Primary Care Perspective on Headache and Neck Pain

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Disclosures:

- Research: Medtronic regarding deep brain stimulation
- Off label discussion-this talk will include discussion of off label use of medications to treat headache and some possible current clinical trials of medications and devices

Getting a Handle on Headache Management

The Front Line: Primary Care

- the history of present illness
- the family history
- personal history
- the exam-red flags?
- testing? imaging and/or labs
- consult?
- treatment (ugh!)
- follow up-changes?

ICDH III Criteria
International classification of h/a disorders (now in 3nd release 2013)

This gave structure and categorization to headaches and diagnoses

*Part 1-Primary headaches

*Part 2-Secondary headaches

*Part 3-Cranial neuralgias

appendix

***under each type are many subsets and subtypes

Primary Headaches
Most commonly seen in primary care (90% of headache types)

- Migraine
- Tension Type (most common h/a but rarely chief complaint)
- Trigeminal autonomic cephalgias (TACs)
- "Others"
- Mixed Headache, etc.

Secondary Headaches

- Headache d/t infection (sinus, meningitis, zoster, etc.)
- Psychiatric headaches
- Temporal arteritis/Glaucoma
- Carotid dissection/Stroke/Vascular
- High/low intracranial pressure
- Cervical, TMJ, Dental, etc.
- Autoimmune
    - Wolffs headache 8th ed. 2008

Secondary Headaches

- Concussion/TBI
- Neuralgias
- Substance abuse/MOH
- Tumor
- Chiari malformation
- Encephalitis
- Ice cream headaches!!!
    - Wolffs headache 8th ed 2008

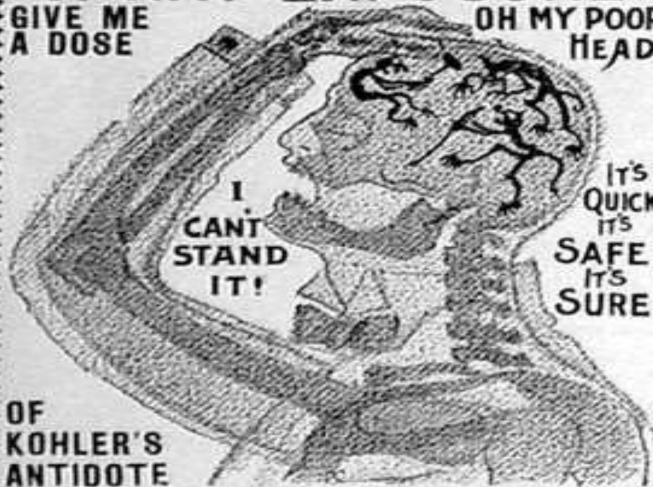
Cranial Neuralgias~quick, fleeting, often shock like episodes caused by inflammation of nerves in upper neck or head

- TN-severe facial pain along trigeminal nerve + certain characteristics
- Occipital-lancinating pain, + Tinel's over nerve and decreased sensation on ipsilateral occipital side

Occipital Neuralgia

- Pain over the lesser or greater occipital nerve area unilaterally or bilaterally
- Pain can start at upper neck and radiate upward (eval for C2 issues)
- Can be elevated or worsened by movement of the head/neck
- Tenderness over the occipital nerve
- Pain can be sharp or dull achy
    - Wolff's Headache 8th ed. 2008

X-RAY EXPOSURE



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Migraine: Classic

- Aura (fully reversible) usually visual but can be other types such as sensory, auditory, etc.
- Must have 2 of these: mod to sev pain, pulsating quality, unlateral pain, worse w/activity
- Must have 1 of the assoc sx: photo, sono, nausea/vomiting
  - ICDH 2013 criteria
- Also common: neck pain, cognitive delay
- Lasts 4-72 hours
- ICHD-2 Diagnostic Criteria from IHS 2004

Migraine without Aura

- 2 or more: unilateral, pulsating quality, mod to severe pain, worse with activity
- 1 of the following nausea and/or vomiting, photophobia, phonophobia

Migraine TX Overview: Based on type (chronic vs episodic)

- Acute Therapies: DHE, Triptans, Nsaids, Anti-emetics, Combos, narcotics
- ***Nsaid + Triptan (occ combine with sedating anti-emetic too)***
- Prophylaxis: Tca's, SSRIs, CCBs, BBs, AEDs, herbals, Botox (r/o MOH--rebound)
- Adjucntive: Phy therapy, biofeedback, cognitive behavioral therapy, watch for h/a causing meds, watch for comorbid psych issues

