Common Headache Types

What type of headache is this?
- 26-year-old female with ten year history of headache
- Frequency: two per month, each headache lasts 24 hours
- Bilateral temporal pain
- Throbbing, 9/10
- Associated with nausea, photophobia, phonophobia, osmophobia
- No vomiting or aura
- Often goes into a dark room and “sleeps it off”

Migraine without Aura
- Acetaminophen does not help
- Misses 1 day of work per month
- Mother had migraine
- Diagnosis???

What is this Headache?
- A 36-year-old female presents with worsening headache
- Her headaches started at age 26, initially occurred twice per month, associated with N/V/photophobia/phonophobia
- Headache frequency has gradually increased over the last year, associated with an increased use of Excedrin Migraine (acetaminophen, aspirin, caffeine)
- She has had a constant, background, holocephalic, non-throbbing headache associated with continuous photophobia for three months, rated 6/10
- Four times a week she has an exacerbation of this continuous headache, rated 9/10
- Exacerbations are holocephalic, throbbing, last 24 hours, and are associated with nausea, phonophobia, osmophobia, and increased photophobia
- Currently taking six Excedrin Migraine tablets per day
- Diagnosis???

Chronic Daily HA (Transformed migraine) AND Medication overuse headache (Rebound Headache)
What is this Headache?

- A 32-year-old male presents with worsening headache
- He has had headaches since 23, they have always been under and around the eyes
- He has a history of sinus trouble
- Headaches are associated with photophobia/osmophobia/occasional loss of appetite
- Pain is a dull pulsing pain
- Denies history of recent fevers, nasal discharge or bleeding
- Diagnosis???

Migraine vs. Sinus headache

- Studies show that about 85% of people with self described sinus headaches actually have migraine headaches
- Sinus problems, like many other things trigger migraine headaches
- Bottom line– the majority of headaches severe enough to cause a person to seek medical attention are Migraines

More than you ever wanted to know about Migraines

Migraine Burden in U.S.

- Migraineur in one in four households
- 28 million migraineurs in the US
- Estimated annual cost of labor lost to migraine greater than $13 billion per year
- Peak prevalence ages 25-55
- Often in-effectively treated

Many Migraine Sufferers Remain Undiagnosed

- 56% Diagnosed Migraine
- 44% Undiagnosed Migraine
Migraine Prevalence in U.S.

18.2% Women 6.5% Men

Phases of Migraine
Migraine are more than just pain

Migraine Triggers
- Missing a meal or dehydration
- Sleep (too little or too much)
- Caffeine
- Stress
- Weather/Barometric Pressure Changes
- Menses/ Hormonal changes
- Fatigue
- Exposure to environment (light, sound, smells)
- Head trauma
- Dietary triggers (Chocolate, nitrates, MSG, Aged cheeses, Alcohol , Nuts, Processed meats, Citrus)

Possible Triggers of a Migraine Attack
- Food and food additives
- Bright lights/glare
- Smells/odors
- Dieting/hunger
- Loud noises/sounds
- Changes in altitude/air travel
- Stress
- Weather changes
- Caffeine
- Alcoholic beverages
- Changes in sleep habits
- Hormonal fluctuations/menstrual cycle

Migraine Pathophysiology
- Migraines are triggered by internal (dehydration, lack of sleep, stress) or external stimuli (smell, light, food)
- Deep nuclei in the brainstem begin to malfunction (trigeminal nucleus and Magnus raphe nucleus)
- Energy failure allows the nerves surrounding vascular structures in the brain (which are part of the trigeminal nerve) to propagate the problem and malfunction (throbbing pain)
- These malfunctioning nerves trigger thalamic dysfunction (nausea, severe pain)

Migraine Genes

Migraines are a Genetic condition
- 3 genes discovered:
  - EAAT2 affects glutamate removal from synapse
  - TRSK is a potassium channel in nerves
  - Gene discoveries support the concept that migraine is caused by nerves that are hypersensitive –CGRP released

Treatment of Migraines:
A brief history of natural and homeopathic time-honored therapies

Treatment

Aretaeus A.D. 81?
- For the treatment of headache, Aretaeus recommended inducing sneezing by placing testicle of beaver powder intranasally to “bring off phlegm”

940-1010 AD
- “For the effective treatment of long-standing headache the patient may bind over his head a mole long dead and putrid”

Willis 1685
- “the use of Millepedes ought not here to be omitted, or set lightly by, in regard that their express’d Juice, distill’d Water, and also the Powder prepar’d of them, often contribute egregiously to the Cure of ancient and obstinate Head-achs.”
Other Interesting Headache Treatments
- Drilling a whole in the skull
- Bloodletting
- Placing a hot iron on the head
- Spinning a patient in a centrifuge

