

Ocular Urgencies and Emergencies
Andrew S. Gurwood, O.D., F.A.A.O., Dipl.
Marc D. Myers, O.D., F.A.A.O.

Course Outline

1. Historical data

- A. Acute or chronic condition
 - 1). If chronic
 - a. Details of past presentation
 - b. What made it better?
 - 2) If acute
 - a. What are the circumstance associated with the onset.
- B. Mechanism of incident
 - 1). Specific event
 - 2). May not be able to “isolate” an incident.
- C. Details of symptoms – frequency, onset, location, duration, associated symptoms, relief

2. Assessment and treatment tools

- A. Lid retractors
- B. Foreign body removal tools
 - 1). Discussion of stand-of-care when removing foreign bodies
- C. Diagnostic lenses – gonioscopes
- D. Pressure patch, bandage contact lens, eye shield
- E. Morgan lens irrigation system

3. Diagnostic testing

- A. In clinic tools
 - 1). Photography
 - 2). Optical coherence tomography (OCT)
 - 3). B-scan
 - 4). Perimetry
 - 5). Corneal topography
- B. Laboratory studies
 - 1). May be required to coordinate with PCP
- C. Diagnostic imaging
- D. Best not to order what you are not able to interpret.
 - 1). Communication with other providers (PCP, radiologist, others)

4. Medications – specific to manage urgencies and emergencies

- A. Mechanism of action
- B. Indication for use
 - 1). Awareness of standards of care, acceptable off-label use
- C. Dosages
 - 1). Adult, pediatric dose recommendations
- D. Route of delivery – topical (solution, suspension), oral (pill, liquid)
- E. Limitations in use, contraindications (ophthalmic and systemic)
- F. Medication classification
 - 1). Anti-infectious agents (topical and oral)
 - a. Tetracyclines
 - b. Macrolides

- c. Penicillin/penicillin-like preparations
- d. Cephalosporins
- e. Fluoroquinolones
- f. Sulfonamides
- 2). Antiviral medications
- 3). Antifungal medications
- 4). Steroids – control of inflammation
- 5). Nonsteroidal anti-inflammatory drugs (NSAIDs) – control of pain (Rx,OTC)
- 6). Cycloplegics – awareness of market availability
- 7). Mast cell stabilizer/antihistamine – management of hypersensitivity response
- 8). Glaucoma medications for acute intraocular pressure elevation
- 9). Supportive – ocular lubricants, hypertonics (NaCl)
- 10). Controlled substances – pain management
 - a. Awareness of scope of practice
 - b. Schedule medications should be used with great consideration

5. Anterior segment urgencies and emergencies

- A. Adnexa involvement
 - 1). Blunt trauma
 - a. Soft-tissue involvement
 - (1). Laceration – consideration of tissue repair
 - (2). Ecchymosis, edema – supportive care
 - b. Facial fractures – concern regarding orbital fractures, blow-out fractures
 - (1). Discussion of mechanism of injury
 - 2). Infections – cellulitis, herpetic lesions
 - (1). Symptoms of infection – rubor, dolor, calor, tumor
 - 3). Hypersensitivity reactions – contact dermatitis, insect bites, other allergic responses
- B. Lacrimal system compromise
 - 1). Dacryoadenitis
 - 2). Dacryocystitis
 - 3). Trauma involving the lacrimal system.
- C. Eye lid involvement
 - 1). Blunt trauma
 - a. Laceration
 - b. Ptosis
 - 2) Meibomian gland disorders – chalazion, hordeolum
- D. Conjunctiva involvement
 - 1). Subconjunctival hemorrhage (SCH)
 - a. Awareness of ruptured globe in cases involving blunt force
 - 2). Laceration
 - 3). Various conjunctivitis cases
- E. Cornea involvement
 - 1). Cornea defect including defect with and without foreign body.
 - a. Foreign body removal
 - b. Debridement
 - 2). Thermal injury
 - 3). Infectious keratitis
 - a. Viral
 - b. Bacterial

- c Contact lens related
- 4). Infectious vs. non-infectious corneal ulcer
- 5). Chemical, photochemical injury
- F. Anterior chamber involvement
 - 1). Hyphema
 - a. Traumatic
 - b. Non-traumatic (spontaneous) – related to neovascularization.
- G. Iris involvement
 - 1). Resulting from foreign body
 - 2). Forces of blunt trauma – iris tear, iris recession
- H. Lens involvement
 - 1). Traumatic cataract
 - 2). Displacement of the lens
- I. Acute elevation in intraocular pressure
 - 1). Angle recession due to trauma
 - 2). Pupillary block
 - 3). Neovascular glaucoma
 - 4). Uveitis glaucoma

6. Posterior segment urgencies and emergencies

- A. Vitreous involvement
 - 1). Acute posterior vitreous detachment
 - 2). Vitreous hemorrhage
 - a. Associated with vitreous detachment.
 - b. Associated with other posterior segment findings.
 - (1). Diabetic eye disease
 - (2). Retinal tear or detachment
- B. Macula presentation
 - 1). Macula edema
 - a. Following cataract surgery.
 - b. Associated with diabetes.
 - c. Associated with macular degeneration.
 - 2). Macula tissue disruption due to forces of blunt trauma
 - 3). Progression of macular degeneration
 - a. Case of progression of macular degeneration to exudative state
- C. Vascular occlusive events
 - 1). Retinal vein occlusion
 - a. Awareness of associated systemic disease and underlying cause(s)
 - 2). Retinal artery occlusion
 - a. Awareness of current standards of acute ophthalmic and systemic care
- D. Retina disorders
 - 1). Retina hole, tears, detachments
 - a. Isolation of location
 - b. Is the macula involved?
 - c. Determination of urgency of management

7. Management plan

- A. Timeline for reassessment
 - 1). We rarely get in trouble for the wrong diagnosis, we get in trouble for not reassessing our Recommendations for treatment.

- 2). Timeline for reassessment
- 3). When do we refer for specialty care?