R/O Common H/A Triggers

- Diet including dehydration and ETOH
- Lifestyle-sleep hygiene including sleep apnea, etc.
- Allergies
- Stress
- Environmental
- Hormones
- Sensory-ex. Lighting, perfume, glare

Prophylactic Migraine TX

- Herbals -Magnesium 400-600mg qd, Vitamin B2 400mg QD, CoEnzQ10 100mg TID, Boswellia Root 375mg TID, Butterbur root (use cautiously, Petadolex brand name) 100-150mg QD
- TCAs-typically nortripyline or amitripyline 10-30mg qhs
- Beta-blocker-usually propranolol 20mg bid titrate up as tolerated

Prophylaxis Migraine Cont'd

- Calcium Channel blockers-mainly verapamil 180-360mg as tolerating (checking EKGs)
- Anti-epileptics-Topiramate 100mg -200mg qhs, Divalproex Sodium 500mg -1000mg, Gabapentin variable doses, off label use of Trokendi ER, zonisamide, possibly levetiracetam

Chronic Migraine

- More than 15 days per month, each more than 4hr
- No other obvious cause
- Is not currently overusing abortive meds
- More than 8 of the days are migraines
- Has had 5 prior or more previous attacks(with/without aura)

Chronic migraine

- 3.2 million adults have chronic migraine
- 1 in 10 adults with migraine have been misdiagnosed and actually have chronic migraine

- Biget et al Neurology. 2008, CDC Wonder website accessed 2014, Natoli et al, Cephalaagia. 2010, Lipton et al. Neurology. 2007

Chronic Migraine Hx

- Remember not all days have to be called "migraine" or ranked 8-10/10
- Ask how many headache free days in month?
- Ask how disabling? Even with abortive meds
- Ask how well prophylactic meds are working/side effects?

Medication Overuse Headache

- Can occur when taken more than 10x per month
- Causes long lasting receptor changes
- Can occur with: mixed analagesics, ergots, possibly DHE, probably triptans, NSAIDS, worst with opioids

Onabotulinumtoxin A (Botox)

- Contraindicated with known hypersensivity or muscle weakness (ex. MG)
- Common side effects for migraine use: headache or migraine (9%), facial paresis (2%), ptosis (4%), infection (3%, injection site pain (3%), neck pain/stiffness/weakness/etc (25%) N=687
- Botox prescribing info; PREEMPT final report 1 and 2

Expected outcome from Botox

- Patients had 8-9 fewer headache days per month compared with baseline at 24 weeks, therefore a 50% reduction documented on PREEMPT 1 &2 trials
- Dodick et al on behalf of PREEMPT Chronic Migraine Study Group, Headache 2010 (phase 1) and 2011 (phase 2)

Onabotulinumtoxin A (Botox)

- 7 yr of research between 1997-2007 to establish the injection paradigm
- Paradigm: 155 units variable amounts 31 injections total across 7 areas
- Injections every 91 days

- Dodick et al. Headache. 2010; Blumenfeld et al. Headache. 2010; Binder et al.Otolaryngol Head Neck Surg. 2000; Elkind et al, J Pain. 2006; Saper et al. Pain Med 2007; Relja et al. Cephalalgia. 2007; Aurora et al. Headache. 2007; Silberstein et al. Mayo Clinic Proc 2005; Matthew et al. Headache. 2005

Trigeminal Autonomic Cephalgias

- Definition-severe relatively brief h/a with some prominent autonomic features
- Characterized by pain in a trigeminal nerve distribution (typically V1 region)
- Similar sx but differences in attack duration and frequency
- Treatment varies

Cluster Headache

- men>women, practically any age, cycle (usually 4-8wks), remission (usually 6-12mo)
- Sx: Severe orbital or temporal pain lasting 15-180min + 1 or more:
- ipsilateral conjunctival tearing/injection
- ipsilateral nasal congestion/rhinorrhea
- ipsilateral eyelid edema **Restlessness
- ipsilateral miosis and/or ptosis Cephalgia, 2004

Paroxysmal Hemicrania

- orbital or temporal pain lasting 2-30 min usually 5x per day or more + 1 or more:
- Same sx as cluster except no restless or agitation feelings
- 2 attacks lasting 7-365d, remission more than > 1 mo.
- **completely tx by indomethacin
- ICDH-II Cephalagia 2004: 24 (Suppl 1) International Headache Society 2003/4

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SUNCT-short unilateral neuralgiform h/a with conjunctival injection and tearing

