

Nodular posterior scleritis with associated choroiditis masquerading as a choroidal tumour: A Case Report

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Abstract

A case of nodular posterior scleritis in a 25-year-old male who presented with a 14-day history of unilateral decline in vision, pain, and redness in his right eye. Slit lamp examination of the right eye revealed dilated episcleral vessels present nasally as well as a choroidal mass at the nasal periphery of the fundus, associated with choroidal oedema. Systemic evaluation and imaging of the choroidal mass were performed to rule out choroidal tuberculoma and choroidal metastasis. Ultrasound B-scan of the right eye showed marked thickening of the nasal sclera resulting in sympathetic choroidal oedema without the characteristic T-sign. Nodular posterior scleritis with associated choroiditis, was diagnosed without any underlying systemic illness. The patient was immediately started on systemic steroids and later on subcutaneous Methotrexate as advised by the rheumatologist, to which he responded well and his vision significantly improved from 6/60 to 6/9, gradually during his treatment course.

Keywords: Posterior scleritis, Choroiditis, Choroidal mass, Methotrexate.

DOI: <https://doi.org/10.47391/JPMA.7895>

Submission completion date: 09-10-2022

Acceptance date: 29-04-2023

Introduction

Posterior scleritis, a relatively unique and under-recognised type of scleral inflammation, commonly reported in middle-aged females, accounts for 2%-12% of all forms of scleritis.^{1,2} It can be idiopathic, related to some autoimmune condition or infection like Wegener Granulomatosis, rheumatoid arthritis and tuberculosis. Misdiagnosis of intraocular inflammation, ocular tumours, and orbital inflammation can be made due to its variable presentation. Both posterior scleritis and orbital inflammatory syndrome present with similar orbital signs

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and respond well to steroids thus making it difficult to distinguish between them.^{3,4} We report an unusual presentation of nodular posterior scleritis and choroiditis in a young man, who was initially diagnosed and investigated as a choroidal mass.

Case Report

In October 2020, a 25-year-old male presented to the Ophthalmology Department of Shifa International Hospital, Islamabad, with complaints of blurry and distorted vision in his right eye, along with discomfort, mild pain, and redness persisting for 15 days. He gave no history of either sore throat or contact with a patient with tuberculosis. His past surgical and medical history was unremarkable and he was using topical Tobramycin and artificial tears. His general physical examination was normal. Unaided visual acuity was 6/60 in the right eye and 6/6 in the left eye according to Snellen's chart. With pinhole, right eye's vision improved to 6/12 corresponding to -3.50 DS refractive error according to autorefraction. On slit-lamp examination, the right eye's anterior segment showed dilated episcleral vessels present nasally with mild conjunctival hyperaemia, +1 cells in the anterior chamber, and was phakic. Dilated fundus exam showed clear posterior vitreous, localised choroidal elevation present nasally extending from 1 o'clock to 5 o'clock with mild optic disc swelling, and few choroidal folds temporal to the disc involving the macula. (Figure-1). The left eye's examination was normal. Intraocular pressures were 14mm Hg and 15mm Hg in the right and left eyes, respectively.

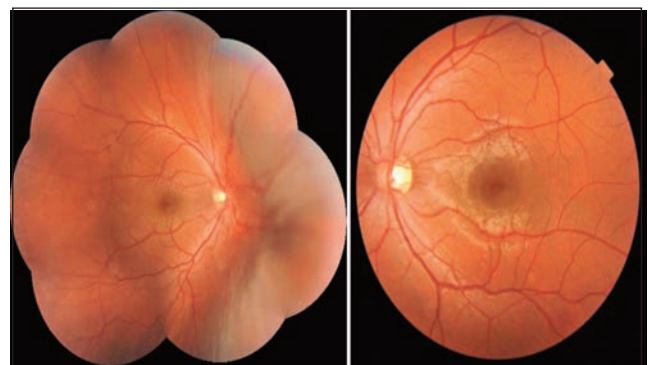


Figure-1: Colour fundus montage photograph of the right eye illustrating choroidal elevation present nasally vs normal colour fundus photograph of the left eye.

