

# Scedosporium scleritis following pterygium excision with conjunctival autograft

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## Abstract

A 67-year-old female presented 6 months following left pterygium surgery with autoconjunctival graft with presumed episcleritis. Following a trial of topical dexamethasone, she returned with pain, reduced vision, and a donor-site scleral nodule. MRI orbits demonstrated scleritis, and oral prednisolone was commenced for presumed immune-mediated scleritis. Ten days later, vision reduced to light-perception with significant vitritis overlying a subretinal lesion associated with the donor site. A vitreous tap cultured *Scedosporium aurantiacum*. Treatment consisted of vitrectomy, scleral debridement with corneal patch graft, with both systemic and intravitreal voriconazole. Further scleral debridement was attempted but unable to be completed due to its posterior extent. As repeat MRI orbits showed persistent active scleritis in proximity to the optic nerve which posed a risk of meningitis, a decision was made for enucleation. This case highlights the difficulties in distinguishing between infectious and autoimmune scleritis, and the importance of excluding infection, particularly in eyes with prior surgery.

**Keywords:** conjunctival autograft, fungal scleritis, pterygium

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# Skleritis scedosporium selepas pengasingan pterygium menggunakan cantuman auto konjuntiva

## Abstrak

Seorang wanita berusia 67 tahun yang telah menjalani pterygium mata kiri dengan cantuman autokunjuntiva, disangka mengalami episkleritis 6 bulan selepas pterygium excision. Selepas menggunakan dexamethasone secara topikal, pesakit mengalami penurunan penglihatan, sakit mata dan kehadiran nodul sklera di tapak-penderma. MRI orbit menunjukkan skleritis dan prednisolone secara oral dimulakan untuk yang disangka skleritis 'immune-mediated'. Sepuluh hari kemudian, penglihatan pesakit menurun ke persepsi cahaya dengan vitritis meliputi lesi subretina yang berkaitan dengan tapak-penderma. *Scedosporium aurantiacum* telah dikultur menggunakan 'vitreous tap'. Rawatan yang diberi merangkumi 'vitrectomy', 'scleral debridement' dengan cantuman tampalan kornea serta voriconazole secara sistemik dan intravitreal. Cubaan untuk melakukan 'surgical debridement' lebih mendalam tidak berjaya kerana kedudukannya ditakat posterior. MRI orbit ulangan menunjukkan skleritis aktif berterusan berhampiran dengan saraf optik, yang menjadi risiko kepada meningitis. Oleh itu, enukleasi telah dilakukan. Kes ini menonjolkan kesukaran untuk membezakan antara skleritis autoimun dan berjangkit serta kepentingan untuk mengenalpasti jangkitan, terutama pada mata yang telah menjalani pterygium excision.

**Keywords:** cantuman auto konjuntiva, pterygium, skleritis fungus

## Introduction

Infectious scleritis is a rare but potentially devastating complication of pterygium surgery. While infectious scleritis comprises only 5–10% of scleritis overall,<sup>1</sup> infection is the most common cause of scleritis following pterygium surgery with poorer outcomes compared to non-infectious scleritis.<sup>2,3</sup> Distinguishing between infectious and non-infectious scleritis poses a complex clinical challenge and incorrect diagnosis can result in significant ocular morbidity.

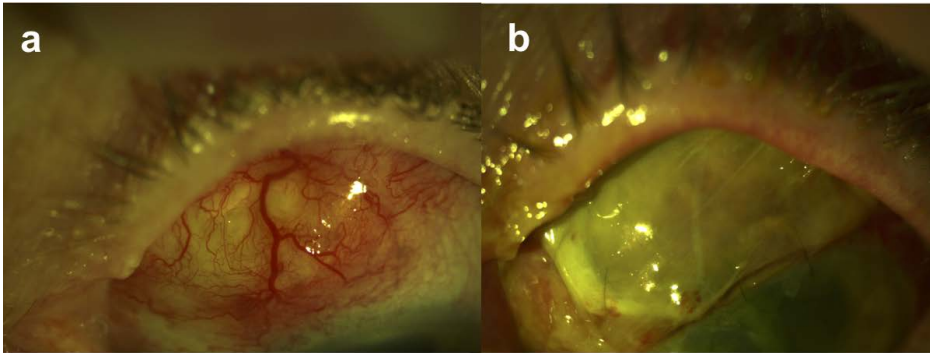


Fig. 1. The patient's left eye. (a) Slit-lamp image showing conjunctival injection and a scleral nodule. (b) Slit-lamp photo following scleral debridement, corneal patch graft, and amniotic membrane transplant.

