Headache Assessment and Management

Headache is a prevalent physical ailment that can stem from various conditions or concerns. It can be classified into two groups: primary headache disorder and secondary type headaches. Primary headaches are not caused by an underlying medical condition and are the most common type of headache, representing nearly 98% of headaches (Ahmed, 2012). Secondary headaches are caused by an underlying medical condition, and although they are less common, it is important not to miss the diagnosis.

Common Causes of Headache

Primary Headache Types

- Migraine: episodic, typically unilateral, throbbing, or pulsating pain, often associated with nausea, vomiting, phonophobia, and photophobia. An aura may be present.
- Tension: typically bilateral, mild to moderate intensity, and non-throbbing without nausea, vomiting, light or sound sensitivity. May include pain in the neck and jaw.
- Trigeminal autonomic cephalgias
    - Cluster headache: unilateral, typically severe, with ipsilateral symptoms that may include lacrimation, rhinorrhea or nasal congestion, ptosis, and miosis.
    - Other headache disorders (exertional, cough, cold stimulus, etc.)

Secondary Headache

- Related to trauma (head or neck trauma, skull fracture, etc.)
- Related to vascular issues such as cerebrovascular disease or intracranial vessel disorders
- Related to a mass or abnormal pressure in cranium (brain tumor, pseudotumor cerebri, Chiari malformation, etc.)
- Related to infection
- Medication overuse headache
- Giant Cell Arteritis (GCA)

Diagnosis

Patient History

- **Symptom description - ask the patient to describe the following:**
    - Type of pain: pressure or tightness, pulsating, deep, explosive
    - Timing of the headache
    - Location of the pain
        - Unilateral (common in migraine and cluster headache)
        - Bilateral (more common in tension headache, but can occur in migraine)
    - Duration of symptoms

- Are there associated factors such as nausea, vomiting, phonophobia, photophobia, aura, visual changes, lacrimation, stuffy nose, or worsens with activity?
- What methods does the patient use to alleviate the pain?
- Ask the patient about alarm symptoms (Red Flags)
    - Thunderclap headache
    - Patients over age 50 with a new type of headache, consider GCA
    - Headache that progressively worsens
    - Motor weakness or neurological deficits
    - Signs of meningeal irritation/inflammation
    - Positional headache or worsens with exercise, sneezing, or coughing
    - Papilledema in the presence of a focal neuro abnormality
    - Systemic symptoms, including fever
    - Patient with cancer or HIV infection with a new headache

Physical Examination

- Vital Signs: include blood pressure, heart rate, and temperature
- Mental status
- HEENT: complete exam including fundoscopic exam to assess for papilledema, check for temporal bruits
- Jaw exam
- Neck: check for meningeal irritation, carotid bruits
- Musculoskeletal: check upper and lower extremity strength, reflexes, and sensation
- Neurological exam: Cranial nerves 2-12, coordination with Romberg, pronator drift, walking on heels and toes, getting up from a seated position without using hands, tandem gait

Diagnostic Tests

Imaging:

- If urgent, then CT scan is usually the most readily available test and can assess for masses or hemorrhage.
- If concerned for subarachnoid hemorrhage an additional step of lumbar puncture should be performed if CT scan is negative.
- If worrisome but not urgent, then an MRI can give a more detailed evaluation and is preferred.

Labs

Not typically necessary

Reassuring findings:

- Age less than 50 years old
- History of similar headaches in the past
- Normal neurological exam
- No risky medical history (e.g., cancer, HIV)
- Unchanged physical exam

Headache Types			
Type	**Characteristics**	**Pharmacologic Treatment**	**Nonpharmacologic Treatment**
Tension	• Non-pulsatile • Does not worsen with activity • Mild to moderate pain	• NSAID • Aspirin • Acetaminophen	• Behavioral therapy such as biofeedback and relaxation therapy, cognitive behavioral therapy
Migraine	• Moderate-severe pain • Pulsating • On-going for 4-72 hours • Unilateral • Nausea and/or vomiting • Disabling, worsens with activity • Sensitivity to light or sound	• NSAIDs, acetaminophen, combination of OTC analgesic with caffeine. • Antiemetics: in combination with analgesics (or alone if IV/IM preparation) • Medications specific to migraine, including triptans or newer agents such as calcitonin gene-related peptide (CGRP) antagonists or Lasmiditan	• Cephalic and cranial nerve stimulation (neuromodulation) • Peripheral nerve blocks
Cluster	• Severe stabbing sharp pain • Short duration • Unilateral • Autonomic symptoms such a	• Oxygen • Triptans if oxygen not available • Alternative agents: ergotamine, nasal	• Avoid or minimize alcohol intake. • Develop healthy sleep habits such as maintaining a consistent schedule

	rhinorrhea, eye tearing, miosis, eyelid edema, nasal congestion	lidocaine, IV dihydroergotamine	and ensuring 7 to 8 hours of sleep each night.

Patient Education

Regular meals, good sleep hygiene, regular exercise, and stress management can assist in lowering the frequency of headaches.

Conclusion

Headache is a common reason for patients to present for evaluation. Most headaches are due to benign reasons and do not require imaging or Emergency Room evaluation. While tension-type is the most common headache, migraine is often the most debilitating, and therefore, patients are more likely to present for evaluation. There are important red flags in the history and physical examination that should not be missed, as they may indicate a secondary cause of headache. Distinguishing the type of headache can help guide treatment plans.

References

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