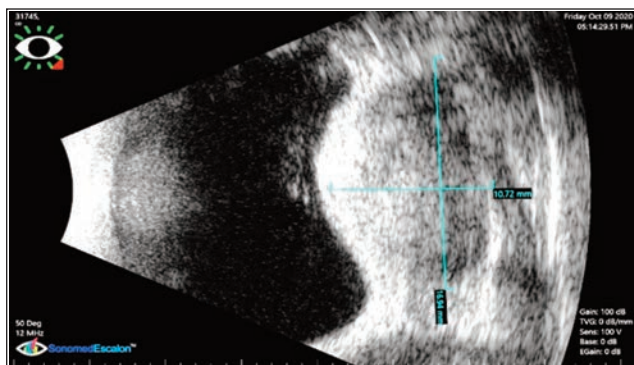


Figure-2a: B-scan of the right eye demonstrates nodular scleritis resulting in marked thickening of nasal sclera resulting in sympathetic choroidal oedema. Medial rectus tendon and mild swelling of anterior part of optic nerve.

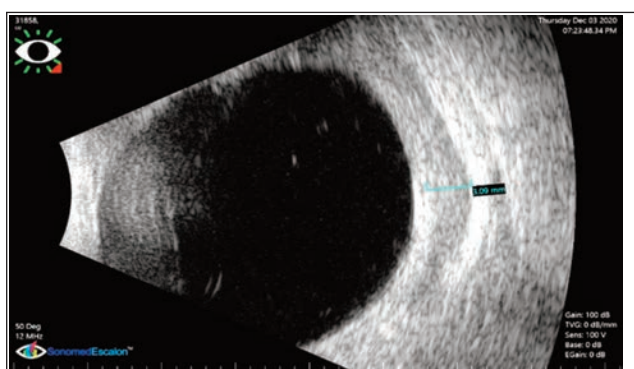


Figure-2b: B-scan of the right eye after two months of treatment indicates scleritis (3.09 mm)

Ultrasound B-scan of the right eye showed marked thickening of nasal sclera resulting in sympathetic choroidal oedema and mild swelling of the anterior part of the optic nerve, indicating nodular posterior scleritis. On A-scan ultrasonography, the lesion displayed medium internal reflectivity. (Figure-2a). MRI of the orbit and head showed a well-defined intraocular subchoroidal lesion along the superomedial aspect of the right globe resulting in uplifting of choroid and retina along the medial aspect. Detailed investigations were ordered to identify the cause of his scleral inflammation. His complete blood picture, erythrocyte sedimentation rate, C-Reactive proteins, serum angiotensin-converting enzyme were normal. Antinuclear antibody, rheumatoid factor, anticytoplasmic antibodies, serology for syphilis, and tuberculosis were negative.

In order to counter the sclerochoroidal inflammation, the patient was administered intravenous Methylprednisolone 1g slow I/V infusion for 30 minutes for three consecutive days and then oral Prednisolone 80 mg daily in tapering schedule was given after consultation with the rheumatologist.

At two-week follow-up visit, his BCVA was 6/38 in right eye. Mild conjunctival hyperaemia remained nasally and repeat

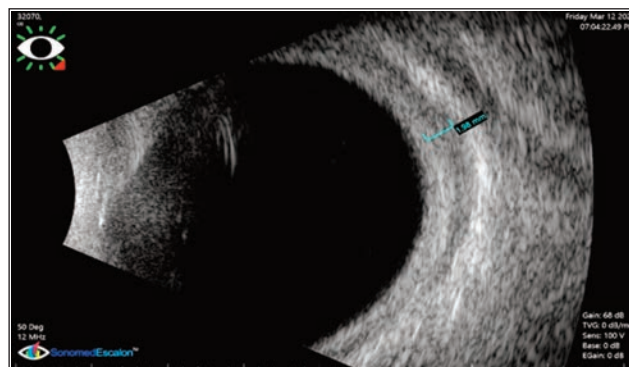


Figure-2c: B-scan of the right eye after five months of treatment shows scleritis (1.98 mm).

fundus photos showed resolving posterior scleritis and choroidal oedema with slight subretinal fluid inferonasally. He was instructed to continue oral and topical steroids along with topical Dorzolamide and Timolol in his right eye to keep his IOP normal.

Three weeks later, his BCVA had improved to 6/9 partial. Conjunctival congestion had decreased and fundus examination showed resolving posterior scleritis and choroiditis without any elevation or fluid which was confirmed with repeat USG B-scan (Figure-2b). Being a steroid responder, his IOP increased to 34 mmHg. Therefore, a consultant rheumatologist reviewed the case and started him on steroid-sparing agent, i.e. subcutaneous Methotrexate 12.5 mg weekly initially, with an increase by 2.5 mg as per the patient's tolerance, along with oral Prednisolone 40 mg daily in tapering schedule. All topical and systemic drugs were gradually reduced, then discontinued after four weeks.

