

Eye Emergencies: Review Questions

Stuart Spitalnic, MD

QUESTIONS

Choose the single best answer for each question.

- 1. A 35-year-old woman complains of 1 day of double vision. She has had no headache or recent illness and has no other complaints. General physical examination is normal. Her right eye appears normal and has a visual acuity of 20/20, and her left eye has a visual acuity of 20/40. The left pupil is dilated and minimally reactive. There is left-sided ptosis and disconjugate gaze, with the left eye tending to go down and out. Which of the following conditions must most urgently be excluded?**

 - Brain tumor
 - Cavernous sinus thrombosis
 - Cerebral aneurysm
 - Horner's syndrome
 - Multiple sclerosis
- 2. A 40-year-old man complains of pain and a foreign body sensation in his right eye. His visual acuity is normal bilaterally. After staining with fluorescein, Wood's lamp examination reveals multiple, vertically oriented, nearly parallel, fine corneal abrasions. What is the most appropriate next step in this patient's management?**

 - Apply an eye patch
 - Apply antibiotic ointment
 - Evert the eyelid
 - Instill cycloplegic drops
 - Irrigate with a Morgan lens
- 3. A 50-year-old woman complains of a left-sided headache and left eye pain associated with nausea and vomiting. Her right eye has a visual acuity of 20/40 and appears normal. Her left eye has a visual acuity of 20/200, has a mid-fixed, nonreactive pupil, and is injected. You arrange for her transfer to an ophthalmologist. Which of the following medications would be most appropriate to instill into her eye before transfer?**

 - Acetazolamide
 - Atropine
 - Homatropine
 - Mannitol
 - Pilocarpine
- 4. A 60-year-old man complains of left eye pain and photophobia. After staining the affected eye with fluorescein, Wood's lamp examination reveals uptake in a fine branching pattern. His ipsilateral conjunctiva is injected, and there is erythema of the periorbital skin. You also note erythema and a small vesicle on the tip of the patient's nose. What is the most appropriate therapy for this patient?**

 - Oral antibacterial agent
 - Oral antifungal agent
 - Oral antiviral agent
 - Topical antibacterial agent
 - Topical antiviral agent
- 5. Following blunt facial trauma, a 35-year-old patient is noted to have marked proptosis, restricted ocular movement, and decreased visual acuity of the left eye. What is the recommended temporizing maneuver?**

 - Anterior chamber paracentesis
 - Carbogen inhalation
 - Globe massage
 - Lateral canthotomy
 - None of the above

(turn page for answers)

Dr. Spitalnic is an assistant residency director, Brown University Emergency Medicine Residency Program, and an assistant professor of emergency medicine, Brown University, Providence, RI.

ANSWERS AND EXPLANATIONS

1. **(C) Cerebral aneurysm.** An acute third nerve palsy should raise concern of an intracerebral aneurysm, most commonly expansion of a posterior communicating artery aneurysm. If the diagnosis of subarachnoid hemorrhage is entertained, then a computed tomography scan (with lumbar puncture if the scan is negative) should be performed. A brain tumor presentation can include a third nerve palsy, although the duration of symptoms would typically be longer, and other findings would ordinarily be present. Horner's syndrome—ptosis, myosis, and anhydrosis—should prompt a work-up for a thoracic or neck mass, carotid dissection, or another condition that can interrupt sympathetic innervation. Cavernous sinus thrombosis usually follows a facial or sinus infection. Although, this condition can include a third nerve palsy, a sixth nerve palsy is much more common. Although there can be many ocular presentations of multiple sclerosis, optic neuritis with pain and decreased visual acuity would be a more typical presentation.
2. **(C) Evert the eyelid.** Blinking action due to a foreign body under the upper eyelid results in multiple, parallel, vertically-oriented corneal abrasions. Although cycloplegic drops and antibiotic ointment may be part of the therapy of a corneal abrasion, removal of the offending foreign matter is the first step in treatment. Eye patching is at best controversial in corneal abrasions and has no utility if the foreign body remains. Loose, particulate foreign matter may be cleared with irrigation, but direct application of a Morgan lens (preferred for chemical exposures) to an eye that has a retained foreign body is generally not recommended.
3. **(E) Pilocarpine.** The patient suffers from acute angle closure glaucoma, and pilocarpine would be appropriate to treat this patient. Mydriatics (ie, atropine and homatropine) are contraindicated in treating acute glaucoma. Acetazolamide and mannitol are appropriate adjuncts to therapy (oral or intravenous administration for acetazolamide, intravenous administration for mannitol), but these agents are not for topical use. Other agents to administer before definitive surgical therapy can be provided include topical β -blockers and topical corticosteroids.
4. **(C) Oral antiviral agent.** The patient presents with herpes zoster ophthalmicus, resulting from reactivation of the varicella-zoster virus in the first division of the trigeminal nerve. In addition to the corneal, conjunctival, and periorbital findings, the nasociliary branch of the first division of the trigeminal nerve results in involvement of the tip of the nose. The mainstay of treatment is oral antiviral therapy, typically with acyclovir, famcyclovir, or valacyclovir. Topical corticosteroids may also be used to decrease inflammation, and they do not seem to exacerbate the keratitis.
5. **(D) Lateral canthotomy.** The patient has a post-traumatic retrobulbar hematoma. Treatment is evacuation, although urgent decompression can be obtained with a lateral canthotomy. Globe massage, paracentesis, and carbogen are appropriate therapies for central retinal artery thrombosis.

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EMERGENCY MEDICINE

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