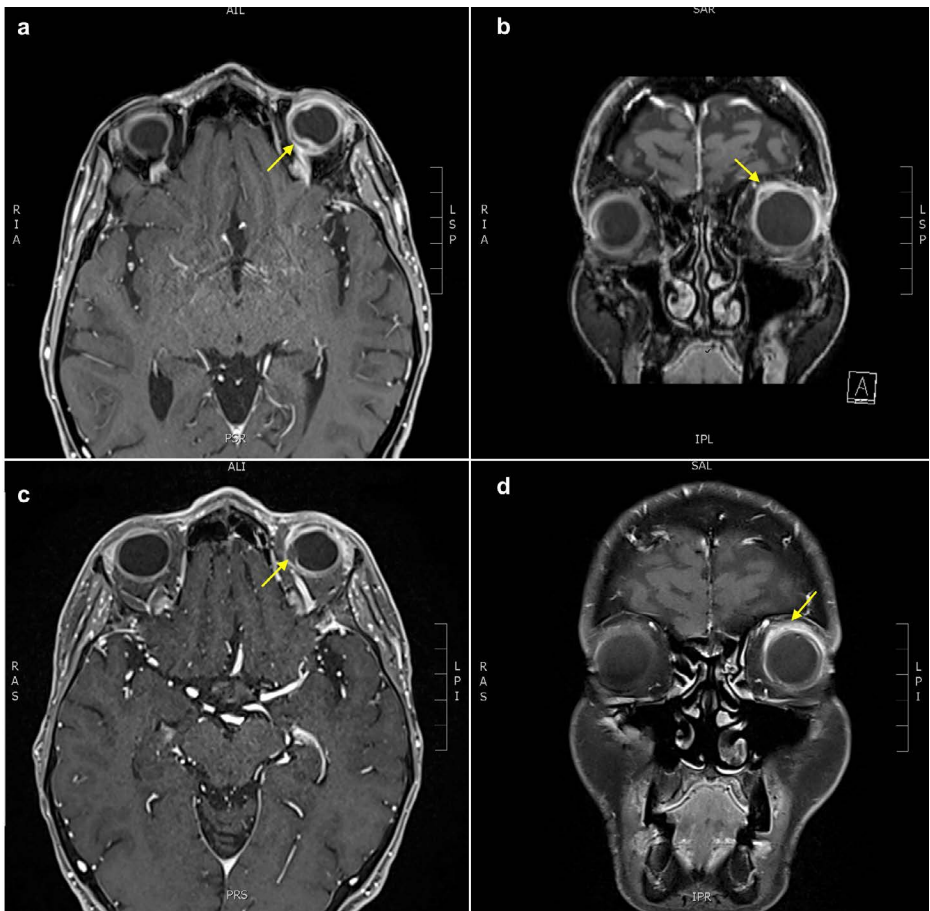
## Case report

A 67-year-old female presented with mild left eye discomfort 6 months following recurrent pterygium excision with autoconjunctival graft. Twenty-five years' prior, she underwent bilateral pterygium excision with beta-radiation. Her medical history included Graves' disease without thyroid eye disease, with no personal or family history of other autoimmune disease.

Examination was normal except for mild conjunctival injection at the donor site (Fig. 1). Dexamethasone 0.1% drops QID were started for presumed episcleritis. One month later, she re-presented with worsening pain and reduced corrected vision from 6/6 to 6/15. The donor site showed marked conjunctival injection and a non-necrotic scleral nodule without epithelial defect. Fundus examination showed a superonasal subretinal nodule with no overlying subretinal fluid. A serological infectious and autoimmune screen was unremarkable. MRI orbits showed superior scleral thickening (Fig. 2).

