


A Case of Acute Angle Closure Glaucoma after Covid-19 Vaccination

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Abstract

A 56-year-old woman presents with an acute angle closure attack that occurred 24 hours after COVID-19 vaccination in a patient with plateau iris. Description She was given the option of medical management with topical pilocarpine or phacoemulsification. At the moment, we do not suggest there is a need to change current practise or to warn patients with a history of angle closure glaucoma undergoing COVID-19 vaccination, but we would highlight the importance of reporting these rare events.

Introduction

To our knowledge, this case report is the first to report an acute angle closure attack that occurred 24 hours after COVID-19 vaccination in a patient with plateau iris. Possible mechanisms that may support this association are discussed [1].

Description

A 56-year-old woman presented to the Department of Ophthalmology with a 1-day history of pain in her right eye after having her COVID-19 booster vaccination with a recombinant vaccine (Janssen) one day before. Her past ocular history includes plateau iris and two previous episodes of acute angle closure attacks in her right eye, which were managed first with peripheral laser iridotomy and second with an argon laser peripheral iridoplasty in December 2019. She has not had another acute attack or been on any IOP lowering drops for more than two years. Her past medical history included dry eyes. There was no significant medical or family history [2].

On presentation to the eye casualty, her right visual acuity (VA) measured 6/30 unaided (6/12 with pinhole correction). The left eye VA was 6/12. Intraocular pressures with Goldmann applanation tonometry measured 48 mmHg (right) and 16 mmHg (left).

The anterior chamber was deep in the affected and non-affected eyes. Gonioscopy revealed a closed anterior chamber angle of 360 degrees and a patent iridotomy in her right eye. Examination of the optic nerve revealed a healthy neuroretinal rim [3].

Initial management included medical therapy. This included i-v acetazolamide, topical iopidine, timolol, latanoprost, brinzolamide, and pilocarpine. The IOP normalized to 15 mmHg in the right eye. VA also became more normal. She was discharged for outpatient follow-up with pilocarpine 1% TDS, Timolol 0.5% BDS, Prednisolone 1% QDS, and oral acetazolamide 250 mg TDS. On review the following week, her IOP was 6 mmHg in the right eye and 10 mmHg in the left eye. Gonioscopy showed an appositionally closed angle but without synechial closure in her right eye. She was given the option of continuing 1 drop of pilocarpine 2% three times a day for her right eye indefinitely or right eye phacoemulsification. She expressed a preference for pilocarpine 2% as a part of her long-term management plan with regular follow-up to monitor the IOP [4].

Conclusion

Ocular complaints secondary to COVID-19 infection and after prone position have been reported in the literature, such as acute angle glaucoma, ocular surface complaints, and ocular pain [1-2]. Ret-

respective case series or isolated case reports have highlighted ocular adverse effects of the COVID-19 vaccination, such as facial nerve palsy, abducens nerve palsy, optic neuropathy, uveitis, acute macular neurocristopathy, central serous retinopathy, and thrombosis. 3-4 This is the first case to our knowledge, exploring the association of acute angle closure glaucoma secondary to a COVID-19 vaccination. While the association has been observed, there is uncertainty regarding its causality and correlation. It has been hypothesized that the body's immune response to COVID-19 vaccinations may contribute to the pathogenesis of adverse ocular events³. Another possible explanation may be stress-induced activation of the sympathetic nervous system. An alternative mechanism would be small choroidal effusions, but this is unlikely as the anterior chamber depth remained deep in both eyes and only one eye was involved. At the moment, we do not suggest there is a need to change current practise or to warn patients with a history of angle closure glaucoma undergoing COVID-19 vaccination, but we would highlight the importance of reporting these rare events.

Conflicts of Interest

The authors declare no conflicts of interest.

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