Monica Lövestam-Adrian, Rafael Navarro, Márcio Nehemy, Annabelle A. Okada, Ian Pearce, Francisco J. Rodríguez, Sebastian Wolf and David Wong.

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Full consensus Variations in opinion

Further considerations

The four fundamental principles of a treatment regimen advocate use of a **predictable**, **proactive** and **manageable** treatment regimen in the clinic, with consideration of **individual patient needs** and elimination of **delays in treatment**.[16,17]

If adopted in clinical practice, the four principles are anticipated to lead to benefits for both patient and physician, with improvements in organization of clinics, improved utilization of resources, and clinic capacity. Adopting a personalized approach with reduced treatment burden may also lead to improvements in patient compliance.

The fundamental principles of an anti-VEGF treatment regimen were developed without consideration of resource limitations or practical barriers, i.e. if treating in an 'ideal' environment. Therefore, for practical application of the principles, it is important to identify and consider the barriers that might prove challenging for real-life implementation.

A treat-and-extend approach embodies the four fundamental principles of a treatment regimen, and is supported by the Vision Academy as the treatment of choice in retinal disease. However, for widespread adoption of this approach, payors and other stakeholders require more evidence of the benefits of the regimen in clinical practice. Reimbursement is a significant obstacle for many countries in the Asia-Pacific and Latin America regions, and also within Europe. Other barriers to the adoption of treat-and-extend include lack of consensus on criteria for disease stability and stopping treatment, and uncertainty regarding appropriate monitoring procedures.

The best evidence for treat-and-extend comes from treatment of neovascular AMD. Further clinical evidence is required to determine whether this treatment approach, or alternative treatment approaches that embody most of the principles, will offer the best outcomes for patients with RVO or DME and remain practical for the physician.

Vision Academy Viewpoints are intended to raise awareness of an unmet need within ophthalmology and provide an expert opinion to engage in further discussion.
They can be downloaded from https://www.visionacademy.org/resource-zone/resources/all
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The Vision Academy Steering Committee comprises Bora Eldem, Alex Hunyor, Antonia M. Joussen, Adrian Koh, Jean-François Korobelnik, Paolo Lanzetta, Anat Loewenstein, Monica Lövestam-Adrian, Rafael Navarro, Márcio Nehemy, Annabelle A. Okada, Ian Pearce, Francisco J. Rodríguez, Sebastian Wolf and David Wong.
Always refer to local treatment guidelines and relevant prescribing information.
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