

# Consensus on the Intravitreal Injection Technique by the Vitreo-Retina Society of the Philippines

Jose Luis de Grano, MD,<sup>1</sup> Juan Antonio Javellana, MD,<sup>2</sup>  
Marie Joan Loy, MD,<sup>3</sup> Paolo Antonio Silva, MD,<sup>4,5,6,7,8</sup>

<sup>1</sup>University of the East Ramon Magsaysay Memorial Medical Center, Inc.

<sup>2</sup>Asian Hospital and Medical Center

<sup>3</sup>Eye Institute, St. Luke's Medical Center, Quezon City

<sup>4</sup>Beetham Eye Institute, Joslin Diabetes Center, Boston

<sup>5</sup>Department of Ophthalmology, Harvard Medical School

<sup>6</sup>Philippine Eye Research Institute

<sup>7</sup>Department of Ophthalmology, The Medical City

<sup>8</sup>Eye Institute, St. Luke's Medical Center, Global City

Correspondence: Marie Joan Loy, MD  
Eye Institute, St. Luke's Medical Center  
279 E. Rodriguez Sr. Blvd., Quezon City, Philippines  
Email: idocjloy@yahoo.com

Vascular endothelial growth factor (VEGF) has been shown to play a central role in the pathophysiologic process underlying neovascular eye diseases. As such, anti-VEGF-based pharmacologic agents have emerged as a highly effective treatment modality for various visually debilitating retinal and choroidal vascular pathologies. The introduction of these pharmacologic agents directly into the vitreous cavity by means of an injection through the pars plana has become a widely performed ophthalmic procedure both locally and overseas.

As the sole physician organization of vitreoretinal specialists in the country, the Vitreo-Retina Society of the Philippines (VRSP), in coordination with the Philippine Academy of Ophthalmology (PAO), through a review of current evidence and a consensus among its members has developed guidelines for the performance of intravitreal injections in the Philippine setting to ensure patient safety and to maximize the benefits Filipino patients may obtain from this highly valuable treatment modality.

I. All intravitreal injections should be performed by a Philippine Board of Ophthalmology certified ophthalmologist who is knowledgeable, skilled, and comfortable in the diagnosis and comprehensive management of retinal diseases for which anti-VEGF treatment is indicated, and adept at minimizing the risks and managing the potential complications associated with trans pars plana delivery of these medications.

## II. Clinical Setting of Care

- It is suggested that the procedure be performed in an operating theater or in a room/facility specifically dedicated for intravitreal injections.<sup>1,2</sup>

### III. Preprocedural Issues

- Informed Consent<sup>3</sup>
  - i. An informed consent has to be signed by the patient prior to the procedure.
  - ii. The consent form should include the name of the drug to be injected, the indication for injection, the potential risks and benefits of the use of anti-VEGF agents and of the procedure itself.
  - iii. Information must be fully explained to the patient.
  - iv. A consent form specific for an individual drug is recommended.
- Currently, there are no data that indicate anticoagulant use will affect visual outcomes after intravitreal injection. However, there is an increased likelihood of subconjunctival hemorrhage at the site of injection.
- Medical Clearance
  - i. The benefits, risks, and indications of anti-VEGF injections should be carefully reconsidered in the following situations:
    1. Patients with a history of myocardial infarction, any cardiac event requiring hospitalization, stroke, transient ischemic attack, or treatment for acute congestive heart failure within the past 4 months<sup>4</sup>;
    2. Major surgery within 28 days;
    3. Uncontrolled hypertension;
    4. Pregnancy.
  - ii. Necessity for medical clearance is at the discretion of the attending ophthalmologist. While arteriothromboembolic events have been reported, the direct causative relation between stroke and intravitreal anti-VEGF injection use has not been established.

### IV. Surgical Site Preparation

- Intravitreal injections are intraocular procedures that merit equal attention to adherence to principles of asepsis and sterile technique as for conventional intraocular surgeries.
- As part of the World Health Organization Surgical Safety Checklist,<sup>5</sup> “time-out” or surgical site marking is recommended.
- There is no evidence to support that the instillation of a topical antibiotic solution prior to injection reduces the risk of subsequent intraocular infection.
- Preoperative disinfection of the *periocular skin* with 10% povidone-iodine and a minimum exposure time of 3 minutes is suggested. 10% aqueous chlorhexidine may be used as an alternative in patients with hypersensitivity to povidone iodine.<sup>6</sup>
- The use of a newly opened bottle of topical anesthetic is recommended.
- 5% povidone iodine should be applied onto the *conjunctival cul-de-sac* or *lower fornix* with a minimum contact time of 30 seconds.<sup>6,7,8,9,10,11</sup>
- The use of a sterile solid-blade lid speculum<sup>9,10</sup> or any type of occlusive dressing is recommended to isolate the lashes from the site of injection.

### V. Injection Procedure

- As part of good surgical practice, the use of a sterile eye sheet or equivalent drapes,<sup>11</sup> the donning of sterile surgical gloves and the wearing of a surgical mask<sup>11,12</sup> are advised.
- The injection site should be 3 to 3.5 mm from the corneoscleral limbus for aphakic and pseudophakic eyes, and 3.5 to 4 mm for phakic eyes.
- The use of a sterile 30-gauge needle is recommended for intravitreal injection of anti-VEGF drugs.
- Once the needle is withdrawn, the ophthalmologist may apply a sterile cotton applicator to prevent reflux of

liquid vitreous.

- The ophthalmologist should assess central retinal artery perfusion by checking for gross vision or venous pulsation via indirect ophthalmoscopy.
- Anterior chamber paracentesis may be performed in cases with evidence of a sustained rise in intraocular pressure.
- Bilateral same day injections<sup>13</sup>
  - i. Each eye should be prepared with povidone-iodine separately.
  - ii. A completely new and different surgical set of sterile eye sheet, lid speculum, instruments, 30-gauge needle and syringe should be utilized.
  - iii. Whenever feasible, separate vials of medication with different lot numbers should be used for each eye.
- There is no evidence to suggest that the instillation of post-injection antibiotics confers additional benefit in reducing the risk of endophthalmitis following intravitreal injections.

#### VI. Post-Injection Management

- Post-injection follow up is recommended within 7 days.
- Patient should be instructed to return sooner if with symptoms of inflammation or infection.

This consensus statement is subject to re-evaluation and revision as new evidence-based studies on intravitreal anti-VEGF injections become published and new practice patterns evolve.

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