

A 6-year-old boy is brought to the physician with eyelid swelling. His mother noted an insect bite on his left cheek yesterday, and this morning his left eyelid became "completely swollen shut" and painful. He has no fever, fatigue, headache, or rhinorrhea. He is afebrile on examination. The left eyelid is erythematous, tender to palpation, and edematous. When trying to distinguish between preseptal and orbital cellulitis clinically, which of the following findings is most likely to be seen with orbital cellulitis?

- ☐ A. Eyelid edema
- ☐ B. Eyelid erythema
- ☐ C. Fever
- ☐ D. Diplopia
- ☐ E. Leukocytosis

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- ☐ A. Eyelid edema [8%]
- ☐ B. Eyelid erythema [6%]
- ☐ C. Fever [7%]
- ☒ D. Diplopia [76%]
- ☐ E. Leukocytosis [2%]

[Proceed to Next Item](#)**Explanation:**

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Although the clinical features of preseptal (periorbital) and orbital (postseptal) cellulitis can overlap, these 2 conditions have very different clinical consequences. Preseptal cellulitis is a mild infection of the eyelid anterior to the orbital septum; orbital cellulitis is a serious infection posterior to the **orbital septum**. Both types of cellulitis can result from local trauma (eg, insect bite, wound) or by extension from another source of infection (eg, sinusitis, dental abscess). The clinical features of each condition are compared in the table.

Symptom/Sign	Preseptal Cellulitis	Orbital Cellulitis
Eyelid edema	+	+
Eyelid erythema	+	+
Eyelid tenderness	+	+

Symptom/Sign	Preseptal Cellulitis	Orbital Cellulitis
Eyelid edema	+	+
Eyelid erythema	+	+
Eyelid tenderness	+	+
Fever	+/-	+/-
Leukocytosis	+/-	+/-
Ophthalmoplegia	-	+
Pain with extraocular movements	-	+
Proptosis	-	+/-
Vision impairment	-	+/-

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Both preseptal and orbital cellulitis can present with fever, leukocytosis, eyelid erythema, and swelling (**Choices A, B, C, and E**). However, red flags for orbital cellulitis include **decreased visual acuity, diplopia, ophthalmoplegia, and proptosis**. When the diagnosis of preseptal or orbital cellulitis is unclear, a computed tomography scan of the orbits can help determine whether the infection has spread posterior to the orbital septum.

Antibiotics are required for the treatment of both types of cellulitis. Preseptal cellulitis can be treated with outpatient oral antibiotics. In contrast, orbital cellulitis requires inpatient intravenous antibiotics. Patients with orbital cellulitis should be monitored closely for dangerous complications such as blindness, subperiosteal abscesses, cavernous sinus thrombosis, intracranial infection, and even death.

Educational objective:

Fever	+/-	+/-
Leukocytosis	+/-	+/-
Ophthalmoplegia	-	+
Pain with extraocular movements	-	+
Proptosis	-	+/-
Vision impairment	-	+/-

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Educational objective:

Preseptal cellulitis is a mild infection of the eyelid anterior to the orbital septum; orbital cellulitis is a serious infection posterior to the orbital septum. Orbital cellulitis causes pain with extraocular movements, diplopia, and ophthalmoplegia. Dangerous complications include blindness and intracranial infection.

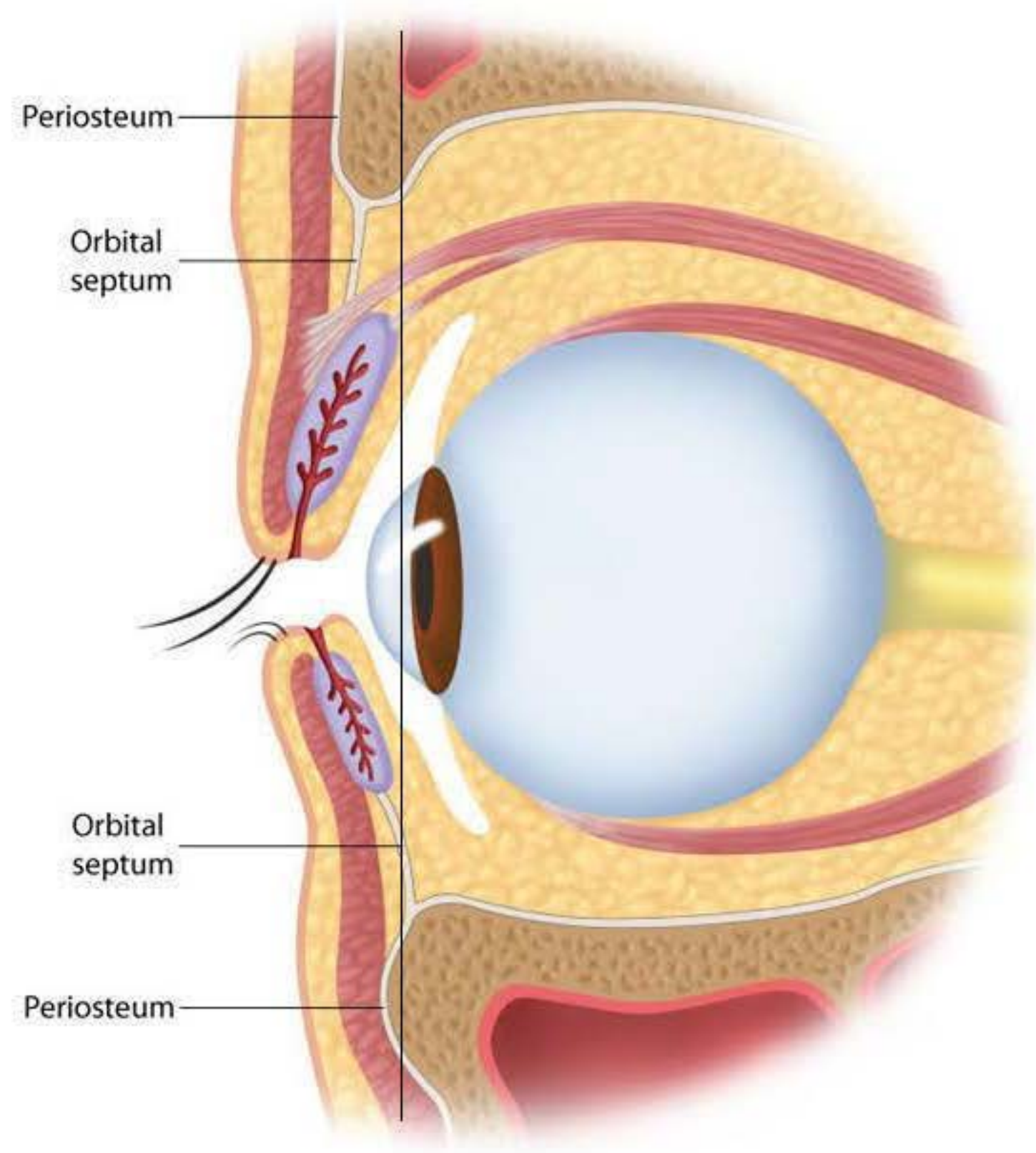
References:

1. **Paediatric pre- and post-septal peri-orbital infections are different diseases. A retrospective review of 262 cases.**
2. **Periorbital and orbital cellulitis.**

Media Exhibit

anatomy

Orbital anatomy



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