

Headaches in Primary Care: An Approach to Management 2015 Update

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Disclosures:

- Nothing to disclose
- I will be discussing medications that are off label for headache treatment

Objectives

- Describe the 5 histories of headache
- Recognize key elements in acute headache treatment
 - Migraine specific vs non-specific
 - Step vs stratified care
 - Treatment when headaches are mild
 - Avoiding medication overuse and migraine chronification
- What to do when acute treatments fail
- List preventive medications

Sharon 23 year old woman

- cc: Headache
- My medication is not working—what should I do?
- Can you help me? Or should I see a specialist?

Headache is common

- 70-80% of adults will suffer from headache sometime in a lifetime
- 38% of children will also have headache
- 4% of all office visits to a doctor—
 - more common than asthma and diabetes combined!
- The first step in management is:
 - MAKE THE CORRECT DIAGNOSIS

5 HISTORIES of Headache:

- **Family history sets the stage:** is this individually genetically vulnerable
 - “Sinus headache” usually means migraine
- **Life History:** car sickness, abdominal pains; early headaches; what has happened over the lifetime
- **Attack history:** new vs old; warning (aura), location, frequency, length, accompanying features (photo, phonophobia, nausea, vomiting, autonomic symptoms)
- **Medical and psychiatric history:** medical conditions that worsen thyroid (40% headache), anemia, hypertension, IBS; depression, anxiety,
- **Medication History:** prescriptions, OTC herbs, natural; drug abuse (alcohol, cocaine, amphetamines)

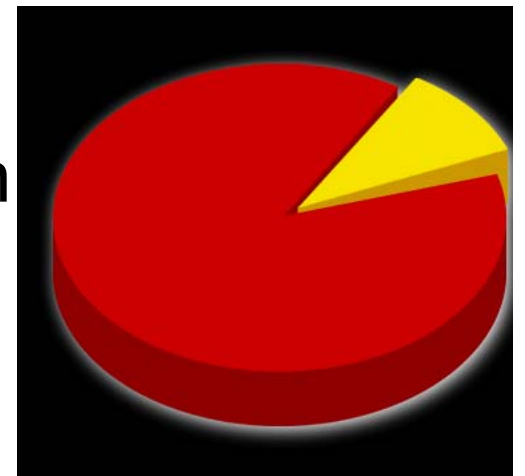
CLASSIFICATION OF HEADACHE

- **PRIMARY HEADACHE DISORDERS**

- Migraine with and without aura
- Tension type headache
- Cluster headache and other trigeminal autonomic cephalgias
- Paroxysmal hemicrania, Hemicrania continua

- **SECONDARY HEADACHE DISORDERS**

- Brain tumor
- Intracranial hypertension/hypotension
- Temporal arteritis
- Sub-arachnoid hemorrhage



HOW WE CLASSIFY PRIMARY HEADACHES

- International Headache Society: IHS
 - Began with classification schema in 1988; revised 2004 ; updated 2013
 - Guidelines for diagnosing various headache types--primary and secondary
 - Research oriented—Specifies what has to be present in an attack to get that diagnosis

