

HEADACHES

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OBJECTIVES: Upon completion of this presentation each participant should be able to:

1. Describe strategies employed to the complaint of headache.
2. Discuss etiology, diagnosis, and differential diagnoses of headaches.
3. Discuss the management of common headaches experienced by women.

CONTENT:

I. Primary Headaches and Secondary Headaches

1. Primary Headaches

1. Not directly related to underlying pathology
2. Three major types (migraine, stress, cluster) over 90% of headaches

2. Secondary Headaches

1. Identifiable structural or physiological pathology
2. Categories
 - a. Cerebrovascular lesions – hemorrhage, infarctions, aneurysms
 - b. Meningeal irritation – meningitis, encephalitis
 - c. Intracranial pressure changes – neoplasms, cerebral edema, post lumbar puncture
 - d. Facial/cervical – sinusitis, temporal arteritis, narrow angle glaucoma
 - e. Systemic – infection, hypertension, toxin induced
 - f. Traumatic – concussion, hematoma

II. Assessment of Headaches

1. History

1. Age of onset
2. Duration of complaint
3. Frequency and duration of headache episodes
4. Location and if pain is lateral
5. Quality and severity of pain
6. Time of onset during day
7. Associated phenomena
8. Aggravating and relieving factors

2. Physical Examination

1. Blood pressure and temperature
2. Head and neck examination
 - a. Bruits over eyes, carotid, or vertebral arteries
 - b. Palpation for painful areas, rigidity, masses, or trauma
3. Eye examination
4. Nose, mouth, and dentition
5. Neurological examination
 - a. Cranial nerves
 - b. Gait, DTRs, meningeal signs, Romberg
 - c. Muscle strength
6. Mental status assessment

3. Laboratory or Diagnostic Tests

1. Majority – careful history will differentiate between primary and secondary headaches determining the need for further investigation
2. Consider following if exam and history indicate
 - a. CBC and SED rate
 - b. Lumbar puncture
 - c. CT or MRI

III. Migraine Headaches

1. Etiology

1. Multitude of biochemical and neurological changes (prostaglandins, estrogen, serotonin, dopamine, norepinephrine) may play a role
2. Most common theory is initial blood vessel constriction, followed by dilation with perivascular edema

2. Symptoms

1. 5-10% of adults, 4 times more common in women
2. Often begin in adolescence
3. Positive family history
4. May change with pregnancy
5. May begin or terminate with menopause
6. May change with OCP or HRT use
7. May be associated with menses
8. May occur any time during the day
9. Precipitating factors:
 - a. Missed meals
 - b. Letdown after stressful events

- c. Foods containing nitrites, MSG, or tyramine
- d. Caffeine withdrawal
- e. Too little or too much sleep

3. **Physical Examination**

- 1. Appearance of discomfort
- 2. Normal neurological assessment

4. **Laboratory or Diagnostic Tests**

- 1. Generally not indicated
- 2. Rule out other causes of headache

5. **Treatment/Management**

- 1. Relaxation techniques and biofeedback
- 2. Rest in dark, quiet room
- 3. NSAIDS for mild symptoms
- 4. Moderate symptoms
 - a. Ergotamine preparations (Cafergot, DHE 45, Wigraine, Migranal)
 - 1) Available po, suppository, IM, and IV
 - 2) Most effective if given during prodrome
 - 3) Caffeine may quicken action
 - 4) Contraindications (CAD, HTN, impaired liver functions, pregnancy, breastfeeding)
 - 5) Do not relieve nausea
 - b. Serotonin analogue agonists (sumatriptan (Imitrex), zolmitriptan)
 - 1) Subcutaneous, oral, or nasal spray
 - 2) May also relieve nausea

- 3) Adverse reactions usually mild
- 4) Contraindications (CAD, HTN, asthma, ergotamine within the last 24 hours, category C in pregnancy)
 - c. Opioids (meperidine, codeine)
5. Preventive therapy
 - a. Beta-adrenergic blocking agents (Inderal, Blocadren)
 - b. Tricyclic antidepressants (Sinequan, Elavil)
 - c. Other (Sansert, Depakote)
 - d. Avoid trigger factors and long periods of sleep
 - e. Regular exercise, stress management, adequate sleep
6. Treatment during pregnancy
 - a. Avoid trigger factors
 - b. Use nonpharmacological treatment if possible
 - c. Inderal or tricyclic antidepressants might be used for prevention
 - d. Ergot preparations are contraindicated
 - e. NSAIDS – use with caution in third trimester
7. Migraine with oral contraceptive use
 - a. Avoid OCP in women with migraines with aura
 - b. Migraine without aura – monitor headaches with OC use

