VANDERBILT UNIVERSITY MEDICAL CENTER

Panophthalmitis of the Right Eye with Sub-Tenon's Abscess

A Case Report

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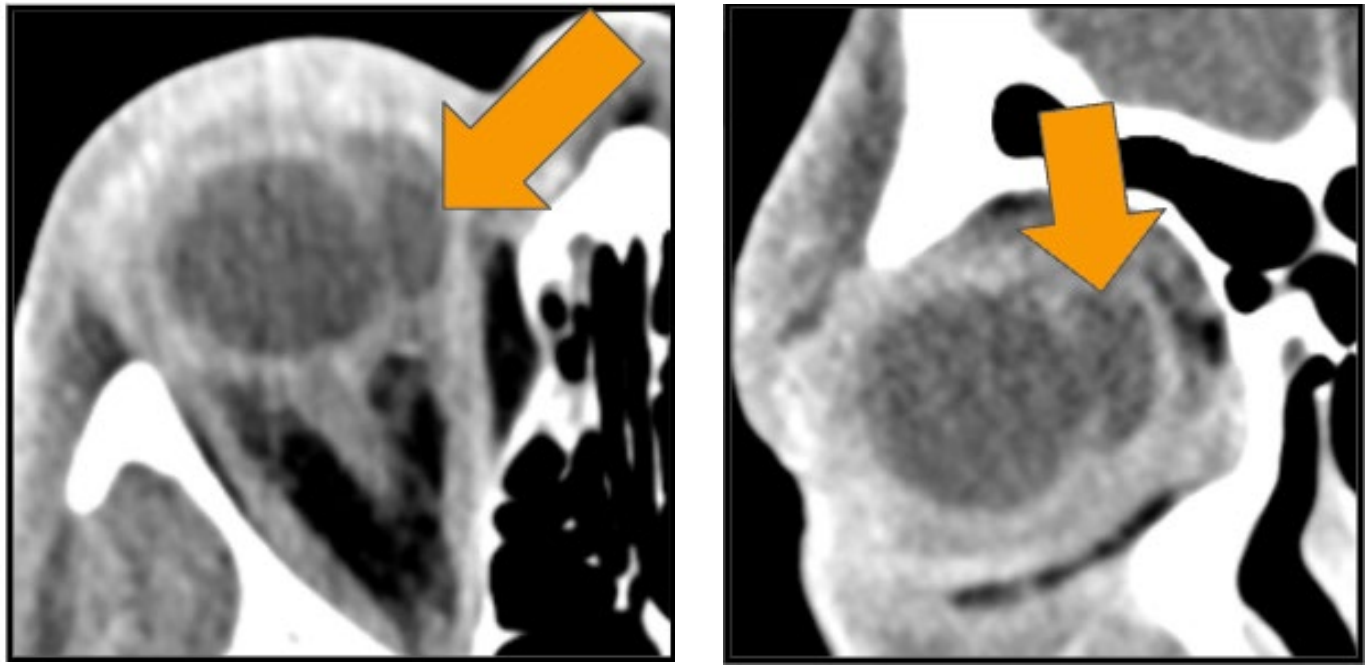
Disclosures

No relevant financial disclosures.

Clinical Presentation

- 36-year-old man with a history of polysubstance use disorder
- 2–3 days of progressive right eye pain, swelling, vision loss, and headache; no ocular trauma
- Outside evaluation raised concern for right orbital cellulitis with a paraglobal abscess, prompting transfer
- Physical exam: no light perception in the right eye, marked periorbital erythema,swelling, chemosis, hypopyon, proptosis, and restricted extraocular movements
- Labs: Notable for WBC 22 × 10^9/L