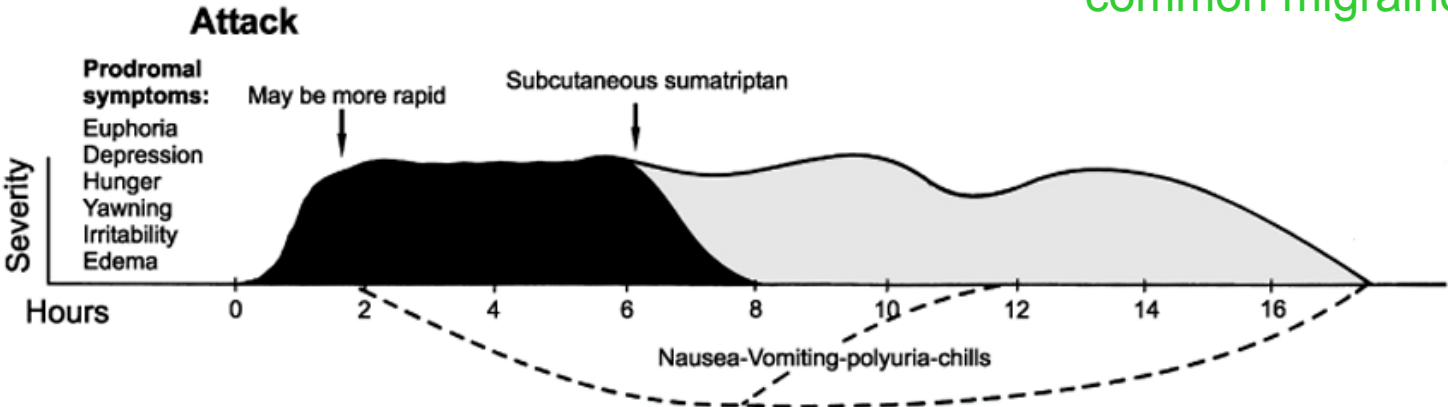
MIGRAINE

- At least 5 attacks
- Attacks lasting 4-72 hours (average 12-48)
- At least 2 of the following:
 - unilateral pain
 - throbbing pain
 - moderate-severe
 - worsens with activity
- At least one of the following:
 - Nausea and/or vomiting
 - Photophobia AND phonophobia

ID MIGRAINE STUDY: DISABILITY, NAUSEA,
PHOTOPHOBIA (2/3→93% predictive value of migraine)

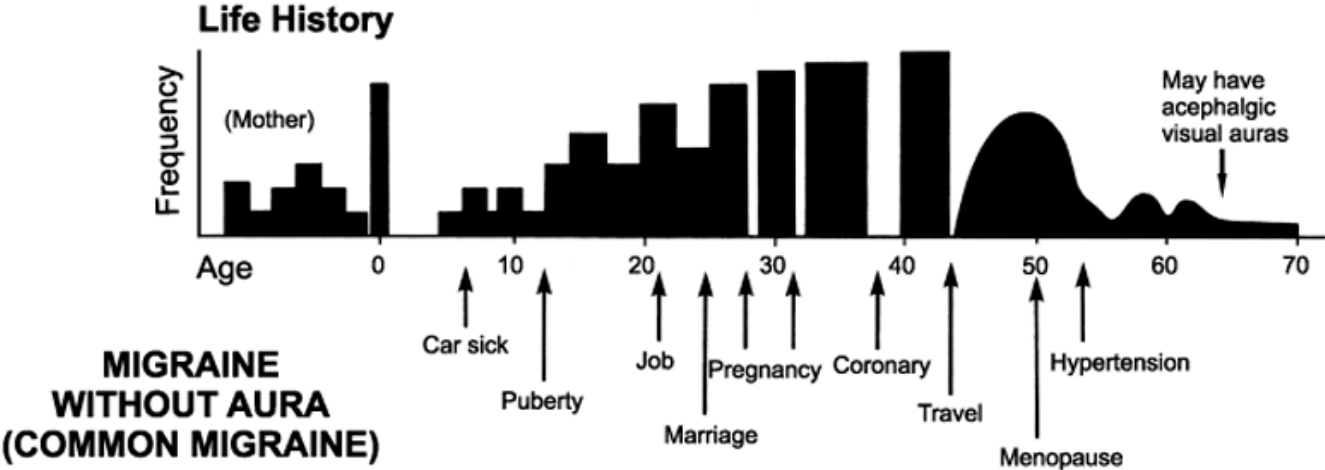
MIGRAINE WITHOUT AURA

“common migraine”



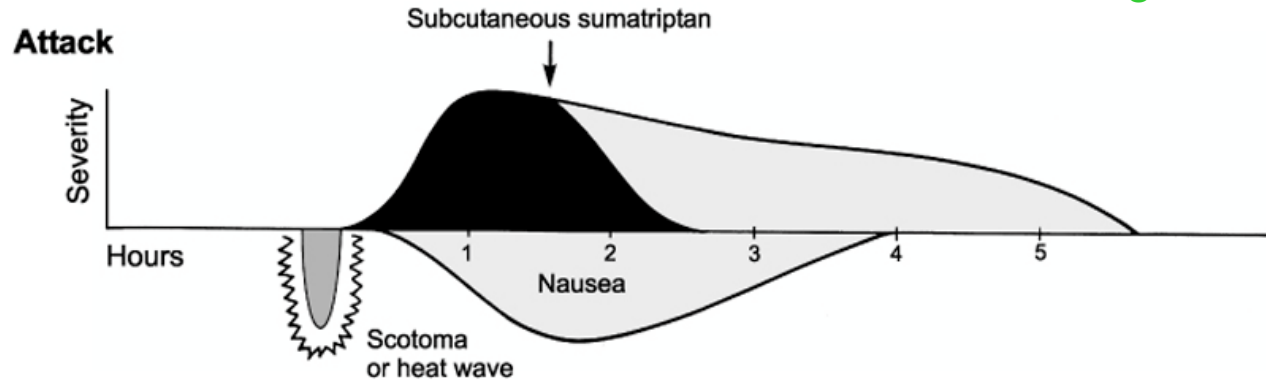
- Unilateral or bilateral
- Slight tearing
- Family history
- Blocked nose
- Photophobia
- Pregnancy-relief

