Headache Assessment In Primary Eye Care

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Course Objectives

• Review headache classification

• Understand signs and symptoms that are suggestive of a serious disorder

• Discuss headaches that have a visual or ocular manifestation, and headaches that have a visual or ocular etiology

Classification

• Primary
  – Tension headache
  – Migraine
    • Migraine without aura (common migraine)
    • Migraine with aura (classical migraine)
    • Typical (visual) aura without headache (acephalgic migraine or migraine sine migraine)
  – Cluster headache

• Secondary – caused by an underlying disease or disorder
Tension Headache

• Signs and symptoms of a tension headache include:
  – Dull, aching head pain
  – Sensation of tightness or pressure across your forehead or on the sides and back of your head
  – Tenderness on your scalp, neck and shoulder muscles

Migraine Symptoms

• Typically unilateral (although it may occur behind both eyes or across the entire front of the head), throbbing or boring head pain accompanied at times by nausea, vomiting, mood changes, fatigue, or photophobia.

• An aura with visual disturbances, including flashing (zig-zagging) lights, blurred vision, or a visual field defect lasting 15 to 50 minutes, may precede the migraine.

• May experience temporary or permanent neurologic deficits, such as paralysis, numbness, tingling, or others.
Migraine Etiology

- Although much about the cause of migraines isn't understood, genetics and environmental factors appear to play a role.
- Migraines may be caused by changes in the brainstem and its interactions with the trigeminal nerve, a major pain pathway.
- Imbalances in brain chemicals — including serotonin, which helps regulate pain in the nervous system — also may be involved. Researchers continue to study the role of serotonin in migraines.
- Serotonin levels drop during migraine attacks. This may cause your trigeminal system to release substances called neuropeptides, which travel to your brain's outer covering (meninges). The result is headache pain.

Migraine

- A family history is common.
- Motion sickness or cyclic vomiting as a child are also common.
- Migraine in children may be seen as recurrent abdominal pain and malaise. Of these patients, 60% to 70% are girls.

Migraine

- Most unilateral migraine headaches at some point change sides of the head. Headaches always on the same side of the head may have another cause of headache (e.g., intracranial structural lesions).
- Determine if headache precedes visual symptoms, which is more common with arteriovenous malformations, mass lesions with cerebral edema, or seizure foci.
**Associations or Precipitating Factors**

- Birth control or other hormonal pills, puberty, pregnancy, or menopause
- Foods containing tyramine or phenylalanine (e.g., aged cheeses, wines, chocolate, cashew nuts), nitrates or nitrites, monosodium glutamate, alcohol
- Fatigue, emotional stress, or bright lights

**Common Migraine**

- No aura. Lasts 4 to 72 hrs. Unilateral location, pulsating quality, moderate to severe pain, and/or aggravation by physical activity. Nausea, vomiting, photophobia, and phonophobia.

**Classic Migraine**

- Migraine with typical aura. Fully reversible visual symptoms (e.g., flickering lights, spots, lines, loss of vision) or fully reversible unilateral sensory symptoms (e.g., numbness, “pins and needles”).
- Symptoms gradually develop >5 minutes. Each symptoms >5 and <60 minutes. No motor symptoms are present.
Acephalgic Migraine

- Typical aura without headache. Visual or sensory symptoms as above without the accompanying or subsequent headache.

Common Migraine 80%
Classic Migraine 10%
Other forms 10%

Classification

- Other types of migraines
  - Familial hemiplegic migraine
  - Retinal migraine
  - Basilar-type migraine
Familial Hemiplegic and Sporadic Hemiplegic Migraine

- Migraine with aura as above with accompanying motor weakness with (familial) or without (sporadic) history in a first- or second-degree relative. Sporadic cases always require neuroimaging.

Retinal Migraine

- Fully reversible monocular visual phenomenon (e.g., scintillations, scotoma, blindness) accompanied by headache fulfilling migraine definition.

Basilar-type Migraine

- Aura symptoms mimic vertebrobasilar artery insufficiency in a patient with migraine.

- Symptoms of vertebrobasilar artery insufficiency include transient, bilateral blurred vision, usually lasting a few seconds, ataxia, dysphasia, vertigo, and history of drop attacks.
Cluster Headache

- Typically unilateral, very painful (stabbing), periorbital, frontal, or temporal headache.

- Associated with ipsilateral tearing, rhinorrhea, sweating, nasal stuffiness, and/or a droopy eyelid.

- Usually lasts for minutes to hours. Typically recurs once or twice daily for several weeks, followed by a headache-free interval of months to years (i.e., it comes in clusters). The cycle may repeat.

Cluster Headache

- Predominantly affects men. Headache awakens patients, whereas migraine does not.

- Ipsilateral conjunctival injection, facial flush, or Horner syndrome (third-order neuron etiology) may be present. Ptosis may become permanent.

- Alcohol and nitroglycerine may be precipitating factors.

Critical Headache Signs and Symptoms

- Scalp tenderness
- Optic nerve edema
- Fever
- Altered mental status or behavior
- Neck stiffness
- Decreased acuity
- Neurological signs (motor, sensory, cognitive)
- Preretinal hemorrhage
Serious Headache Signs and Symptoms

- New onset
- Change in severity
- Always same location
- Awakens person from sleep
- Headache that no longer responds to formerly effective pain medicine
- Nausea and vomiting
- Visual symptoms after headache (AV malformation, mass lesions with cerebral edema, seizure foci)

Workup of a Headache Patient

- History
- Examination with focus on
  - Motility
  - Pupils
  - Tonometry
  - Ophthalmoscopy
- Blood Pressure
- Temperature
- Visual Field

Doctor, are my eyes causing my headaches?
Headaches with an Ocular Etiology

- Binocular vision disorder (i.e. convergence insufficiency)
- Angle closure glaucoma
- Accomodative spasm
- Elevated IOP

HAs that are Vision Threatening and/or have Ocular Manifestations

- Migraine (aura, photophobia)
- Pseudotumor Cerebri
- Malignant Hypertension
- Giant Cell Arteritis
- Ocular Ischemic Syndrome
- CNS infection (photophobia)
- Herpes Zoster