On subsequent monthly visits, his BCVA in the right eye had improved to 6/9. Bio-microscopy demonstrated quiet anterior segment and pigmentary changes of the retina, nasally between 3 to 5 o'clock positions. Intraocular pressures, without IOP lowering drugs were normal. Repeat USG B-scan showed markedly reduced sclerochoroidal thickening (Figure-2c). The rheumatologist advised the patient to continue Methotrexate 20 mg subcutaneously till the next follow-up. He has been under our care for the past one year and has shown no signs of recurrence.

Discussion

Posterior scleritis, a rare disease that has presented only as case reports in the literature, is known to simulate different ocular inflammatory and neoplastic conditions.⁵ It is diffuse or rarely nodular in type, and may be misdiagnosed as an intraocular tumour such as choroidal melanoma leading to surgical interventions like enucleations.^{1,2} A case series on 137 patients with posterior scleritis reported that 29% of the patients had an associated systemic disease. Symptoms frequently noted were anterior scleritis, pain, and

decreased vision. Serous retinal detachment, optic nerve swelling, and circumscribed fundus mass were the characteristic signs present.⁶ Ocular pain is the most common symptom, reported in 64% of patients with posterior scleritis, alerting the physician regarding an inflammatory condition.⁴ B-scan ultrasonography is an important tool in diagnosis that may show scleral nodular thickening and diffuse hyper echogenicity, unlike choroidal neoplasms where there can be moderate hyper echogenicity or a hypoechogenicity.^{3,7}

We report an atypical presentation of posterior scleritis and choroiditis in a young man who came with a two-week history of a sudden decrease in right eye vision, redness, and moderate ocular pain. Signs observed on slit lamp included dilated episcleral vessels nasally along with a choroidal mass visible at the nasal periphery of the fundus, along with choroidal oedema. Previously, it has presented in the form of a well-defined fundus mass, along with associated retinal stria, choroidal folds around the mass or optic disc oedema and the patients had some underlying systemic disease.^{1,3} History and systemic workup of our patient did not suggest any systemic or autoimmune disease and the cause of scleral inflammation still remained unknown. B-scan ultrasonography revealed sclerochoroidal thickening, but a T-sign typical of nodular posterior scleritis was not observed and is not always present as per the cases reported in previous studies.^{8,9} The patient who was previously 6/6 without glasses had a myopic shift owing to increased sclerochoroidal thickening and choroidal oedema and had a VA of 6/60 on presentation. A-scan showed medium internal reflectivity which is contradictory to the high internal reflectivity as reported in the past.³ Only a few case studies have reported a presentation similar to that of our patient. B-scan ultrasonography reinforced our differential diagnosis because acoustic hollowness and choroidal excavation characteristic of choroidal tumour were absent.

Literature shows successful treatment options, ranging from low strength NSAIDs, to systemic steroids and stronger immunosuppressive agents, according to the underlying aetiology and the severity of inflammation.⁶ McCluskey et al employed systemic corticosteroids and immunosuppressive therapy when the disease involved the optic nerve or was associated with systemic diseases.² Sridharan et al used a six-week course of oral steroids in their study of giant nodular posterior scleritis.¹ In another case reported, vision of the patient who had giant nodular posterior scleritis remained stable without any therapy.^{5,10} Fundus photographs and repeat B scans showed significant improvement with systemic steroids and subcutaneous Methotrexate in our patient. Subcutaneous

use of Methotrexate has not been reported in previous cases of posterior scleritis. In a previously done clinical survey, it has also been observed that these patients may present early but their diagnosis is often delayed up to seven months thus affecting the prognosis of the disease.⁴ In our case, there was not a single day's delay from the beginning which is what made our patient regain his vision in just a few months' time.

Conclusion

Early identification and avoiding misdiagnosis of posterior scleritis together with initiation of prompt treatment with low strength NSAIDs, systemic steroids and immunosuppressive agents can result in excellent visual outcomes, thereby avoiding unnecessary ocular surgical interventions such as enucleation.

Consent: Informed consent was taken from the patient prior to the manuscript's submission.

Disclaimer: None.

Conflict of interest: None.

Funding disclosure: None

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