Diagram courtesy
Of James J Corbett MD



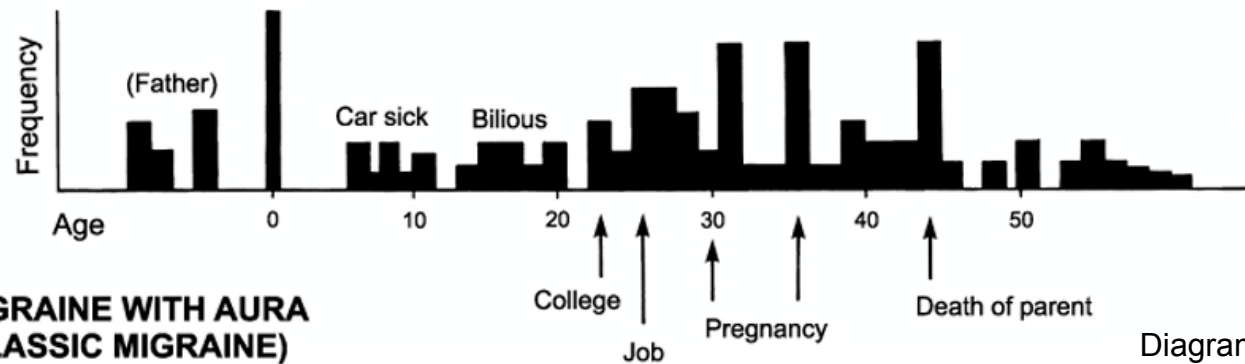
MIGRAINE WITH AURA

“Classic migraine”



- Family history
- Alternates sides, sometimes side-locked
- Scotoma precedes headache
- Scotoma usually opposite side of headache
- Increased frequency after stress during school year or other stresses
- Relief with pregnancy

Life History



**MIGRAINE WITH AURA
(CLASSIC MIGRAINE)**

Diagram courtesy
Of James J Corbett MD

EPISODIC TENSION-TYPE HEADACHE [IHS 2.1]

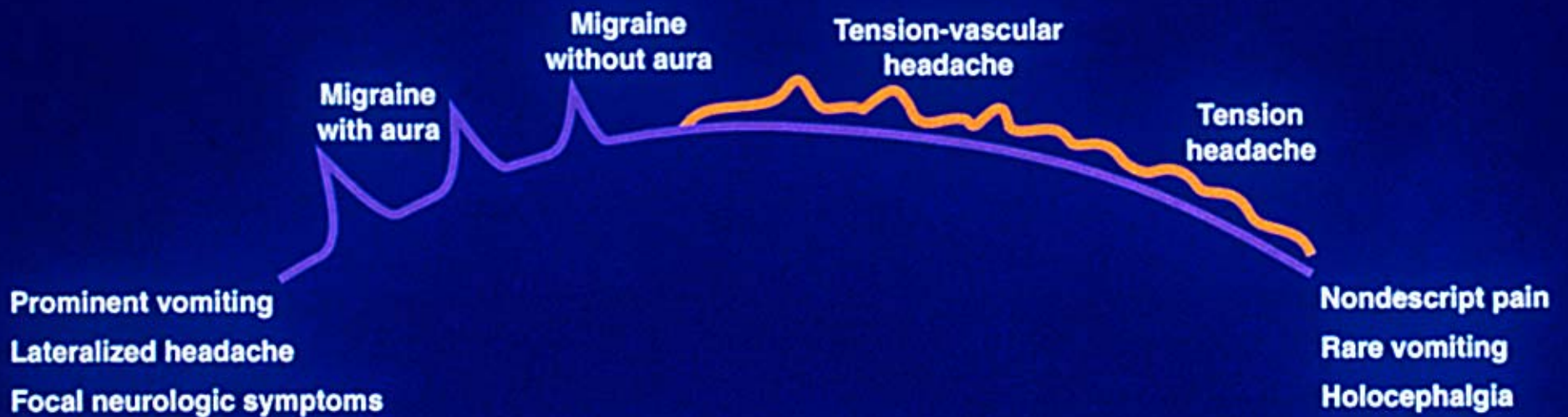
- A. Headache pain accompanied by two of the following characteristics:
- Pressing/tightening (nonpulsating) quality
 - Bilateral location
 - Not aggravated by routine physical activity
- B. Headache pain accompanied by both of the following characteristics:
- No nausea or vomiting
 - Photophobia and phonophobia absent or only one present
- C. Fewer than 15 days per month with headache
- D. No evidence of organic disease



