Approach to patient with chief complaint of headache in family medicine clinic

Attending physician: Dr. Shafiee

Presented by: Mohammadreza Sedighi

Case

- A 45 year-old woman with treatment-resistant migraine.

Headache

- Primary:
1. Migraine
2. Tension-type
3. TAC
4. Other types
- Secondary

Evaluation

- History and examination
- Need for emergency consult
- Imaging
- LP

History and examination

- History: age, prior headaches, pattern, aura, monthly headache days, quality, location, associated symptoms, precipitating, food, vision, family history, medication, lifestyle and stress, menstrual cycle for women

- Examination: BP, pulse, muscles of head, neck and shoulder, mental status, cranial nerve, fundoscopy, reflex, gait

History

- Age at onset: she experienced headaches first at her childhood and first migraine episode when she was 22
- No changes in headaches pattern except for its frequency after becoming 34
- NO Aura but she experienced yawing in prodromal phase.
- Monthly headache days: 11-15 days
- Quality: Throbbing headache that sometimes radiate to neck.
- Location: alternating one sided headache generally in forehead.
- Associated symptoms: photophobia and phonophobia with nausea.
- Ependymoma surgery at 30
- Intensity: 8-10
- Family history: migraine in mother and sister

Examination

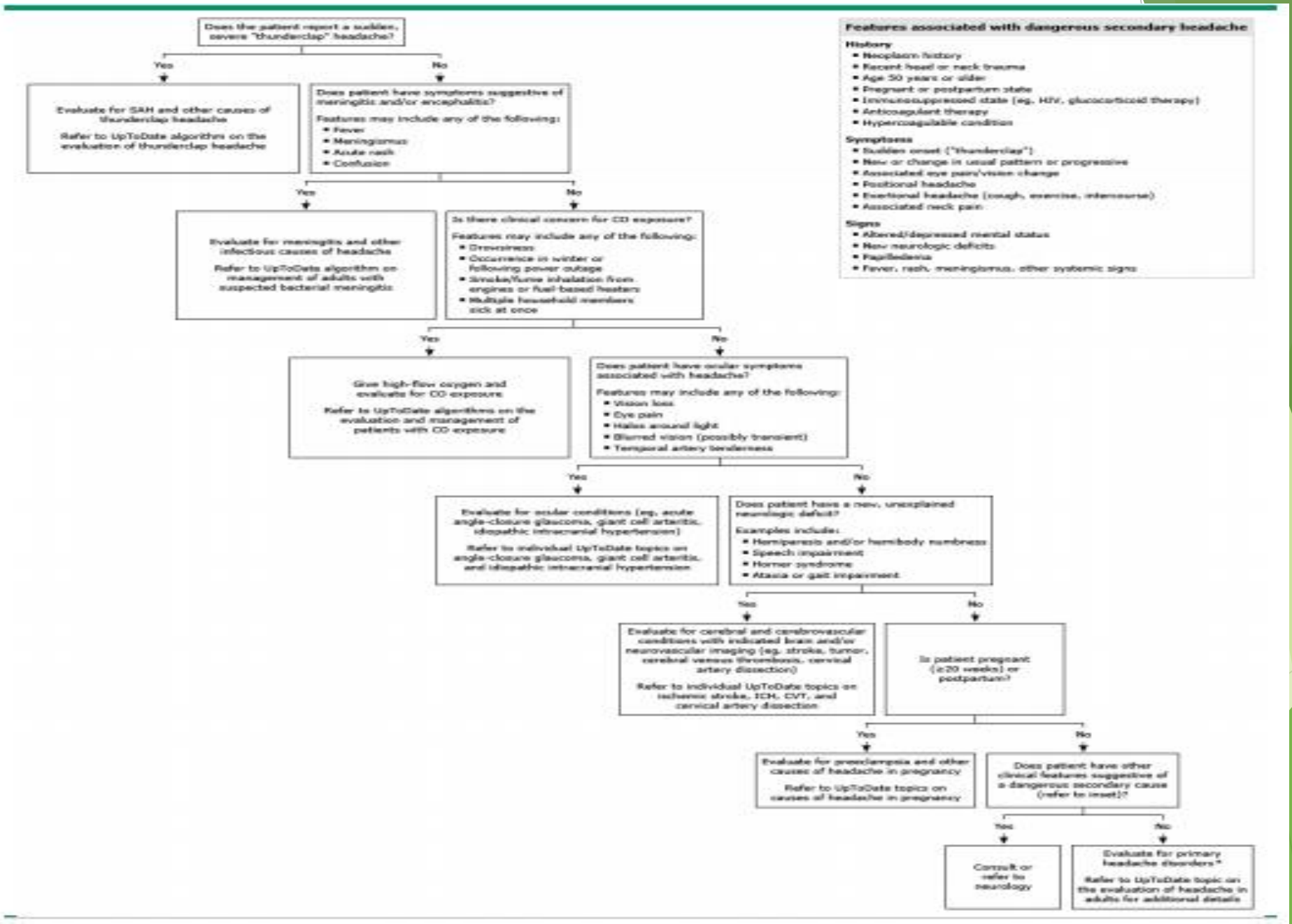
- BP= 120/70 PR=51
- Normal neurologic examination
- No bruits
- No abnormal finding were detected