Historical Figures with Migraines
- Thomas Jefferson
- Joan of Arc
- Vincent Van Gogh
- Julius Caesar
- Ulysses S Grant
- Sigmund Freud

Diagnosis (cont)
- Also severe sudden headache first or worst headache
- Recent change in pattern/ frequency
- New neuro sx
- Headaches always on same side
- Headaches not responding to Rx
- New onset headaches over 50 years
- New onset headaches with AIDS/CA
- Associated fever, stiff neck, cognitive of behavior changes

Headache Treatment: A More Modern Approach

RIGHT TO LEFT CARDIAC SHUNTS
- NOMAS a population study and the largest study to date did not show any correlation with PFO and migraine with aura
WHY EVERY PRIMARY CARE PROVIDER NEEDS THIS INFORMATION

“EVERYTHING IS MIGRAINE”
90% OF PATIENTS PRESENTING TO YOUR CLINIC WILL HAVE MIGRAINE
YOU WILL FEAR THESE PATIENTS AND/OR THEY WILL DRIVE YOU CRAZY

Five Principles of Migraine Management

- Treat occipital neuralgia and trigeminal nerve dysfunction
- Avoid Rebound headache
- Abortive therapy
- Preventative therapy
- Lifestyle Issues

Migraine Pain Can Be Felt in Peripheral Locations Such as the Neck

- In Kaniecki’s study of 144 patients with migraine
  - 75% reported neck pain with their migraine
  - 43% described neck pain as bilateral and 57% as unilateral
  - 69% described the neck pain as “tightness” and 17% as stiffness

Kaniecki et al. Poster presented at: 10th IHC; June 29-July 2, 2001; New York, NY.

Avoid Rebound Headache (medication overuse headache)

- In general if acute meds are used more than 3 days per week they will cause rebound headache.
- This HA is usually a dull constant HA
- Treatment: Tough love- stop taking meds completely
- Things might get worse for 2 weeks but then will improve
- The worst offenders: Narcotics, Excedrin, Fioricet, butalbital containing meds
- This may also keep headache preventative medications from working well.
MANY DRUGS CAUSE REBOUND
- OTC'S SUCH AS ACETAMINOPHEN
- COLD AND SINUS OTC'S ARE OFTEN OVERLOOKED
- BARBITURATES
- NARCOTICS INCLUDING HYDROCODONE AND CODEINE
- CAFFEINE AND PRODUCTS CONTAINING IT
- DECONGESTANT CONTAINING MEDS

MANY DRUGS CAUSE REBOUND
- OTC'S SUCH AS ACETAMINOPHEN
- COLD AND SINUS OTC'S ARE OFTEN OVERLOOKED
- BARBITURATES
- NARCOTICS INCLUDING HYDROCODONE AND CODEINE
- CAFFEINE AND PRODUCTS CONTAINING IT

ABORTIVE THERAPY
- INDICATED IN ALL PATIENTS
- TRY TO USE DISEASE SPECIFIC DRUGS
- EARLY INTERVENTION IS BEST- AVOID ALLODYNIA
- LARGE DOSES UP FRONT ARE MORE EFFECTIVE THAN REPEATED SMALL DOSES
- DIFFICULT PATIENTS REQUIRE POLYPHARMACY

87% of patients report pain-free results as their top treatment desire

Acute (abortive) migraine treatment principles
- Treat early, while headache is building
- Use correct dose and formulation
- Limit to 3 days per week (with exceptions)
- Try drug with at least 2 headaches to see if it works before moving on to another agent
- Use drug combinations often work when a single agent won’t work

Acute treatment options
- Specific
  - Triptans
  - Ergotamine/DHE; Migranal
- Nonspecific
  - NSAIDs
  - simple analgesics
  - combination analgesics
  - Anti-Nausea meds
Triptan vs. Non-triptans

2-hour Pain Free Response

<table>
<thead>
<tr>
<th></th>
<th>Mild</th>
<th>Moderate/Severe</th>
</tr>
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<tbody>
<tr>
<td>Sumatriptan 100 mg + ASA + Metoclopramide</td>
<td>73%*</td>
<td>68%**</td>
</tr>
<tr>
<td>ASA + Metoclopramide</td>
<td>48%*</td>
<td>10%</td>
</tr>
</tbody>
</table>

*p < 0.001
**p < 0.0001


The Triptans

- Sumatriptan
- Zolmitriptan
- Naratriptan
- Rizatriptan
- Almotriptan
- Frovatriptan
- Eletriptan
- Sumatriptan and Naproxen sodium

Triptan Prescribing Information:

Contraindications and Precautions for ALL Triptans

- Ischemic cardiac disease
- Cerebrovascular disease
- Uncontrolled hypertension
- Hypersensitivity
- Use within 24 hours of other 5-HTs/ergots
- Hemiplegic/basilar migraine
- History of risk factors for CAD
- SSRI precaution

