Educational Objectives

At the conclusion of this activity, participants should be able to demonstrate the ability to:

- Describe current diagnostic criteria for diagnosing headache and migraine
- Apply patient education protocols to teach migraine patients about the prevention and management of migraine disorders, especially regarding the need for compliance with pharmacologic and non-pharmacologic approaches
- Explain the currently approved therapeutic options for migraine, and formulate individual management plans for treating migraine by combining pharmacologic and non-pharmacologic approaches

An Old Problem

- Trepanation to relieve headache carried out since 7,000 years BC
- 20-cm long stone chisel used to penetrate skull to relieve pain; some have had multiple procedures done
- Hippocrates wrote specific instructions regarding methods to performing trepanation for headache


Burden of Disease: A Seven Class Disability Rating System

<table>
<thead>
<tr>
<th>Disability Class</th>
<th>Severity Weight</th>
<th>Indicator conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.00-0.02</td>
<td>Viriligo of face, weight for height less than 2 SDs</td>
</tr>
<tr>
<td>2</td>
<td>0.02-0.12</td>
<td>Watery diarrhea, severe sore throat, severe anemia</td>
</tr>
<tr>
<td>3</td>
<td>0.12-0.24</td>
<td>Radius fracture in a stiff cast, infertility, erectile dysfunction, rheumatoid arthritis, angina</td>
</tr>
<tr>
<td>4</td>
<td>0.24-0.36</td>
<td>Below-the-knee amputation, deafness</td>
</tr>
<tr>
<td>5</td>
<td>0.36-0.50</td>
<td>Rectovaginal fistula, mild mental retardation, Down syndrome</td>
</tr>
<tr>
<td>6</td>
<td>0.50-0.70</td>
<td>Unipolar major depression, blindness, paraplegia</td>
</tr>
<tr>
<td>7</td>
<td>0.70-1.00</td>
<td>Active psychosis, dementia, severe migraine, quadriplegia</td>
</tr>
</tbody>
</table>

Migraines in Primary Care: Why We Should Care?

- Migraine is:
  - An indication of a patient population at high risk for decades of medical need
  - A potentially chronic disease associated with high disability
    - 4th leading cause of disability in women worldwide
    - 14% transform to chronic annually

Sara, a 31-year-old Mother

- Asks for help with her sinus headaches. She has been getting them for several years but they are occurring almost daily now
- Predominantly frontal and maxillary in location; not throbbing
- Takes acetaminophen almost daily, along with pseudoephedrine preparations and occasional loratadine when she has watery eyes and nasal congestion

Headache Screening: Traditional History Method

- **Timing/Frequency**
  - First onset/duration/time of day/relationship to menses
- **Exacerbating factors/triggers**
  - Activity, cough, neck position, foods, alcohol, sleep, etc
- **Location**
  - Variable, fixed site, hemicranial
- **Intensity**
  - Severity, disability
- **Nature**
  - Pulsatile, “ice pick,” steadily increasing

Diagnosis and Treatment of Headache. Bloomington, MN: Institute for Clinical Systems Improvement (ICSI); 2009.

Headache Screening: Standard Examination

- Observe the patient walking
- Assess symmetry of CN, motor, sensory, coordination, DTRs
- Observe patient’s body language (eye contact, mood)
- Palpate head, arteries, trigger points
- Examine neck for stiffness and ROM
- Perform fundoscopic exam
- Examine oral cavity/TMJ

Indications for Diagnostic Testing: Red Flags and SSNOOP

- Systemic symptoms: fever, weight loss
- Secondary risk factors: HIV, cancer
- Neurologic symptoms or signs
- Onset: new, sudden, abrupt, or split-second
- Older: especially >40 years
- Pattern change
- Progressive HA with loss of HA-free

Diagnostic testing indicated if any red flags are present

Green Flags and Comfort Signs

- Stable pattern >6 months
- Long-standing HA history
- Family history of similar HA
- Normal exams
- Consistently triggered by
  - Hormonal cycle
  - Specific sensory input
  - Weather changes

Diagnostic testing not indicated if only green flags present

CT or MRI? With or without contrast?

