Oral | Abstract 521

MEDICAL RETINA (MACULAR EDEMA, CSCR, OTHERS)

SEVERE OCULOCARDIAC REFLEX DURING INTRAVITREAL INJECTION

2-min Case presentation

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The oculocardiac reflex (OCR) is a trigeminovagal reflex characterized by cardiac dysrhythmias resulting from stimulation of ocular or periocular structures. Although it is most commonly associated with strabismus and orbital surgeries, OCR may also occur during less invasive ophthalmic procedures. Intravitreal anti-vascular endothelial growth factor (anti-VEGF) injections are among the most frequently performed ophthalmic interventions worldwide and are generally considered safe. However, rare systemic complications may occur. We report a case of severe OCR developing during intravitreal ranibizumab injection, leading to profound bradycardia and hypotension requiring emergency medical intervention.

A 67-year-old female patient with neovascular age-related macular degeneration was scheduled to receive intravitreal ranibizumab injection in her left eye. The procedure was performed under topical anesthesia using standard aseptic techniques. The patient’s medical history included hypertension treated with perindopril. During the injection procedure, the patient was closely observed for any local or systemic adverse events. Following the onset of symptoms, immediate cardiovascular assessment and emergency management were undertaken. Vital signs, electrocardiographic findings, treatment interventions, and clinical outcomes were documented and analyzed.

Shortly after intravitreal injection, the patient developed sudden discomfort, followed by slowing of speech and deterioration of consciousness. Cardiovascular evaluation revealed marked sinus bradycardia with a heart rate of approximately 30 beats per minute and severe hypotension measuring 60/30 mmHg. The clinical findings were consistent with a severe oculocardiac reflex. Emergency treatment was initiated with intravenous atropine, supplemental oxygen, and fluid replacement therapy. Because the initial response was insufficient, a second dose of atropine was administered, resulting in normalization of heart rate and blood pressure. The patient’s neurological status improved rapidly after hemodynamic stabilization. Subsequent cardiological examination, electrocardiography, and inpatient monitoring did not reveal any underlying cardiac pathology. The patient remained clinically stable and was discharged without sequelae after 24 hours of observation.

This case demonstrates that severe OCR may occur during intravitreal anti-VEGF injections despite the minimally invasive nature of the procedure. Although uncommon, OCR can result in life-threatening cardiovascular complications, including profound bradycardia and hypotension. Ophthalmologists should remain aware of this potential adverse event and ensure that appropriate monitoring, emergency medications, and resuscitation equipment are readily available during intravitreal procedures. Prompt recognition and immediate treatment are essential for preventing serious morbidity and achieving favorable clinical outcomes.