

A case of human leukocyte antigen B-27-associated ocular hypotony successfully treated with golimumab

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A 42-year-old male presented to us after an episode of acute anterior human leukocyte antigen (HLA)-B27-associated uveitis, and intraocular pressure (IOP) in the right eye was 4 mmHg. Ultrasound biomicroscopy revealed ciliary body edema with supraciliary effusion. He was on a frequent topical corticosteroid, and oral steroid in addition to receiving a periocular injection depot corticosteroid 20 days back. He was started on treatment with subcutaneous golimumab (GLM). After a month, his IOP in the right eye was 14 mm of Hg with

UBM showing resolution of ciliary body edema. GLM can be useful in the management of steroid-resistant cases of HLA B-27-associated ocular hypotony.

Key words: Golimumab, human leukocyte antigen B-27, ocular hypotony, ultrasound biomicroscopy

Ocular hypotony is a rare but dreaded complication of uveitis. Human leukocyte antigen-(HLA) B-27-associated acute anterior uveitis remains one of the major causes of transient ocular hypotony and believed to be the result of inflammation of ciliary body leading to reduced aqueous production, or increased uveoscleral outflow.^[1,2] Rapid and aggressive treatment of the inflammation is necessary to prevent this sight-threatening complication of uveitis. However, complications such as maculopathy, protracted hypotony, exudative retinal detachment, and ciliochoroidal effusion have been reported in patients with HLA-B27-associated uveitis.^[1,2]

Golimumab (GLM) is a fully human anti-tumor necrosis factor (TNF) monoclonal antibody which has been widely used for the management of uveitis including cases refractory to conventional treatment in recent years.^[3-5] GLM has been found to be effective in the management of ocular and systemic manifestations of seronegative spondyloarthritis.^[6-8] We report a case of ocular hypotony secondary to HLA B-27-associated uveitis and resistant to topical and oral steroid, which responded promptly to GLM therapy. To the best of our knowledge, there has been

Access this article online	
Quick Response Code:	Website: www.ijjo.in
	DOI: 10.4103/ijjo.IJO_120_18

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Manuscript received: 24.01.18; Revision accepted: 21.03.18

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Cite this article as: Dutta Majumder P, Lakra R, Yamuna G, Majumder AK, Kaushik V. A case of human leukocyte antigen B-27-associated ocular hypotony successfully treated with golimumab. Indian J Ophthalmol 2018;66:1006-8.

no report on the use of GLM in the management of ocular hypotony; and incidentally, the current observation is also the first report of GLM use in the treatment of uveitis from India.

Case Report

A 42-year-old male presented to us with complaints of sudden diminution of vision associated with severe redness, intense ocular pain in right eye for a month. He also complained of floaters in the right eye. He denied any history of the ocular problem in the past. He had been suffering from recurrent low back pain for 3 years for which he was investigated and diagnosed to be positive for HLA B27 in 2014. At the time of presentation, he was on oral salicylazosulfapyridine, as prescribed by his local rheumatologist. He also consulted locally for his eye problem, where he received a periocular injection of depot steroid (triamcinolone acetonide) 1 month back and was using topical steroid (one hourly a day) and cycloplegic (three times a day) in his right eye for 20 days. Best-corrected visual acuity (BCVA) in his right eye was 6/12 and 6/6 in the left eye. Slit-lamp examination of his right eye showed circumcorneal congestion, cells 0.5+, and flare 1+ in anterior chamber, few scattered pigments on the anterior lens capsule, a pharmacologically dilated pupil, and plenty of cells in anterior vitreous [Fig. 1]. Fundus examination of the right eye showed vitritis, hyperemia of optic nerve and an attached retina. Slit-lamp and fundus examination of the left eye was unremarkable. Intraocular pressure (IOP) measured with Goldman applanation tonometry was 4 and 13 mm of Hg in right and left eye, respectively. Ultrasound biomicroscopy (UBM) of his right eye showed ciliary body edema with supraciliary effusion [Fig. 2a]. He also complained of backache and stiffness of knee joints and an opinion from rheumatologist was sought. Examination by the rheumatologist revealed painful intersegmental restrictions in movement of the cervical and lumbar vertebra, effusion of the knee joints and a positive Schober's test. His disease activity score using Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) was found to be 10. He was investigated extensively to rule out other causes of uveitis.



Figure 1: Slit-lamp photograph of the right eye showing circumcorneal congestion and pigments over anterior lens capsule. The slit-lamp examination of the same eye revealed 0.5 + cells and 1 + flare

He was subsequently administered subcutaneous GLM 50 mg and decided to repeat the injection every 4 weeks. He was also started on oral methotrexate (15 mg/week) by the rheumatologist, and we advised him to continue topical steroid (1% prednisolone acetate 6 times a day) and cycloplegic (2% homatropine three times a day) in tapering schedule.