- Yield minimal without neurologic signs: <1% identify cause for HA
- MRI greater detail, more false positives
- MRI for posterior fossa disease
- MRI + MRA for suspected aneurysm/other vascular lesions
- CT without contrast to R/O subarachnoid hemorrhage
- Weigh radiation exposure with CT, renal contrast concerns with CT and MRI vs potential yield of study

Choosing Wisely: Don’t perform neuroimaging studies in patients with stable headaches that meet criteria for migraine

Diagnosis and Treatment of Headache. Bloomington, MN: Institute for Clinical Systems Improvement (ICSI); 2009.
Tools for Successful Migraine Management

Sinus Headache = Migraine With Sinus Symptoms

**Summit**
Self-Diagnosis Sinus Study
- 2,971 with self-diagnosed recurrent sinus headache

**SAMS**
Sinus Allergy & Migraine Study
- 100 with self-diagnosed recurrent sinus headache

86%-88% with self-diagnosis of sinus headache actually have ICHD* migraine or probable migraine headache

*International Conference Headache Disorders/International Headache Classification from International Headache Society (ICS)*


**Criteria for True “Sinus” Headache**

- Major factors:
  - Purulence in nasal cavity on exam
  - Facial pain/presence/congestion
  - Nasal obstruction/blockage/discharge
  - Fever (in acute only)
  - Hyposmia/anosmia

- Minor factors:
  - Headache
  - Fever
  - Halitosis
  - Fatigue
  - Dental pain
  - Cough
  - Ear pain/presence/fullness


**Migraine – The Most Common Headache Seen in Clinical Practice**

- Prevalence of all HAs that prompt patients to see their PCP
- IHS diagnosis based on diary review

**Acute Migraine**

**Migraine Recognition by ICHD Criteria**

<table>
<thead>
<tr>
<th>Migraine without Aura (1.1)</th>
<th>Migraine with Aura (1.2.1-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 5 attacks with:</td>
<td>At least 2 attacks with:</td>
</tr>
<tr>
<td>Unilateral</td>
<td>Unilateral</td>
</tr>
<tr>
<td>Pulsating</td>
<td>Pulsating</td>
</tr>
<tr>
<td>Moderate to severe pain</td>
<td>Moderate to severe pain</td>
</tr>
<tr>
<td>Aggravated by or avoidance</td>
<td>Aggravated by or avoidance</td>
</tr>
<tr>
<td>of routine physical activity</td>
<td>of routine physical activity</td>
</tr>
<tr>
<td>At least 1 of the following</td>
<td>At least 1 of the following</td>
</tr>
<tr>
<td>Nausea and/or vomiting</td>
<td>Nausea and/or vomiting</td>
</tr>
<tr>
<td>Photo and phonophobia</td>
<td>Photo and phonophobia</td>
</tr>
<tr>
<td>No organic disease</td>
<td>No organic disease</td>
</tr>
</tbody>
</table>
|                             | At least 1 fully reversible symptom (without aura)
|                             | Visual and/or -             |
|                             | Sensory and/or -            |
|                             | Dysesthetic and/or -        |
|                             | Dysphasic speech            |
|                             | At least 2 of the following |
|                             | At least one aura symptom   |
|                             | develops gradually over >5 min |
|                             | or different symptoms occur |
|                             | in succession over >5 min   |
|                             | Each symptom lasts >5 and   |
|                             | <60 min                     |
|                             | 1.1 begins with aura or in <60 min |
|                             | No organic disease          |

Tools for Successful Migraine Management

Digitally Altered Photographs Taken by a Patient of Her Visual Auras

Understanding the Patient with Migraine

Early Diagnosis

- The most important tool to prevent chronic migraine is effective control of episodic migraine
  - Early diagnosis
  - Meaningful education
  - Effective acute treatment
  - Regularly scheduled follow-up visits