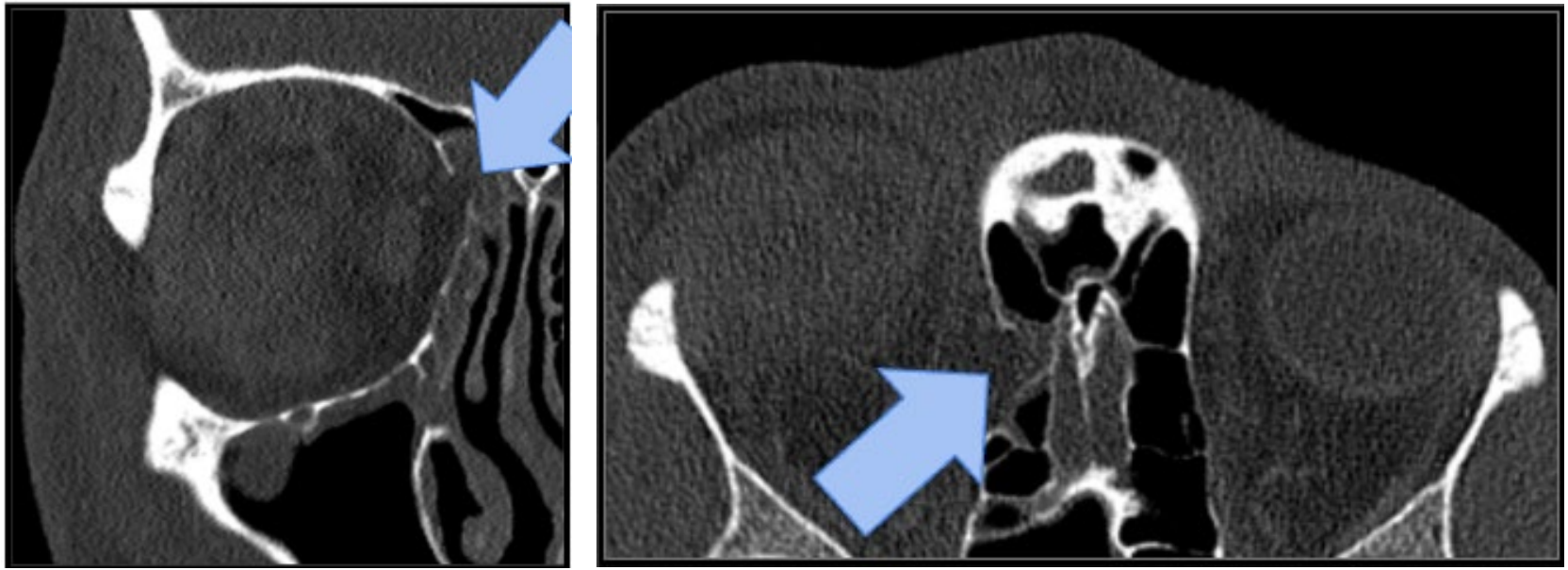
Imaging Discussion



- 26 × 9 mm rim-enhancing collection
- Medial/superior right globe
- Globe contour flattening
- Orbital fat stranding
- Medial rectus enhancement

Axial (left) and coronal (right) contrast-enhanced CT through the right orbit.

Imaging Discussion



Coronal (left) and axial (right) CT in bone windows through the orbits

- Focal defect of the right lamina papyracea
- Right anterior ethmoid mucosal thickening
- Erosive infectious change with associated ethmoid sinusitis

Imaging Synthesis

CT demonstrated extensive ocular and orbital infection with a Sub-Tenon's abscess.

Sub-Tenon's abscess with pre- and post-septal inflammatory change

Right medial rectus myositis

Right lamina papyracea erosion with associated ethmoid sinusitis

Intraoperative ultrasonography confirmed endophthalmitis

Final diagnosis: endogenous panophthalmitis with Sub-Tenon's abscess

Management

General approach

- Broad-spectrum systemic antibiotics (1,2)
- Vitreous/aqueous sampling followed by intravitreal antibiotics (1,2)
- Drainage of associated abscess for source control (2,3)
- Vitrectomy or evisceration/enucleation may be required for uncontrolled infection, irreversible vision loss, or persistent pain (2,3)

This patient

- Vancomycin, cefepime, and moxifloxacin initiated
- Right orbitotomy with drainage of the Sub-Tenon's abscess
- Bilateral intravitreal antibiotics after intraocular sampling
- ~4 cc of purulent material evacuated
- Culture: Serratia marcescens; therapy tailored to susceptibilities
- No additional intravitreal injections required after source control

Outcome



Source control
Infection controlled

Vision
No light perception despite infection control

Symptoms
Persistent severe ocular pain

Definitive treatment
Right-eye removal ≈21 days after initial procedure

Follow-up
No recurrent infection

Take Home Points

1. Panophthalmitis is a vision-threatening emergency requiring prompt diagnosis and multidisciplinary management. (2)

2. Contrast-enhanced CT can define the extent of ocular infection, identify an associated Sub-Tenon's abscess, and evaluate adjacent orbital involvement.

3. Endogenous panophthalmitis should prompt evaluation for hematogenous spread, particularly with risk factors such as IV drug use or bacteremia. (2,3)

4. Even after infectious source control, absence of light perception carries a poor visual prognosis; evisceration or enucleation may be required for persistent pain. (1,3)

References

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Thank You

Questions?