XIPERE InXights
XIPERE Patient Case Study Series

TREATMENT OF MACULAR EDEMA ASSOCIATED WITH CHRONIC POSTOPERATIVE UVEITIS IN A PATIENT WITH A HISTORY OF OPEN-ANGLE GLAUCOMA

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Macular edema—fluid accumulation in the macula—can occur secondary to various inflammatory retinal pathologies, including uveitis, and is a vision-threatening condition that demands vigilant recognition and management.[1] Several biomarkers on optical coherence tomography (OCT) can be suggestive of worsening prognosis of macular edema, including disorganization of retinal laminations, hyperreflective retinal foci, intraretinal cystoid spaces, shortening of the photoreceptor outer segments, and loss of integrity of the external limiting membrane and ellipsoid zone.[1] Locally delivered intraocular corticosteroids are an important option within the armamentarium of treatments for macular edema associated with uveitis.[1]

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Here, I describe a patient with a history of advanced open-angle glaucoma, who then developed chronic uveitis following multiple ocular surgeries. The patient's uveitis showed an inadequate response to sub-Tenon corticosteroid injection and topical anti-inflammatory drops. This patient was treated with a single injection of XIPERE® (triamcinolone acetonide injectable suspension) 40 mg/mL, which delivers corticosteroid via the suprachoroidal route, specifically depositing the steroid in the compartment between the choroid and sclera.[2] Following XIPERE® injection, the patient's uveitic macular edema resolved and visual acuity improved. This case demonstrates the usefulness of XIPERE® for macular edema associated with chronic postoperative uveitis. I also offer clinical pearls for injecting XIPERE® into patients such as this one.

INDICATION

XIPERE® (triamcinolone acetonide injectable suspension) for suprachoroidal use is a corticosteroid indicated for the treatment of macular edema associated with uveitis.

IMPORTANT SAFETY INFORMATION

Patients should be monitored following injection for elevated intraocular pressure. See Dosage and Administration instructions in full Prescribing Information.

Please see additional Important Safety Information throughout and full Prescribing Information here.

XIPERE® (triamcinolone acetonide injectable suspension) 40 mg/mL

Case Report: A Patient With Macular Edema Associated with Chronic Postoperative Uveitis

BACKGROUND: The patient was an 84-year-old Black male. He had advanced open-angle glaucoma in both eyes and underwent bilateral trabeculectomy and cataract extraction with intraocular lens implantation. Following these surgeries, the patient developed persistent corneal edema in his right eye, which required Descemet's stripping endothelial keratoplasty (DSEK). The patient developed macular edema post-DSEK, which was managed with sub-Tenon injection of triamcinolone acetonide, prednisolone 1% BID, and ketorolac 0.5% QID, but these only provided mild improvement of his edema.

DIAGNOSIS: The patient presented with a complaint of chronically poor vision in his right eye. Clinical examination revealed severe macular edema and macular retinal pigment epithelium changes suggestive of chronic uveitis. OCT revealed disorganization of the retinal laminations, focal ellipsoid zone loss, and hyperreflective retinal material, further suggestive of chronicity (**Figure**). Based on these observations, I made a diagnosis of macular edema secondary to chronic postoperative noninfectious uveitis following multiple ocular surgeries.