Migraine-associated Nausea

- Nausea is the single most important symptom identifier for migraine
  - Validated in community-based, college student, neurology clinic and headache clinic
  - Overall sensitivity: 81%
  - Overall specificity: 83%

Closing the HA Diagnosis Gap

**ID Migraine™ – A Validated Screener**

Choose Yes or No
- When you have a HA, do you feel nauseated or sick to your stomach?
- When you have a HA, does light bother you (a lot more than when you don’t have a HA)?
- During the last 3 months, have your HAs limited your ability to work, study, or do what you needed to do?

2/3 Yes for migraine:
- Sensitivity: 0.85
- Specificity: 0.75

= Positive predictive value of 50% in primary care setting

Migraine-associated Nausea

- Nausea is the single most important symptom identifier for migraine
  - Validated in community-based, college student, neurology clinic and headache clinic
  - Overall sensitivity: 81%
  - Overall specificity: 83%

Closing the HA Diagnosis Gap: POUND Mnemonic

POUND mnemonic useful for the diagnosis of migraine:
- Pulsatile
- One-day duration (episodes lasting 4-72 hours if untreated)
- Unilateral
- Nausea/vomiting
- Disabling

The likelihood ratio (LR) for migraine by the number of POUND criteria:
- 4 of 5 criteria: LR(+) = 24
- 3 of 5 criteria: LR(+) = 3.5
- 2 or fewer criteria: LR(−) = 0.41
The MIDAS Questionnaire

1. On how many days in the last 3 months did you miss work or school because of your headache? Days
2. How many days in the last 3 months was your productivity at work or school reduced by half or more because of your headaches? (Do not include days you counted in question 1 where you missed work or school) Days
3. On how many days in the last 3 months did you not do household work because of your headaches? Days
4. How many days in the last 3 months was your productivity in household work reduced by half or more because of your headaches? (Do not include days you counted in question 1 where you did not do household work) Days
5. On how many days in the last 3 months did you miss family, social, or leisure activities because of your headaches? Days

Score: Little or no disability (0-6) → severe disability (21+)

Rethink Your Approach to Headache Complaints

Ask open-ended questions:
- “Describe your worst headache”
- “If it’s a migraine, then that’s their diagnosis”
- “Don’t think they have different HAs like sinus, tension, and migraine”
- “How do you feel between headaches?”
- “If not normal, they likely have a migraine and may also have transformed or have chronic migraine”
- Use a migraine screener, then move forward with treatment plan

Understanding the Patient with Migraine: Commonly Reported Symptoms at Various Phases of Migraine

<table>
<thead>
<tr>
<th>Prodrome</th>
<th>Aura*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatigue</td>
<td>Scotoma</td>
</tr>
<tr>
<td>Cognitive difficulty</td>
<td>Fortification spectrum</td>
</tr>
<tr>
<td>Heightened sensory awareness</td>
<td>Paresthesias:</td>
</tr>
<tr>
<td>Muscle pain</td>
<td>Weakness</td>
</tr>
<tr>
<td>Food craving</td>
<td>Vertigo</td>
</tr>
<tr>
<td>Fluid retention</td>
<td>Tinnitus</td>
</tr>
<tr>
<td>Mood changes</td>
<td>Dysthria</td>
</tr>
<tr>
<td>Anorexia</td>
<td></td>
</tr>
<tr>
<td>Nasal congestion</td>
<td></td>
</tr>
</tbody>
</table>

*Symptoms utilized by the International Headache Society’s diagnostic criteria for migraine

Understanding the Patient with Migraine: Commonly Reported Symptoms at Various Phases of Migraine (con’t)