Pain-Free Results with Imitrex Injection:

Prospective data in migraine patients with moderate/severe pain

<table>
<thead>
<tr>
<th></th>
<th>20 minutes</th>
<th>1 hour</th>
<th>2 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placebo (n=370)</td>
<td>1</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Sumatriptan 6 mg (n=734)</td>
<td>43</td>
<td>64</td>
<td></td>
</tr>
</tbody>
</table>


*P<0.05

Rational polytherapy

- NSAID plus Triptan
- Antiemetic (metoclopramide 10 mg) plus NSAID (Naproxen sodium 550 mg)
- Antiemetic plus triptan
- Antiemetic plus NSAID plus triptan

STEROID USE

- No evidence helpful in aborting headaches
- Pooled meta analysis dexamethasone helpful in reducing migraine recurrence
NARCOTICS

- Have little or no place in the treatment of acute migraine
- Unfortunately still many hospital ERs use narcotics in spite of practice guidelines to the contrary. Patients who are administered narcotics in ER much more likely to return

Preventive med principles

- No set rule on when to use, but consider use when severe headache occurs once a week
- In order for preventive meds to be most effective, limit acute meds to 3 days per week
- Make sure to use an appropriate dose
- At least a 2 month trial at a proper dose is required
- Goal is to decrease headache freq by 50%

Preventive med principles

- Prepare for side effects first, benefit later
- Reliable birth control
- Keep trying until you find one that works
- Preventives are not always lifelong treatments—can be tapered off after several months when frequency of headache decreases

Natural Preventatives

- ButterBurr Root (be careful of source)
- Feverfew
- Magnesium
- Alpha-linolenic acid and Gamma-linolenic acid
- Vitamin D, E, B12, B2
- alpha lipoic acid
- L-Carnatine
- Fish oil
- Co Q10

The preventive alphabet

- Antidepressants: nortriptyline, amitriptyline, venlafaxine, duloxetine
- B-blockers: propranolol, atenolol, nadolol
- Calcium channel blockers: verapamil
- Depakote (valproic acid)
- Epilepsy meds (other than Depakote): gabapentin, topiramate, Lyrica
- Misc: tizanidine, Namenda

Botox Treatment

- Botox Injections- Approved by FDA in Oct 2010!
- Approved for chronic migraine (migraine headaches happening more than 15 days/month)
- 32 injection sites in forehead, temples, shoulders and neck
- Many insurance companies are still fighting not to cover this
LIFESTYLE IS IMPORTANT

- Live like Bill Murray in “Groundhog Day”
- Take all meds “on time”
- Diet is not that crucial except for eating “on time” and avoiding alcohol and caffeine

Lifestyle Management

- Sleep 8 hours consistent schedule
- Eat 3 regular meals (or more) per day
- Drink lots of fluids
- Get aerobic exercise regularly
- Limit caffeine (or better yet avoid completely)
- Identify your triggers
- Keep a headache diary
- Manage stress
- Use correct posture and pause during repetitive activities

Nonpharmacologic Treatments

- Biofeedback
- Relaxation therapy
- Cognitive Behavioral Therapy
- Acupressure
- Acupuncture
- Physical Therapy
- Chiropractic treatment

Additional Treatment Measures

- Occipital Nerve Stimulators
- TENS units
- Transcranial Magnetic Stimulator
- Special Diets

Transcranial Magnetic Stimulator (TMS)

Graham’s rules

- There is no magic medicine that “cures” migraine
- The patient is not to “blame” for having inherited the migraine trait
- The pain of the migraine attack is very real and not “imaginary”
- Getting headaches under control sometimes requires a considerable period of time
- There is definite hope for improvement through conscientious effort by both patient and physician, but that complete freedom from migraine is rarely achieved by any therapeutic program

-Graham, Treatment of Migraine, 1955
Headache and Stroke

- Headache as a symptom of acute cerebral ischemia is underrecognized
  - More frequent with events in the posterior circulation (37%–75%) than the anterior circulation (23%–59%)
  - More common with cortical involvement (56%) than subcortical or purely lacunar infarcts (23%)

- Headache symptoms:
  - Can be abrupt or gradual in onset
  - Usually unilateral (side of stroke), focal, and of mild-to-moderate intensity; occasionally incapacitating
  - Described as either throbbing (17%–54%), continuous/nonthrobboning (14%–94%), or rarely stabbing or pulsating
  - Generally worse when located occipitally rather than frontally
  - Nausea (44%), vomiting (23%), or photophobia (20%) commonly present

- Frequency and severity of head pain greatest in patients with intracranial hemorrhage