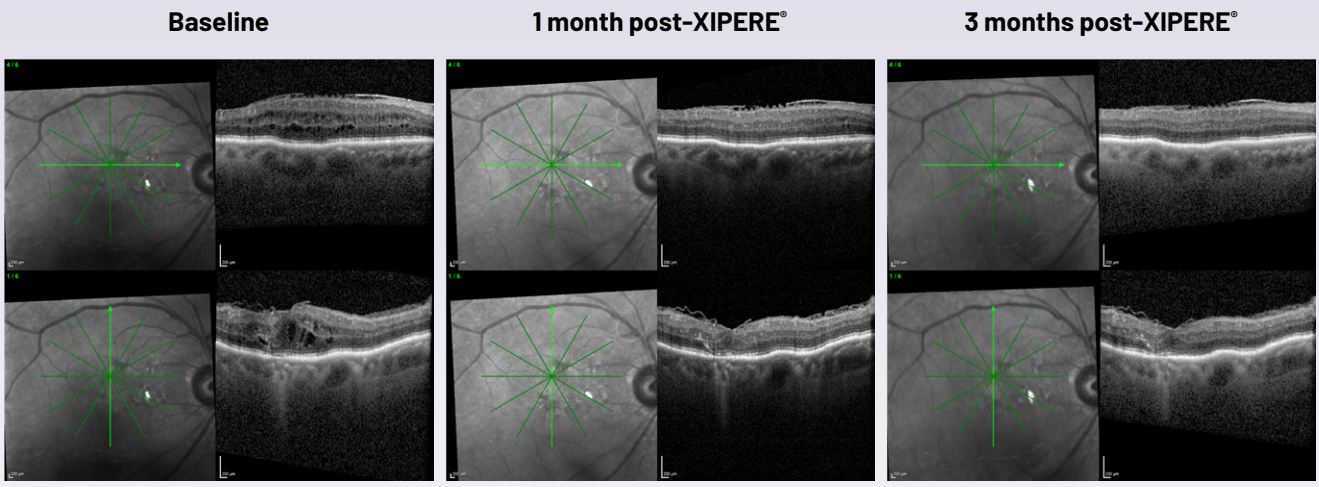

Figure. OCT imaging OD at baseline and 1 and 3 months following XIPERE® injection. Note the presence of macular edema before injection, which was absent after XIPERE® injection. Vertical rasters are included as the patient was not fixating with his severe edema on the first visit, and the fovea was only captured on the vertical raster.

	Baseline	1 month post-XIPERE®	3 months post-XIPERE®
Visual acuity	Counting fingers	20/200	20/60
Intraocular pressure	7 mmHg	8 mmHg	6 mmHg
Central foveal thickness	591 µm	282 µm	281 µm

Table. Measurements of visual acuity, intraocular pressure, and central foveal thickness OD at baseline and 1 and 3 months following XIPERE® injection.

BID=twice daily; QID=four times daily.

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TREATMENT: When consulting with the patient, I explained that his initial anti-inflammatory treatment had been insufficient to improve his macular edema. Given his age, diagnosis, unilateral involvement, and the need to minimize the risk of ocular hypertension, local corticosteroid treatments were discussed. I recommended XIPERE® for its efficacy profile and localized delivery to the suprachoroidal space.[2]

A single XIPERE® injection was administered in the patient's right eye. His macular edema and uveitis resolved 1 month following XIPERE® injection, and this effect was sustained at 3-month follow-up; visual acuity was also improved 1 and 3 months post-injection (**Figure and Table**).

WHY XIPERE®?

I turn to XIPERE® as my first-line local steroid injection of choice for macular edema secondary to noninfectious uveitis.[2] I appreciate that XIPERE® injection compartmentalizes triamcinolone acetonide into the suprachoroidal space between the choroid and sclera, minimizing exposure of off-target tissues to the steroid.[3]

The efficacy of XIPERE® was assessed in a 6-month, randomized, multicenter, double-masked, sham-controlled study in patients with macular edema associated with anterior, intermediate, or posterior uveitis, or panuveitis (PEACHTREE); patients were treated at baseline and Week 12.[2,4] (Note that none of the enrollees in PEACHTREE had a prior history of DSEK, like the patient described in this case.) In PEACHTREE, a statistically significantly greater proportion of patients treated with XIPERE® achieved a ≥15-letter improvement in best-corrected visual acuity than control patients at Week 24 (47% vs 16%, respectively; $P<0.01$).[2] In a noninterventional extension study of PEACHTREE, called MAGNOLIA, XIPERE® was shown to provide durable efficacy with the potential to last up to a year following 1 or 2 injections.[5]

The most common adverse reactions reported by ≥10% of patients and at a rate greater than control in PEACHTREE included elevated intraocular pressure and eye pain.[2] In my clinical practice, I have observed low rates of intraocular pressure elevation with XIPERE®.