<table>
<thead>
<tr>
<th>Mild</th>
<th>Moderate/Severe</th>
<th>Postdrome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dull headache</td>
<td>Throbbing headache*</td>
<td>Fatigue</td>
</tr>
<tr>
<td>Pressure</td>
<td>Headache aggravated by activity*</td>
<td>Anoxia</td>
</tr>
<tr>
<td>Mild sensory sensitivity</td>
<td></td>
<td>Poor concentration</td>
</tr>
<tr>
<td>Sinus congestion pressure</td>
<td></td>
<td>Muscle pain</td>
</tr>
<tr>
<td>Muscle pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anoxia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatigue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aura</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lacrimation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhinorrhea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive impairment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Symptoms utilized by the International Headache Society’s diagnostic criteria for migraine

Clinical Pearls

- Migraine patients can experience many different types of HAs from the same underlying mechanism
- Prompt treatment may restore normal neurologic function and prevent the evolution of episodic to chronic HA

Managing Acute Migraine
**Tools for Successful Migraine Management**

### Patient-centered/HCP-monitored Management of Acute Migraine: Developing, Not Discovering, Patients

- **Collaborative care dynamic**: patient and expert working as a team
  - Why collaborative care is important
  - Migraine is a chronic disease
  - Treatment needs change and evolve over time
  - Patient will ultimately determine treatment decisions
  - Consider as 2 experts in the room, working together to improve outcomes and medication adherence
  - Impacted by efficacy, drug tolerability, and side effects
  - Issues: overuse, misuse/incorrect use, co-medication with other prescriptions/over-the-counter medications, unfilled prescriptions, non-recommended switches, early discontinuation of treatment

---

### Collaborative Care Model

<table>
<thead>
<tr>
<th>Patient Expertise</th>
<th>Clinician Expert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-observation/HA diary</td>
<td>Knowledge of evidence</td>
</tr>
<tr>
<td>Treatment need</td>
<td>Knowledge of the disease</td>
</tr>
<tr>
<td>Awareness of what works</td>
<td>Effective communication</td>
</tr>
<tr>
<td>Awareness of lifestyle</td>
<td>Tools for migraine tool box</td>
</tr>
<tr>
<td>Awareness of triggers</td>
<td>Pharmacology</td>
</tr>
</tbody>
</table>

---

### Principles of Migraine Management

- Establish realistic expectations
  - ≤50% reduction with prevention
  - ≥70% relief with acute treatment

**THERE IS NO “CURE”!**

---

### Principles of Management for the Patient

- Encourage patients to participate in their care
  - Accept that some Rx side effects are inevitable
  - Optimize behavioral management
  - Acute: Treat early, ≤2 days/week or 9 days/month
  - Prevention: follow guidelines for drug/complementary/alternative treatments
  - Regular patient follow-up with dose/drug/combo changes as needed

---

### Roger, a 31-year-old CPA

- Has history of very occasional migraines since his early 20s, which he manages with a triptan
- Started new job 6 months ago, requiring him to work long hours
- Headaches have increased and now occur on most weekend days for the last few months

**What might be contributing to the increase in his headaches?**

---

### Behavioral Strategies

1. **Sleep** – 6 to 8 hours, consistent within 1 hour to bed-rise (even weekends!)
2. **Exercise** – Any better than none; aerobic >> nonaerobic
3. **Stress management** – Biofeedback/relaxation, cognitive-behavioral, time management
4. **Substance use** – Taper caffeine to maximum 1-6 oz cup – Eliminate artificial sweeteners, decongestants, smoking
5. **Eat** – Fresh, non-processed, small, frequent healthy meals/snacks
Headache Diary and Calendar

- Have patient note HA characteristics, including intensity, timing, duration, triggers, and medications used
- Consider withdrawal of all processed foods for 1-2 weeks; if HAs are better, reintroduce individual additives slowly

How Common Are Specific Triggers for Migraine and Tension-type Headache?