TENSION TYPE HEADACHE

- Often thought to be the most common headache type--but most people have underlying migraine headache
- Chronic tension type: > 15 days/month
- Episodic tension type: <15 days/month
- May not have to do with muscles

THE CONTINUUM OF BENIGN RECURRING HEADACHE



What about DIAGNOSTIC STUDIES?

Diagnosis is based on history

Organic pathology must be ruled out if there are **RED FLAGS**

Diagnostic studies

- Blood/urine tests
 - Chemistry, endocrine, drug screen, hematology
- CT/MRI scans
 - Head, cervical spine, sinuses
- MRA/MRV
- Lumbar puncture—opening pressure
- ENT/dental evaluation
- Others

Saper JR, *Handbook of Headache Management*. 1999;
Silberstein SD, et al. *Wolff's Headache and Other Head Pain*. 2008.

Sharon 23 year old woman

- Family history of headaches in mother and sister
- Started with occasional headache: mild to moderate with onset at menses, but never missed school until she started college.
- Now getting 1-3 headaches each month
- Headache is bilateral, mildly throbbing, she has light and sound sensitivity, rare nausea, and it worsens with activity
- An aspirin, acetaminophen caffeine combination used to work, but now while it works sometimes, does not take her headache away

Diagnosis?

- Migraine without aura

Does she need a diagnostic study?

Treatment?

Issues we need to discuss

- Diagnosis accuracy
- Other life style issues
- Non-specific therapy vs migraine specific

Importance of Education about acute migraine

- Establish self-efficacy
- Reduce medication overuse; treat rebound
- Stop smoking
- Regular sleep
- Regular eating
- Caffeine and other offenders
- Exercise
- Stress management

EVIDENCE-BASED ACUTE THERAPIES

- **OTC**

- Acetaminophen (mild HA)
- aspirin
- aspirin, caffeine
- Aspirin, acetaminophen, Caffeine
- Ibuprofen
- Naproxen

- **Non-specific**

- Diclofenac powder
- Indomethacin/caffeine/prochlorperazine
- Butorphanol
- Prochlorperazine
- Chlorpromazine

US Headache Consortium 2000

Canadian Guidelines 2014

Linton Arch Intern Med 2000 130:3486

- **MIGRAINE SPECIFIC**

- Sumatriptan SC, IN, PO*
- Zolmitriptan* PO, IN
- Rizatriptan*
- Almotriptan*
- Eletriptan*
- Naratriptan* (slower onset)
- Frovatriptan* (slower, longer T1/2)
- Sumatriptan/Naproxen*
- Sumatriptan patch*
- DHE SC, IM, IN, inhaler, IV*

*Approved by FDA for migraine

How to choose—

What Patients want?