Oral prednisolone 50 mg daily was commenced for presumed autoimmune scleritis. Symptoms transiently improved, but the pain recurred following dose reduction to 12.5 mg 6 days later. Assuming the symptoms were secondary to the somewhat rapid taper, prednisolone was increased to 50 mg.

Four days later, she presented with light perception vision and dense vitritis overlying the subretinal nodule. A vitreous tap was performed alongside intravitreal voriconazole 100 mcg/0.1 ml, vancomycin 1 mg/0.1 ml, and ceftazidime 2.25 mg/0.1 ml. Hourly topical 1.5% gentamicin, 5% vancomycin, and 1% voriconazole were commenced. Prednisolone was ceased on a rapid taper. *Scedosporium aurantiacum* was isolated from intravitreal fluid and oral voriconazole 200 mg daily was commenced. A pars plana vitrectomy followed by scleral debridement with



*Fig. 2.* MRI brain with T1-weighted imaging. (*a, b*) At presentation, thickening and enhancement of the left sclera with superomedial contour deformity consistent with scleritis and subchoroidal effusion. There was enhancement of the orbital optic nerve. (*c, d*) Following surgical excision with local and systemic antifungal treatment, there were improved but persistent inflammatory changes, as demonstrated by the hyperintense signal around the left globe and the residual superomedial subchoroidal collection.

corneal patch graft and amniotic membrane transplant was performed to promote corneal epithelialisation. Subsequently, the pain and vitritis resolved with reduction of the subretinal nodule.

One month later, severe pain recurred despite maximal medical therapy. Further scleral debridement up to 18 mm posterior to the limbus was performed, but the posterior extent could not be reached. Repeat MRI orbits demonstrated persistent

active scleritis adjacent to the optic nerve. Due to an inability to adequately debride the involved sclera and its proximity to the optic nerve, which the infectious disease specialists deemed to pose a risk of life-threatening meningitis, a decision was made for enucleation.

## Discussion

Scleritis following pterygium surgery may be infectious or, less commonly, non-infectious. Amongst a wide range of bacterial and fungal microorganisms, *Pseudomonas aeruginosa* is the most common pathogen.<sup>4-6</sup> It is hypothesized that surgical destruction of conjunctival and episcleral vasculature predisposes the sclera to microorganism invasion.<sup>5</sup> The timing of onset of symptoms of infectious scleritis following pterygium surgery varies considerably, with several two large series reporting a mean interval of approximately 4 years.<sup>4,7</sup>

This case highlights the difficulty in differentiating between infectious and non-infectious scleritis, which have similar presentations and initially respond to immunosuppression. While the treatment for non-infectious scleritis involves steroid therapy, the treatment of infectious scleritis is antimicrobial therapy. Treating infectious scleritis as autoimmune scleritis can result in poorer outcomes.<sup>3</sup> As it can be very difficult to distinguish between the two entities, Doshi *et al.* suggest that, due to the devastating consequences of infectious scleritis, empirical treatment broad-spectrum topical antibiotics and antifungals is prudent.<sup>2</sup>

This case is unusual in two ways. Firstly, it is unusual for postoperative infectious scleritis to be non-necrotising, as the vast majority (93–95%) present with scleral necrosis.<sup>4,7</sup> Diagnosis can be particularly difficult in non-necrotising cases where a scrape cannot be taken. In patients without scleral necrosis, Jain *et al.* recommend performing a scleral scrape after the nodule is “de-roofed”.<sup>5</sup> This case is also unusual in that the scleritis involved the donor site; the authors are not aware of this being described previously.

In summary, this case highlights the difficulties in distinguishing between infectious and autoimmune scleritis. In eyes with a history of prior surgery, infectious aetiologies are important to consider.

## Declarations

### Consent for publication

Informed consent was obtained from the patient for the publication of the clinical data and images contained in this case report.

**Competing interests**

None to declare.

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None to declare.

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None to declare.

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