Characteristics of migraine, tension-type, and cluster headache syndromes

Symptom	Migraine	Tension-type	Cluster
Location	Adults: Unilateral in 60 to 70%, bifrontal or global in 30% Children and adolescents: Bilateral in majority	Bilateral	Always unilateral, usually begins around the eye or temple
Characteristics	Gradual in onset, crescendo pattern; pulsating; moderate or severe intensity; aggravated by routine physical activity	Pressure or tightness which waxes and wanes	Pain begins quickly, reaches a crescendo within minutes; pain is deep, continuous, excruciating, and explosive in quality
Patient appearance	Patient prefers to rest in a dark, quiet room	Patient may remain active or may need to rest	Patient remains active
Duration	4 to 72 hours	30 minutes to 7 days	15 minutes to 3 hours
Associated symptoms	Nausea, vomiting, photophobia, phonophobia; may have aura (usually visual, but can involve other senses or cause speech or motor deficits)	None	Ipsilateral lacrimation and redness of the eye; stuffy nose; rhinorrhea; pallor; sweating; Horner syndrome; restlessness or agitation; focal neurologic symptoms rare; sensitivity to alcohol

PIN

- Photophobia
- Incapacity
- Nausea


Does the patient report a sudden, severe "thunderclap" headache?
Yes
No
Evaluate for SAH and other causes of thunderclap headache
Refer to UpToDate algorithm on the evaluation of thunderclap headache
Does patient have symptoms suggestive of meningitis and/or encephalitis?
Features may include any of the following:
• Fever
• Meningismus
• Acute rash
• Confusion
Yes
No
Evaluate for meningitis and other infectious causes of headache
Refer to UpToDate algorithm on management of adults with suspected bacterial meningitis
Is there clinical concern for CO exposure?
Features may include any of the following:
• Drowsiness
• Occurrence in winter or following power outage
• Smoke/fume inhalation from engines or fuel-based heaters
• Multiple household members sick at once
Yes
No
Give high-flow oxygen and evaluate for CO exposure
Refer to UpToDate algorithms on the evaluation and management of patients with CO exposure
Does patient have ocular symptoms associated with headache?
Features may include any of the following:
• Vision loss
• Eye pain
• Halos around light
• Blurred vision (possibly transient)
• Temporal artery tenderness
Yes
No
Evaluate for ocular conditions (eg, acute angle-closure glaucoma, giant cell arteritis, idiopathic intracranial hypertension)
Refer to individual UpToDate topics on angle-closure glaucoma, giant cell arteritis, and idiopathic intracranial hypertension
Does patient have a new, unexplained neurologic deficit?
Examples include:
• Hemiparesis and/or hemibody numbness
• Speech impairment
• Horner syndrome
• Ataxia or gait impairment
Yes
No
Evaluate for cerebral and cerebrovascular conditions with indicated brain and/or neurovascular imaging (eg, stroke, tumor, cerebral venous thrombosis, cervical artery dissection)
Refer to individual UpToDate topics on ischemic stroke, ICH, CVT, and cervical artery dissection
Is patient pregnant (≥20 weeks) or postpartum?
Yes
No
Evaluate for preeclampsia and other causes of headache in pregnancy
Refer to UpToDate topics on causes of headache in pregnancy
Does patient have other clinical features suggestive of a dangerous secondary cause (refer to inset)?
Yes
No
Consult or refer to neurology
Evaluate for primary headache disorders*
Refer to UpToDate topic on the evaluation of headache in adults for additional details
Features associated with dangerous secondary headache
History
• Neoplasm history
• Recent head or neck trauma
• Age 50 years or older
• Pregnant or postpartum state
• Immunosuppressed state (eg, HIV, glucocorticoid therapy)
• Anticoagulant therapy
• Hypercoagulable condition
Symptoms
• Sudden onset ("thunderclap")
• New or change in usual pattern or progressive
• Associated eye pain/vision change
• Positional headache
• Exertional headache (cough, exercise, intercourse)
• Associated neck pain
Signs
• Altered/depressed mental status
• New neurologic deficits
• Papilledema
• Fever, rash, meningismus, other systemic signs