– PAIN RELIEF

– No recurrence

– Speed: pain free 1-2 hours

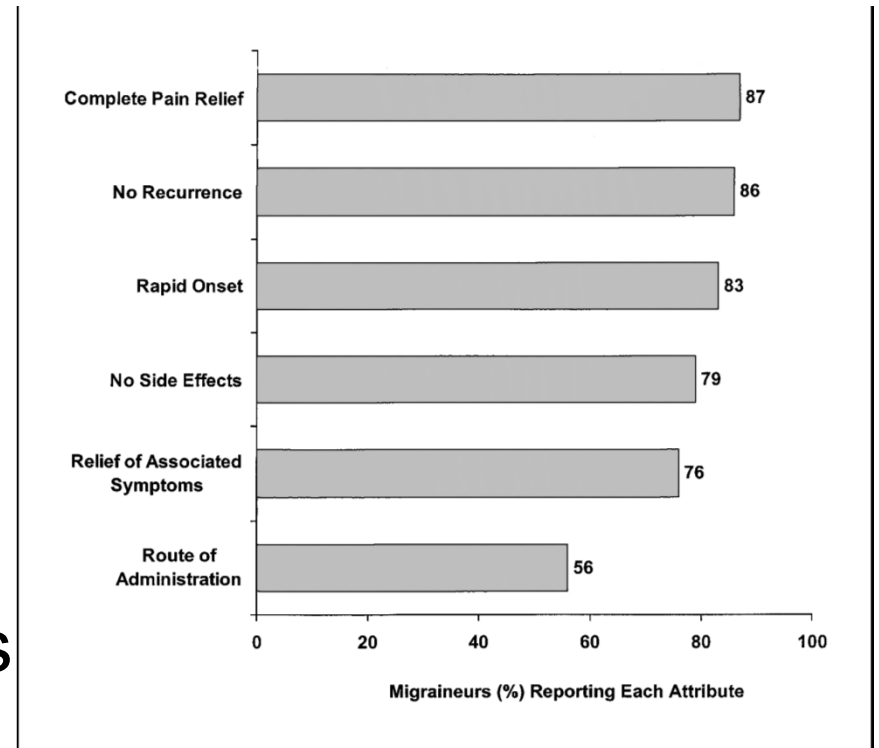
- SQ, nasal spray

– Side effects (limited)

– Route of administration

- PO, inhaled, PR, SQ

– Cost: non-specific medications less expensive; generic triptans (sumatriptan, naratriptan, rizatriptan, zolmitriptan)



Lipton Stewart Headache 1999; 39: S20-26

Sharon

- Education
- Started a triptan: sumatriptan 100 mg onset repeating once

Sharon

- Does well for the next 3 years; she marries has her first child without an increase in migraine. But now:
- New complaint: “my triptan stopped working!”
 - What do you want to know?
 - How does she take it?
 - When does she take it?
 - How many is she taking?

Issues to consider

- Step care vs Stratified care
 - DISC study showed **stratified care more successful** than step across attacks (less disability, lower cost) Lipton Jama 2000; 284: 2599
- Taking Early vs taking late
 - **Treating when mild** (early)-best results
(Spectrum Study; Act while mild study) Lipton et al Headache 2000; 40; 783-391; Scholpp et al Cephalalgia 2004; 24: 925; Goadsby Cephalalgia 2008; 28:36)
 - Less disability, higher chance of sustained relief
 - After allodynia—less chance of success
- How to avoid overuse—what is too much?

How MANY is TOO many?

AVOID Medication Over-use Headache (by ICHD III β) in those with pre-existing headache

- Ergots > 10 days
- Triptans > 10 days
- Opioids > 10 days
- Combination analgesics > 10 days
- Any combination >10 days
- Analgesics (aspirin, acetaminophen) >15 days
- NSAID > 15 days

Who is at risk?

Women

lower socio-economic level

Psychiatric co-morbidity: depression, anxiety, OCD

Education helps!

J Headache Pain. 2014 Feb 13;15:10

Munksgaard Headache 2014; July
Ther Adv Drug Saf 2014; 5: 87

HOW MANY IS TOO MANY?

AVOID: Progression to Chronic migraine

- **Opiates** (Lortab, Percocet, Darvocet, morphine) > 8 days/mo
- **Barbiturates** (Fiorinal, Fioricet) >5 days/mo
- **Triptans** >10-14 days per month
 - Sumatriptan, rizatriptan, zolmitriptan, almotriptan, naratriptan, eletriptan, frovatriptan
- Anti-inflammatory drugs may be protective less than 10 days per month

RISK FACTORS FOR CHRONIFICATION OF MIGRAINE: EPISODIC TO CHRONIC

- **NOT MODIFIABLE**

- GENDER (female)
- Migraine history
- Low Education
- Low socio-economic status
- Head injury

- **MODIFIABLE**

- Medication overuse
- Attack frequency
- **How well acute tx works**
- **Frequent Nausea**
- Obesity
- Stressful life events
- Snoring (sleep apnea, sleep disturbance)
- Depression (almost like dose response!)