<table>
<thead>
<tr>
<th>Precipitant</th>
<th>Sensitivity Migraine %</th>
<th>Sensitivity Tension %</th>
<th>LR+</th>
<th>LR-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chocolate</td>
<td>33</td>
<td>5</td>
<td>7.1</td>
<td>0.29</td>
</tr>
<tr>
<td>Cheese</td>
<td>38</td>
<td>8</td>
<td>4.9</td>
<td>0.68</td>
</tr>
<tr>
<td>Stress</td>
<td>66</td>
<td>47</td>
<td>3.4</td>
<td>0.70</td>
</tr>
<tr>
<td>Alcohol</td>
<td>23</td>
<td>23</td>
<td>3.3</td>
<td>0.92</td>
</tr>
<tr>
<td>Menses</td>
<td>56</td>
<td>46</td>
<td>2.2</td>
<td>0.82</td>
</tr>
<tr>
<td>Hunger</td>
<td>62</td>
<td>54</td>
<td>1.1</td>
<td>0.83</td>
</tr>
<tr>
<td>Lack of sleep</td>
<td>31</td>
<td>38</td>
<td>0.83</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Management of Migraine with Behavioral Strategies

Evidence-based Medicine
Specific Treatment Recommendations

- All types: eg, relaxation, EMG biofeedback, cognitive behavioral therapy – may be considered as treatment options for prevention (Grade A)
- Behavioral therapy combined with preventive drug therapy achieves additional improvement (Grade B)

Abortive Treatments

- Administer early, rapidly, and consistently – ideally within 15 minutes
  - Minimizes use of backup and rescue medication
- Consider formulation (route, onset, duration of action) based on symptoms
- Note: can’t “cure” every HA with “quick fixes”
  - Takes time, patience, follow-up
- Avoid both undertreatment and overtreatment with acute medications
- CHOOSING WISELY: “Don’t recommend prolonged or frequent use of over-the-counter pain medications for headache”

Abortive Agents: General Principles

- Treat 2-3 attacks with agent to assess efficacy
  - If little success, consider:
    - Different agent or route in same class
    - Adding co-therapy
    - Switching to different class
- Use abortive agent no more than
  - 2-3 days/week
  - 9 days/month
  - 12-15 doses/month of anything

Abortive Agents: Evidence-based Guidelines Adopted by AAFP, ACP-ASIM, and AAN

- First line: NSAIDs
- Triptans (or dhydroergotamine) for NSAID intolerance/unresponsiveness
- No evidence for butalbital compounds in migraine
- Little evidence for sumatriptan compounds
- Opioids “reserved for use when others cannot be used”
  - May worsen central sensitization; should be avoided
- Metoclopramide recommended for oral therapies as prokinetic if gastric stasis present*
- CHOOSING WISELY: “Don’t prescribe opioid or butalbital-containing medications as first-line treatment for recurrent headache disorders”

Evidence-Based Guideline Migraine and Headaches in Primary Care Setting: Pharmacological Management of Acute Attacks. 

Evidence-Based Guideline Migraine and Headaches in Primary Care Setting: Pharmacological Management of Acute Attacks. 
Tools for Successful Migraine Management

**Triptan Selection**
- Start with formulary agent; generics available for some
- Choose formulation: oral, wafer, nasal, SC, or breath powered, based on symptoms or HA presentation
  - Oral formulations more alike than different
  - Use early when HA still mild, if possible
  - Optimize dose (typically maximum)
- Avoid if ≥3 cardiac risk factors, uncontrolled hypertension, severe liver disease

**Triptans**
- **Sumatriptan**
  - Oral – 25, 50, 100 mg
  - Nasal – 5, 20 mg
  - Auto-injector – 4 or 6 mg
  - Needle-free injector – 6 mg
  - Breath-powered delivery device – 22 mg
- **Zolmitriptan**
  - Oral – 2.5, 5 mg
  - OD T – 2.5, 5 mg
  - Nasal – 5 mg
- **Naratriptan**
  - Oral – 1, 2.5 mg
- **Rizatriptan**
  - Oral – 5, 10 mg
  - OD T – 5, 10 mg
- **Almotriptan**
  - Oral – 6.25, 12.5 mg
- **Frovatriptan**
  - Oral – 2.5 mg
- **Eletriptan**
  - Oral – 20, 40 mg
- **Sumatriptan/Naproxen**
  - Oral – 85 mg/500 mg

