

## Case Report

# Posterior sub-tenon injection of triamcinolone in non-resolving vitreoretinitis - A case report

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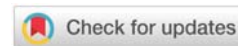
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## Abstract

**Purpose:** To evaluate the efficacy of posterior sub-tenon injection of triamcinolone in non-resolving vitreoretinitis.

**Introduction:** Vitreoretinitis is the inflammation of the vitreous and retina. In a non-resolving case of vitreoretinitis steroids are the mainstay of treatment. Steroids can be administered via various routes into the eye. Posterior subtenon injection of Triamcinolone acetonide is an effective treatment option for anatomical and functional improvement in intermediate and posterior uveitis.

**Methods:** A 46-year-old female presented to the outpatient department with decreased vision in her left eye for 3 months. On examination, she had a BCVA of 6/60 in her left eye. Fundoscopy showed vitreous haze grade 3 due to vitritis, multiple vitreoretinal tractional bands extending along both the superior and inferior arcade, macular edema, and a retinitis patch of less than half disc diameter size just above the superior arcade. The patient was positive for IgG antibodies to Cytomegalovirus and Herpes Simplex virus.

The patient was started on oral prednisolone 1mg/kgbw once a day and topical prednisolone acetate 1.0%, nepafenac 0.3%, and timolol 0.5%. The patient was given posterior subtenon injection of 0.5ml of triamcinolone acetonide 40mg/ml.

**Results:** She had 6/12 BCVA at the end of 1 month with resolving vitritis and macular edema. By the end of 3 months, she had fully resolved vitreoretinitis with 6/6 vision.

**Discussion:** Most steroids used in ophthalmology are glucocorticoids, which have anti-inflammatory and immunosuppressive activity. Triamcinolone Acetonide is a minimally water-soluble suspension. Triamcinolone crystals slowly dissolve into the vitreous. This creates a diffusional gradient from the vitreous to the macula with minimal systemic exposure. Our study also showed significant improvement in visual acuity and reduction in macular edema with a single posterior subtenon injection of triamcinolone acetonide.

**Conclusion:** A subtenon injection of triamcinolone acetonide appears to be an effective treatment for decreased vision associated with intermediate and posterior uveitis without any significant side effects.

## Introduction

Posterior subtenon injection of Triamcinolone acetonide is an effective treatment option for anatomical and functional improvement in intermediate and posterior uveitis [1]. PST is usually given in the superotemporal quadrant by using a 26-G

needle in the Nozik technique [2]. Triamcinolone can be taken in a 2 mL (or 1 mL) syringe with a 25-27-G needle. Usually, the superotemporal quadrant is chosen and the patient is asked to look toward the nose. The conjunctiva and Tenon capsule are held with Lim's forceps, and the needle is inserted with the entry site as posteriorly as possible. The needle should

be moved sidewise during the passage of the needle in the subtenon space to ensure that the sclera is not penetrated, and the eyeball should not move with the movement of the needle. Then, the drug is injected [2–5].

## Case report

A 46-year-old female presented to our outpatient department at Manjunatha Eye Hospital, Kundapura, Udipi district with a history of decreased vision in her left eye for 3 months. On examination, she was found to have a best corrected visual acuity (BCVA) of 6/60 in her left eye normal anterior segment, and normal intraocular pressure. Fundus examination with indirect ophthalmoscope revealed vitreous haze grade 3 due to vitritis. There were multiple vitreoretinal tractional bands in the posterior pole extending along both the superior and inferior arcade. The optic disc was normal and dull foveolar reflex with macular edema. There was a retinitis patch of less than half disc diameter size just above the superior arcade (Figure 1a,b).

Informed consent was taken from the patient.

The patient was evaluated with all necessary blood investigations and serological tests and she was positive for IgG antibodies to Cytomegalovirus and Herpes Simplex virus with insignificant titres for IgM antibodies for the same. All the other investigations revealed negative results.

The patient was started on oral prednisolone 1mg/kgbw once a day, topical prednisolone acetate 1.0% 1 drop 4 times a day, nepafenac 0.3% once a day, and timolol 0.5% once at night. The patient was given a posterior subtenon injection of 0.5ml of triamcinolone acetonide 40 mg/ml in the inferior quadrant. Injection of 0.5 ml of 20 mg of the drug using a sharp-tipped 27-gauge needle that was inserted in the inferotemporal quadrant of the eye, bevel of the needle facing towards the globe, and needle advanced to the hub to obtain adequate placement of the drug into the posterior sub tenon space. Following injection, a topical antibiotic was instilled and the eye was patched for 2 hours.

She was followed up after 1-week post-injection and later followed up 2 weekly for 1month. She was found to have a best corrected visual acuity of 6/12 with resolving vitritis and macular edema at the of 1 month, with normal intraocular pressure. She was advised to stop the antiglaucoma medication and to continue oral prednisolone in the weekly tapering dose and topical anti-inflammatory agents.

By the end of 3 months, she had recovered completely with the best corrected visual acuity of 6/6, maintaining normal intraocular pressure. Fundoscopy revealed clear media with no vitritis and no macular edema. (Figure 2) She had one vitreoretinal traction band along the inferior arcade. She was advised to continue the same medications. By the end of 6 months, she was completely recovered with 6/6vision, N6(+1.50DS), and a normal fundus picture.

She was observed on a monthly basis for the next 6months to look for any recurrence. She maintained the same picture even after completely stopping all medications.

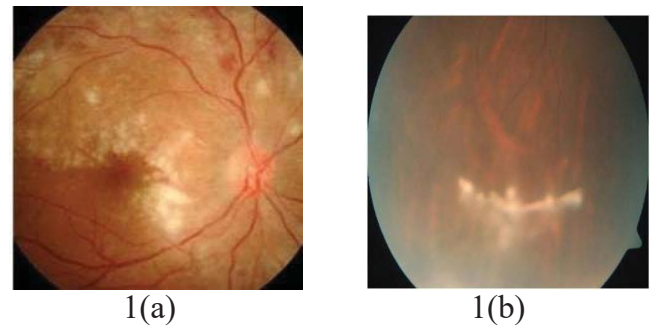


Figure 1a,b: Fundus examination with indirect ophthalmoscope revealed vitreous.



Figure 2: Fundoscopy revealing clear media with no vitritis or macular edema.

## Discussion

Most steroids used in ophthalmology are glucocorticoids, which have anti-inflammatory and immunosuppressive activity [1]. Triamcinolone Acetonide is a minimally water-soluble suspension. Triamcinolone crystals slowly dissolve into the vitreous [3–8]. This creates a diffusional gradient from the vitreous to the macula with minimal systemic exposure. While a portion of the drug targets the macula, another portion either clears through the retina or diffuses to the anterior segment where it can cause cataracts or elevation of intraocular pressures (IOPs) [1,9–14]. Our patient improved significantly by the end of 1month without any significant IOP elevation. Hence, antiglaucoma medication was discontinued. By the end of 3 months, the patient was fully recovered and did not require any further medications.

## Conclusion

A subtenon injection of triamcinolone acetonide appears to be an effective treatment for decreased vision associated with intermediate and posterior uveitis without any significant side effects.

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