Bigal, Lipton Chronification of headache: Concepts and Mechanisms; Headache 2008; 48: 7-15; Hutchinson, Silberstein. Headache 2008;48: S131-S141. Scher et al Headache chronification 2008; 48: 16-25; Reed et al Headache 2014 Sept 2014

Sharon

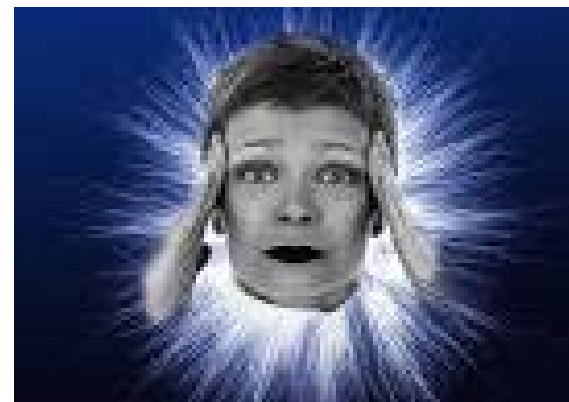
- Migraine frequency is now 1-2 week and about once monthly she is losing control of the migraine and ending up in bed.
- What do you want to know:
 - Review treatment protocol
 - Nausea control?
 - Does she need another rescue?
 - Should she be on a preventive medication?

Issues to discuss

- Additions to triptans to improve efficacy:
 - Addition of an anti-emetic e.g. metoclopramide
 - Addition of a NSAID to a triptan (Lipton et al Headache 2013; 53: 1548)
- Alternatives to triptans:
 - dihydroergotamine
- Rescue therapy—having a plan when the acute treatment doesn't work (e.g. phenothiazine)
- When to start a preventive

Why acute headache treatments fail

- The wrong or incomplete diagnosis (secondary headache; how many headaches a person has)
- Other factors: medication overuse; triggers
- Pharmacologic therapy not adequate (drug, dose, compliance)
- Non-pharmacologic therapy not adequate
- Other problems: expectations, comorbidities



Pixabay.com

When to start prevention?

- When migraine interferes with daily life (even with acute treatment)
- VERY frequent HA (more than 2 per week)
- More than 2 disabling attacks/month
- Unable to take acute medications
- Overuse of acute medications



From HA toolbox HA 2012

Silberstein and US Headache Consortium Neurology 2000 55: 754; Silberstein Neurology 2012;78;1337; Holland et al Neurology 2012;78;1346

Ramadan NM, et al. Evidenced-based guidelines for migraine headache in the primary care setting: pharmacological management for prevention of migraine. <http://www.neurology.org>.

What is the Goal of Preventive Therapy?

- Decrease attack frequency by 50% (this means they may not be gone!)
- Improve acute attack treatment success
- Reduce recurrence
- Prevent medication overuse
- Improve function/reduce disability
 - Decrease “presentee-ism”
 - Decrease days missed of work

LEVEL A: Well-established efficacy

- ANTI-CONVULSANTS
 - Divalproex sodium
 - Topiramate
- BETA BLOCKERS
 - Metoprolol
 - Propranolol
 - Timolol
- HERBALS
 - Petasites (Butterbur)
- ACE INHIBITORS/ARB
 - Candesatan

WARNING

LEVEL B: Probably effective

- ANTI-DEPRESSANTS
 - Amitryptline
 - Venlafaxine
- BETA BLOCKERS
 - Atenolol
 - Nadolol
- NSAID
 - Naproxen
 - Ibuprofen
 - Ketoprofen
- TRIPTANS (for short term prevention in menstrual migraine)
 - Naratriptan
 - Zomitriptan
- HERBALS/VITAMIN
 - Magnesium
 - Feverfew
 - Riboflavin

Level C: Possibly Effective

- ANTI-EPILEPTIC
 - Carbamazepine
- BETA-BLOCKERS
 - Pindolol
 - Nebivolol
- NSAID
 - Mefenamic acid
 - Flurbiprofen
- ACE INHIBITORS
- ACE-INHIBITOR/ARB
 - Lisinopril
- ALPHAAGONISTS
 - Clonidine
- ANTI-HISTAMINE
 - Cyproheptadine
- OTHERS
 - Co-Q10
 - Estradiol 1.5 mg gel patch

How to use preventatives?

- Start low and go slow
- Some medications will cause side effects—if the patient is aware, fewer phone call
- **NEED TO USE 2-3 (at the right dose) months before stopping!**
 - Avoid changing medications every few weeks!

When do you stop?

- “Do I have to be on this for life?”
- When good control for 6-12 months re-evaluate

What about Onabotulinumtoxin A?

- Indicated for chronic migraine (more than 15 days of migraine/migrainous headache per month)
- Very few side effects: ptosis, swallowing
- Takes a while for full effect (2 weeks)

Aurora SK, Winner P, Freeman MC, et al. OnabotulinumtoxinA for treatment of chronic migraine: pooled analyses of the 56-Week PREEMPT clinical program. *Headache*. 2011;51(9):1358-1373.

What about Sharon?