**Combination Abortive Therapies**
- Consider drugs which may complement each other
  - Triptan + NSAID
  - Acetaminophen/ASA/caffeine*
  - NSAID + caffeine*
  - Metoclopramide + triptan or NSAID or ASA
- Tailor to coincident symptoms

* Caffeine can increase rate of absorption of other medications

**Migraines and Pregnancy**
- 50%–80% of migraineurs note decreased HA frequency after first trimester
- New-onset migraines in pregnancy warrant workup to rule out secondary causes
- Optimize trigger management and non-pharmacologic treatments
  - Massage, relaxation
  - Acetaminophen, metoclopramide (NSAIDS before third trimester), triptans
- If prevention is needed, use category C drugs if benefits outweigh risks
  - propranolol – verapamil – magnesium?

**Chronic Migraine (CM)**
- CM is not just “more” episodic migraine
  - Greater severity of headache and associated symptoms
  - Greater impact and healthcare costs
  - Delayed diagnosis and management may result in end organ damage
- Criteria:
  - Headache (tension-type, probable migraine, and/or migraine) on ≥15 days per month for ≥3 months
  - Occurring in a patient who has had at least 5 lifetime migraine attacks
  - Not associated with medication overuse or other disorder
  - Can be reversed; goal is revert back to episodic migraine


**Olesen J et al.** Cephalalgia. 2006;26:742-746.


Tools for Successful Migraine Management

Migraine Evolution from Episodic Attacks to Chronic Disease

Chronic Migraine Management

- Institute behavioral strategies, prevention medications
- Specific FDA-approved medication: OnabotulinumtoxinA (Botox)
  - Approved for prophylaxis of chronic migraine (≥15 headache days/month)
  - 8-9 fewer HA compared to 6-7 with placebo
  - 31 injection sites into head/neck Q 3 mo
  - Boxed warning re: possibility for spread causing weakness in distant area(s)

Migraine Prevention

Many patients qualify, few are chosen...

...Offer preventive treatment early

Guidelines for Initiating Migraine Prevention Therapy

- Goals: reduce disability and medication overuse
- Institute preventive strategies if
  - 2 attacks/mo with disability totaling >3 d/mo
  - Recurring HA significantly interfering with patient’s daily routine despite acute Rx
  - Presence of uncommon migraine conditions: hemiplegic migraine, prolonged aura
  - Patient preference, cost considerations, med intolerance
  - Acute medications overused >2 d/wk, ineffective, intolerable side effects, or contraindicated
Medication-overuse Headache (Formerly Rebound Headache)

- A pharmacologically maintained HA
- >15 d/mo with HA
- Regular acute drug use >10 d/mo (>15 d for simple analgesics) for >3 mo
- HA worsens over time of overuse
- HA resolves or reverts to previous pattern within 2 mo of overuse elimination
- ANY abortive medication can cause medication overuse headache!!


Migraine Preventive Therapies: US Classification/Level of Evidence

<table>
<thead>
<tr>
<th>Level of Evidence</th>
<th>Drug Class/Agent</th>
<th>Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level A</td>
<td>Antiepileptic drugs</td>
<td>Established efficacy*</td>
</tr>
<tr>
<td></td>
<td>Divalproex sodium, sodium valproate, topiramate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beta blockers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Metoprolol, propranolol, timolol</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Triptans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frovatriptan (for menstrual-related migraine)</td>
<td></td>
</tr>
<tr>
<td>Level B</td>
<td>Antidepressants/SSRI/SSNRI/TCA</td>
<td>Probably effective †</td>
</tr>
<tr>
<td></td>
<td>Amitriptyline, venlafaxine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beta blockers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Atenolol, nadolol</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Triptans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Naratriptan, zolmitriptan (for menstrual-related migraine)</td>
<td></td>
</tr>
<tr>
<td>Level C</td>
<td>ACE inhibitors</td>
<td>Possibly effective ‡</td>
</tr>
<tr>
<td></td>
<td>Candesartan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nebivolol, pindolol</td>
<td></td>
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<tr>
<td></td>
<td>Alpha agonists</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clonidine, guanfacine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cyproheptadine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Antiepileptic drugs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carbamazepine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Divalproex</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Magnesium, riboflavin, MIG-99 (feverfew), histamine SC</td>
<td></td>
</tr>
</tbody>
</table>