IV. Stress (Muscle Contraction) Headaches

1. Etiology

1. Usually begin in early adulthood
2. Contraction of muscles around head and neck

3. Associated with stress, anxiety, depression, and compulsive grinding of teeth

2. Symptoms

1. Suboccipital or bifrontal location “feels like a tight hat”
2. May last hours to days
3. Commonly occur in afternoon or evening
4. Band-like, constricting, dull pressure, does not throb
5. Tenderness of neck, shoulder, and scalp
6. Associated with fibromyalgia or depression

3. Treatment/Management

1. Non-pharmacologic
 - a. Massage and heat
 - b. Relaxation techniques
 - c. Biofeedback
2. Pharmacologic
 - a. Abortive therapy
 - b. NSAIDS, Acetaminophen, Midrin
 - c. Barbiturate containing analgesics may be used with acute episode
3. Preventive therapy
 - a. Tricyclic antidepressants for frequent, debilitating headaches
 - b. Stress management techniques

V. Cluster Headaches

1. Etiology

1. Vascular type of headache
2. Occurs more often in men
3. Onset in early to middle adulthood
4. Occur in clusters lasting several weeks
5. May reoccur in a few months or a year
6. Often at the same time each year

2. Symptoms

1. Pain around eyes, temples, neck, and face
2. May extend to shoulder
3. Commonly in evening within 2 hours of sleeping
4. Intense, non-throbbing, sharp, boring, stabbing
5. May have profuse watering of conjunctiva, runny nose, perspiration, flushing of face
6. May experience prodrome (personality change, sleep disturbance)
7. Precipitating factors include alcohol, cheese, vasodilating drugs, or histamines

VI. Secondary Headaches

1. Hemorrhage (Subarachnoid, Cerebral, Cerebellar)

1. Classic presentation – sudden severe headache, may be followed by collapse
2. Usually in a single attack with maximum intensity in minutes
3. Onset may occur after exertion, straining, coughing

2. Meningeal Irritation (Meningitis, Encephalitis)

1. Severe, progressive, diffuse or occipital headache
2. Rapid or gradual onset over several hours or days
3. Fever
4. Neck stiffness
5. Elevated WBC count
6. Impaired consciousness

3. Intracranial Pressure Changes (Neoplasm, Cerebral Edema)

1. Gradual onset
2. Diffuse or localized, constant, dull headache
3. Worsens over time
4. Pain often worse in morning
5. Aggravated by coughing or bending
6. Nausea and/or projectile vomiting
7. Subtle personality changes
8. Drowsiness or seizure activity may occur
9. Look for subtle neurological changes

4. Acute Bacterial Sinusitis

1. Severe headache present for hours or days
2. Localized in frontal or vertex regions, with tenderness over sinus
3. May be febrile

4. May appear very ill
5. May spread to intracranial structures without treatment

5. **Chronic Sinusitis**

1. May occur regularly on awakening or in midmorning
2. Worsened by stooping, bending, and changes in atmospheric pressure

6. **Temporal Arteritis**

1. Primarily affects people over 60
2. More common in women
3. Pain tends to be focal at the temporal artery or behind the eye
4. Low grade fever, pain in proximal joints, general malaise, fatigue
5. Elevated SED rate
6. Visual loss occurs in approximately 50% - can occur in 12-24 hours

7. **Hypertensive Headache**

1. Diastolic pressure greater than 120 mm Hg
2. Occur upon awakening and improves throughout day
3. May be improved with upright position
4. Diastolic pressure >130 (hypertensive crisis) – very severe headache
5. Must differentiate between headache caused by HTN and HTN resulting from headache caused by another pathology

VII. Headaches that Necessitate Referral or Consultation

1. Most severe headache
2. Onset with exertion
3. Cognition or alertness impaired
4. Neck not supple
5. Neurological abnormality
6. Vomiting without nausea
7. New onset, unilateral (over 35 years old)
8. Worsening without improvement

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