- She meets criteria for preventive
- Long discussion
 - We chose topiramate and we discussed if she gets pregnant, we must stop
 - Folate supplementation

CHALLENGING CASE:

63 year old woman

- History of hypertension, migraine without aura; occasional aura without headache, co-morbidities of depression, anxiety; hx asthma; **NEW coronary artery disease**
- Used to be well-controlled with triptans, but now contraindicated
- Migraines poorly controlled—daily headache at least 15 days of migraine each month, chronic photophobia, nausea with frequent use of hydrocodone (5 days each week)
- She “can’t sleep”

- Medications: Lisinopril, HCTZ, fluoxetine, xanax, melatonin, hydrocodone
- Preventive Medications tried and failed: topiramate, amitriptyline, propranolol (wheezing), many others
- Acute medications: used to take rizatriptan which controlled migraine; now hydrocodone 5 days each week.

CDH PREVALENCE



4.1% of 13,000

**General
Public**



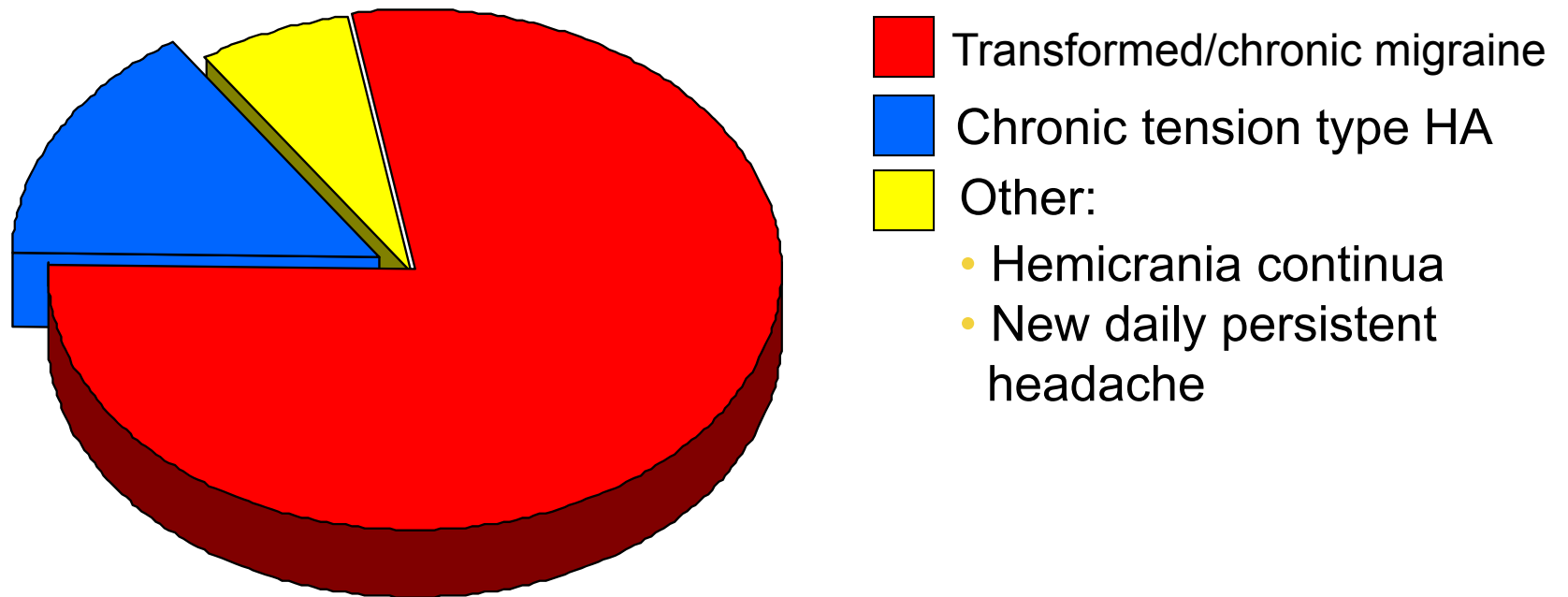
30%–80%

**Headache Clinic
Population**

Scher AI, et al. *Headache*. 1998; Sanin LC, et al. *Cephalalgia*. 1994.