*In >2 Class I Trials; †In 1 Class I or 2 Class II studies; ‡In 1 Class II Study

Silberstein SD et al. Neurology 2012;78;1337-1345.

NSAIDs/Complementary/Alternative Therapies

- Adding acupuncture to symptomatic treatment of attacks reduces HA frequency
- At least as effective as prophylactic drugs
- After 3 months: HA frequency at least halved in 57% receiving acupuncture and 46% receiving prophylactic drugs
- If 6 HA days/mo, prophylactic drugs decrease them to 4, acupuncture to 3.5
- Fewer SEs and treatment discontinuation with acupuncture
- Consider for patients willing to undergo this treatment


NSAIDs/Complementary Treatments for Migraine Prevention: Level of Evidence

<table>
<thead>
<tr>
<th>Level A: Established efficacy</th>
<th>Level B: Probable efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butterbur (Petasites hybridus)</td>
<td>NSAIDs – ibuprofen, naproxen, fenoprofen, ketoprofen</td>
</tr>
<tr>
<td>Herbal, vitamins, minerals, other</td>
<td>Magnesium, riboflavin, MIG-99 (feverfew), histamine SC</td>
</tr>
<tr>
<td>Level C: Possible efficacy</td>
<td>NSAIDs – flurbiprofen, mefenamic acid</td>
</tr>
<tr>
<td>Herbal, vitamins, minerals, other</td>
<td>Co-enzyme Q10, estrogen</td>
</tr>
</tbody>
</table>

Not approved for migraine prevention


Look to the Patient to Define Preventive Prophylactic Needs

<table>
<thead>
<tr>
<th>Obese</th>
<th>topramate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression, insomnia</td>
<td>Bicyclic or venlafaxine</td>
</tr>
<tr>
<td>Seizures, bipolar</td>
<td>Dopramate, divalproex</td>
</tr>
<tr>
<td>Performance anxiety</td>
<td>propranolol</td>
</tr>
<tr>
<td>Hypertension</td>
<td>propranolol</td>
</tr>
<tr>
<td>Menstrual migraine</td>
<td>frovatriptan</td>
</tr>
</tbody>
</table>

With all treatment strategies, “start LOW, and go SLOW.” Allow 2-3 months for full effect.
Osteopathic or Spinal Manual Therapy (OMT or SMT)

- Studies suggest spinal, or osteopathic, manipulation may be beneficial for migraines
- Studies difficult to standardize and randomize due to varying nature and presentations of migraine headaches
- Head-to-head trial in 218 patients for prophylaxis of migraines:
  - 8 wks of amitriptyline vs SMT had equivalent efficacy
  - Efficacy not better with combination
  - Efficacy better in SMT group 4 wks after both therapies stopped
  - SMT better tolerated than amitriptyline


Additional Alternative Considerations

- Exercise
- Yoga
- Melatonin
- Tai Chi
- Homeopathy
- Hypnotherapy
- Cold therapy
- Massage
- Physical therapy
- Cephaly (FDA-approved device)

Summary

- Recurring HA with disability is migraine until proven otherwise
- Both clinician and patient must have realistic expectations
- Use of acute meds >9 days/month can lead to medication overuse
  - Avoid opiate and barbiturate use
- Frequent or chronic migraines can be reduced with traditional/complementary/alternative strategies
  - Offer preventive treatment early


Thank you!