HOW I APPROACHED SUPRACHOROIDAL INJECTION OF XIPERE® IN THIS PATIENT

1. Topical anesthesia and antiseptic were used, followed by subconjunctival lidocaine to the inferotemporal quadrant to avoid the superior bleb from the patient's prior trabeculectomy
2. A measurement was made using the included caliper to mark the injection site[2]
   - A cotton-tip swab was used to displace the conjunctiva and help control the eye's position
3. Injection was initiated with the 900-µm needle but switched to the 1100-µm needle to access the suprachoroidal space,[2] with minor adjustments and consistent moderate pressure

Tip: Once you feel a loss of resistance, inject slowly over about 10 seconds to prevent patient discomfort. I time my injections with a long exhale. **Patience is key!**

IMPORTANT SAFETY INFORMATION (CONT'D)

- XIPERE® is contraindicated in patients with **active or suspected ocular or periocular infections** including most viral diseases of the cornea and conjunctiva, including active epithelial herpes simplex keratitis (dendritic keratitis), vaccinia, varicella, mycobacterial infections, and fungal diseases.

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IMPORTANT SAFETY INFORMATION (CONT'D)

- XIPERE® is contraindicated in patients with known **hypersensitivity to triamcinolone acetonide** or any other components of this product.
- Use of corticosteroids may produce cataracts, increased intraocular pressure, and glaucoma. Use of corticosteroids may enhance the establishment of secondary ocular infections due to bacteria, fungi, or viruses, and should be used cautiously in patients with a history of ocular herpes simplex.
- Hypothalamic-pituitary-adrenal (HPA) axis suppression, Cushing's syndrome, and hyperglycemia can occur following administration of a corticosteroid. Monitor patients for these conditions with chronic use.
- In controlled studies, the most common ocular adverse reactions were increased ocular pressure, non-acute (14%), eye pain, non-acute (12%), cataract (7%), increased intraocular pressure, acute (6%), vitreous detachment (5%), injection site pain (4%), conjunctival hemorrhage (4%), visual acuity reduced (4%), dry eye (3%), eye pain, acute (3%), photophobia (3%), and vitreous floaters (3%), and in 2% of patients: uveitis, conjunctival hyperaemia, punctate keratitis, conjunctival oedema, meibomianitis, anterior capsule contraction, chalazion, eye irritation, eye pruritus, eyelid ptosis, photopsia, and vision blurred.

  The most common non-ocular adverse event was headache (5%).
- Corticosteroids should be used during pregnancy or nursing only if the potential benefit justifies the potential risk to the fetus or nursing infant.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch or call 1-800-FDA-1088

Please see additional Important Safety Information throughout and full Prescribing Information here.

References: 1. Kohli P, Tripathy K, Patel BC. Macular edema. In: StatPearls [Internet]. Treasure Island, FL: StatPearls Publishing; 2025. Available from: https://www.ncbi.nlm.nih.gov/books/NBK576396/ **2.** XIPERE® [prescribing information]. Alpharetta, GA: Clearside Biomedical, Inc. **3.** Wu KY, Fujioka JK, Gholamian T, Zaharia M, Tran SD. Suprachoroidal injection: a novel approach for targeted drug delivery. *Pharmaceuticals (Basel)*. 2023;16(9):1241. **4.** Yeh S, Khurana RN, Shah M, et al. Efficacy and safety of suprachoroidal CLS-TA for macular edema secondary to noninfectious uveitis: phase 3 randomized trial. *Ophthalmology*. 2020;127(7):948-955. **5.** Khurana RN, Merrill P, Yeh S, et al. Extension study of the safety and efficacy of CLS-TA for treatment of macular oedema associated with non-infectious uveitis (MAGNOLIA). *Br J Ophthalmol*. 2022;106(8):1139-1144.

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