Emergent evaluation

- Thunderclap
- Acute neck pain with headache and FND
- Headache with eye pain
- Meningitis / encephalitis
- Papilledema

Imaging

- Danger sign
- Atypical forms
- Reassurance
- Incidental findings

Danger signs

- Systemic symptoms
- Neoplasm
- Neurologic deficit
- Sudden onset
- Older age
- Positional
- Progressive
- Pregnancy
- Precipitated by sneezing, coughing, exercise
- Post traumatic
- Painful Eye
- Immunosuppress
- Painkiller overuse

LP

- SAH
- Infection
- Inflammation
- Neoplasm

Clinical scenarios

- New onset: 1- elderly 2- Cancer 3- Febrile
- Older patient: 1- GCA 2- Trigeminal neuralgia 3- Chronic subdural 4- Herpes zoster 5- Tumor6- Hypnic headache
- Pregnant
- Oromaxillofacial

Diagnosis

- Chronic migraine based on having more than 15 headache days in at least 3 of the last 12 months based on ICHD-3.

Diagnostic criteria for migraine*

Migraine without aura
1. At least five attacks fulfilling criteria B through D
2. Headache attacks lasting 4 to 72 hours (untreated or unsuccessfully treated)
3. Headache has at least two of the following characteristics:
Unilateral location
Pulsating quality
Moderate or severe pain intensity
Aggravation by or causing avoidance of routine physical activity (eg, walking or climbing stairs)
4. During headache at least one of the following:
Nausea, vomiting, or both
Photophobia and phonophobia
5. Not better accounted for by another ICHD-3 diagnosis

Treatment

- The patient was given Nortriptyline 50, and verapamil 40, TDS, since she had tried metoprolol as preventive treatment previously. The MHD, AD, and AS were respectively 6.5 ± 2.1 days, 8.9 ± 1.5 h, and 8.5 ± 0.7 after two months of this treatment.
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- Despite this satisfactory improvement, Nortriptyline was switched to Topiramat 25 mg BiD, because of the side effect of constipation. She also switched her acute medication from sumatriptan 25 mg tablet to Rizatriptan 10 mg. This treatment was used for 6 months without any side effects. During this period of treatment, MHD was 7.4 ± 1.5 days, AD was 6.7 ± 1.8 h, and AS was 6.8 ± 1.2. All three parameters showed a statistically significant improvement compared to the baseline

Misconception

- Sinus Headache
- Refractive eye error
- Hypertension

Prevention levels

Primordial Prevention

Primary Prevention

Secondary Prevention

Tertiary Prevention

Quaternary Prevention

Primordial Prevention

- Maintain a routine bedtime and wake up time
- Eat regular and routine meals daily.
- Perform moderate-intensity aerobic exercise daily.

Primary Prevention

- Maintain a routine bedtime and wake up time
- Eat regular and routine meals daily.
- Perform moderate-intensity aerobic exercise daily.
- Hypertension treatment

Secondary and tertiary Prevention

- Maintenance therapy

Quaternary Prevention

- Avoid unnecessary interventions.

Thank you for your attention