He was reviewed after a month. His BCVA improved to 6/6 in the right eye. Examination of the right eye showed a quiet anterior chamber and anterior vitreous [Fig. 2] and a normal fundus with a resolution of vitritis. His IOP was 14 mm of Hg and 12 mm of Hg in right and left eye, respectively. UBM of the right eye showed significant resolution of ciliary body edema with resolved supraciliary effusion [Fig. 2b]. There was marked improvement in his backache, joint stiffness, and his disease activity score improved to 3.2 (BASDAI). He received second dose of subcutaneous GLM and seen again after a month. His BCVA was maintained at 6/6 and ocular examination revealed a quiet anterior segment with normal fundus. His IOP in the right eye was 16 mm of Hg. UBM of his right eye showed further resolution of ciliary body edema and supraciliary effusion [Fig. 2c]. He was also examined by the rheumatologist who recorded a BASDAI score of 1.4 and administered the third dose of subcutaneous GLM. He was advised to continue oral methotrexate 10 mg/week. He had completed a course of topical corticosteroid and cycloplegic and was advised to continue topical flurbiprofen (0.03%) eye drop in his right eye.

Discussion

In recent years, biological agents especially anti-TNF agents are becoming increasingly popular for the patients with various systemic rheumatologic diseases as well as in cases with refractory uveitis. GLM was approved by the Food and Drug Administration in the United States in 2009 for patients with rheumatoid arthritis, psoriatic arthritis, and ankylosing spondylitis with or without methotrexate or other biologic disease-modifying anti-rheumatic drugs.^[9] There are reports of GLM therapy for juvenile idiopathic arthritis,^[10] Behçet uveitis,^[11] HLA-B27-associated uveitis,^[7] and various other uveitic entities worldwide. Recently, a study evaluating efficacy and safety of GLM in patients from India had shown the drug as effective and safe in patients with systemic manifestation of rheumatoid arthritis.^[12] However, there are lack of data on usage of GLM in the management of uveitis from India.

Hypotony is an uncommon, but not rare in HLA B-27-associated uveitis. Although hypotony during acute attack of HLA B-27-associated uveitis is usually transient, reversible, and reported to have a favorable outcome with aggressive treatment with corticosteroid, there are reports of protracted hypotony recalcitrant to local and systemic corticosteroid.^[1,2] In a case series of five patients of HLA B-27-associated anterior uveitis with hypotony and other complications, van der Veer *et al.* successfully treated a patient resistant to intravenous (IV) pulse corticosteroid with infliximab therapy.^[2] However, despite treatment by topical, periocular and systemic corticosteroid (which also included IV methyl prednisolone in one patient), two patients developed protracted hypotony and ME with macular pucker were noted in four patients in their series.^[2]

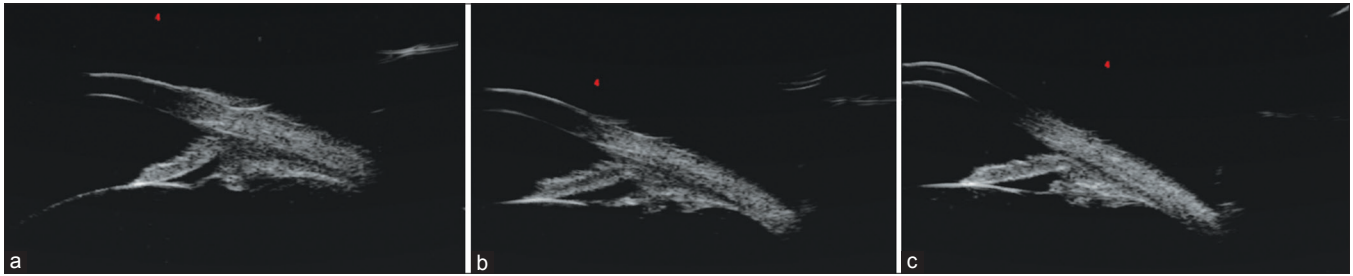


Figure 2: Serial follow-up ultrasound biomicroscopy of the right eye at presentation (a), after 1 month (b), and 2 months (c) of subcutaneous golimumab injection which showed gradual resolution of ciliary body edema and supraciliary effusion

Conclusion

Our case report showed promising result in a case of ocular hypotony, resistant to corticosteroid with a single injection of GLM. There was marked improvement of backache and joint stiffness in our patient, which was perhaps undertreated since the diagnosis of spondyloarthropathy. Future studies with this novel therapeutic agent may ensure the effectiveness of GLM in ocular hypotony and management of uveitis in Indian patient. However, in a country like India, where tuberculosis and other infections are maximally prevalent, one must use biological agent judiciously.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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