CDH DIAGNOSTIC BREAKDOWN

150 patients with chronic daily headache

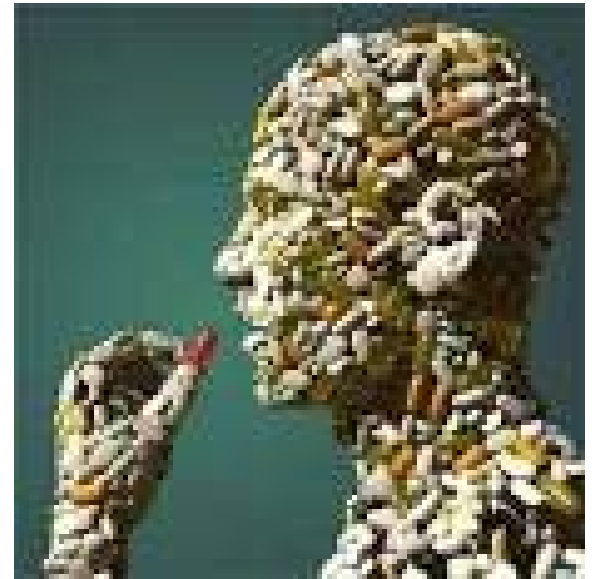


What to do?

- Step 1: make the correct diagnosis
 - Migraine without aura; medication overuse
- Step 2: identify co-morbidities (poor sleep); work on a therapeutic relationship (understand medication overuse)
- Step 3: start preventive and stop opiates
- Step 4: find an acute medication that she can take

questions/ considerations

- Modifiable co-morbidities: sleep, medication over-usage
 - Stop regular use of hydrocodone
- Preventive to stop migraines: verapamil, or doxepin (sleep and migraine); consider onabotulinin toxin



What can you use for individuals who can't take triptans?

- **Acute treatment:**

- add anti-emetic to acute therapy
- aspirin,
- acetaminophen,
- Isometheptene,
- diclofenac and other NSAID (Derry et al cochrane Database 2012 Feb 15;2:CD008783)
- Beta blocker eye drops (timolol) (Migliazzo, Mo Med 2014; 111: 283)

- **Rescue treatments**

- Hydroxyzine
- Phenothiazines
- Neuroleptics

- **Devices**

- Cefaly (FDA approved now)
- Vagal nerve stimulator (transcutaneous) (not approved for migraine yet)
- Transcranial magnetic stimulation (not available yet)

Principles and Pearls

- Make the correct diagnosis
- Don't forget behavioral approaches
- Know your treatment options: triptans and other treatments
- Stratified care better than step care
- Modify therapy when not effective (longer vs shorter acting triptan, use of anti-emetic, non-steroidal)
- Consider preventive therapy when acute therapy is not successful
- Guard against medication overuse HA
- Guard against progression to Chronic Migraine!



The Neuro-Ophthalmology Virtual Education Library

A discipline specific, open access repository of digital materials (images, video, lectures, articles and animations), to be used for educational and research purposes by health care professionals, educators, patients, and students.

NOVEL URL
<http://NOVEL.utah.edu>

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NOVEL: Patient Portal

General Information

- [Guide to eye disease terms from the Medical Library Association](#)
- [An Author's Guide - suggestions for developing patient education materials](#)

Migraine

A migraine is a very painful type of headache. During migraines, people may experience nausea and vomiting as well as light and sound sensitivity.

- [Migraine - Patient Informational Brochures \(NANOS\)](#)
- [Migraine - Materials from the NOVEL collections](#)
- [Migraine/PET Study Video - Wray Collection, NOVEL](#)
- [Migraine Visual Aura Video - Wray Collection, NOVEL](#)
- [Migraine Visual Aura Video - Wray Collection, NOVEL](#)
- [Migraine Visual Aura: A discussion with Nobel Laureate David H. Hubel Video - Wray Collection, NOVEL](#)
- [Migraine - Medical encyclopedia \(MedlinePlus\)](#)
- [Medline MeSh search on Migraine Disorders](#)
- [American Headache Society](#)
- [National Headache Foundation \(NHF\)](#)
- [Migraine Awareness Group: A national understanding for Migraine \(Nat. Migraine Assoc.\)](#)
- [Support Group for Migraine Sufferers \(Live Journal Blog\)](#)

CONDITIONS

- Anisocoria
- Anterior Ischemic Optic Neuropathy
- Blepharospasm
- Drusen
- Dry Eye Syndrome
- Hemifacial Spasm
- Homonymous Hemianopia
- Microvascular Cranial Nerve Palsy
- Migraine
- Multiple Sclerosis
- Myasthenia Gravis
- Optic Nerve Glioma
- Optic Neuritis
- Pituitary Tumors

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