- Neck mov't can trigger pain
- Rare, Men>women
- Ages 10-77 y/o.
- Attacks are usually every 5-6min
- Severe sharp stabbing orbital or temporal pain worst in V1 region
- Pain is brief lasting 5-250 sec
- Attack is 24-30 hr
- Often occurs during daytime

Cohen, Matharu, and Goadsby Brain 2006

Hemicrania Continua Vs. Paroxysmal Hemicrania

- COMPLETLY resolved by INDOMETHACIN
- Can be episodic or chronic
- Must have 1 ispilateral feature: conjunct redness, lacrimation, nasal congestion, ptosis, miosis, rhiorrhea
- Pt's are usually agitated or anxious
- Pain is high intensity for PH, moderate usually for HC
- 10 sec to 4hr for PH (2-50x per day), continuous for HC
- Other tx options: celebrex, nsaids, AEDS, ONBs, CCBs, Botox, etc
    - Wolff's Headache 8th ed, 2008

The "Others"

- Chairi I malformation
- Post concussive h/a or TBI
- MOH
- Post-LP h/a
- Carotidynia
- Exertional h/a (variations: cough, coital, etc)
- Hypnic h/a
- PTC

Secondary Headache: What you don't want to MISS!

- Obviously do a great H & P
- Look for Dr. David Dodick's (at Mayo) SNOOP
- S-systemic sx-fever/wgt loss or secondary risk factors such as hx of HIV/CA

SNOOP continued:

- N-neuro sx or abn sx-such as ataxia, confusion, etc.
- O-onset, sudden, abrupt or split second
- O-New onset with progressive h/a in older pt > age 50yr (giant cell arteritis)
- P-previous h/a-first or new type (change in freq, severity or features)
- Dodick DW, Adv. Stud Med 2003;3:550-555

Danger Signs:

- Symptoms: "thunderclap h/a", change in character, new onset >50yr, "worst h/a", h/a starts w/ exertion, hx CVA/HIV or immunocompromise
- Exam: change in mental status, meningeal sx, focal neuro sx, rash suspicious for spotted fever, meningococcemia

Finding	Consideration
Thunderclap	SAH
Worst h/a	SAH, cerebral venous thrombosis
Pregnancy	Eclampsia, cerebral venous thrombosis
Change in vision	Glaucoma, optic neuritis
Pain with eye mov't	Optic neuritis
Fever	Infection
Dbl vision	Mass, intracranial hyper/hypotension
Ptosis	Carotid artery dissection

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Imaging: or not (CYA)

- In general my answer is yes (so don't listen to me)
- But: multiple studies have showed poor yield with headache pts
- 605 of 1275 pts imaged (various types)
- 97 were abnormal, 79 had incidental findings, 28 were actually abnormal and all had abn. exam
- Practice parameter-Mayta 1995, Medina 1997, Dooley 1990, Wober-Bingel 1996, Chu 1992, Lewis 2000

Neck Pain: So Many Causes

- Stenosis
- "DJD" vs arthritis
- Radicular
- Dystonia or muscular

DJD/Arthritis

- Mild to Moderate neck pain
- Occipital headaches
- Muscle spasms
- "Popping and grinding"
- Possible hyperreflexia, weakness, gait issues, etc.

Radiculopathy-weakness in muscles innervated predominately by fibers from one nerve root

- Sx-radiating pain, numbness, tingling
- C1 innervates the atlanto-occipital joint
- Can be exacerbated by valsalva maneuvers that increase interspinal pressure
- Upper cervical root irritation can cause pain and secondary muscle spasms/headaches Bogduk N, Govind J, Lancet Neurol 2009 Oct: 8 (10); 959-68; Blondi D, Bajwa Z Cericogenic headache Up to Date, Realease 21.2

Cervicogenic Headache

- Mild to moderate pain, localized to C2 then spreads
- Pain starts in neck and works upward
- Men>women slightly
- Hx of chronic headaches
- Often associated with whiplash injury

Cervical Dystonia

- "Spasmodic torticollis" or "wry neck"
- Focal dystonia or severe muscle spasms of the neck often causing twisting, tilting, turning or shifting of the neck position
- Causes pain and secondary symptoms
- Usually starts between ages 20-60 years
- Occurs more often in women
    - Wolff's Headache, 8th ed 2008

Cervical Dystonia

- Severe prolonged muscle spasms and tenderness
- Possible muscle hypertrophy
- Decreased ROM
- Shoulder elevation/Poor posture
- Forward flexed posture (finger breaths?)
- Possible tremor/possible sensory sx in UEs

Case Presentations # 1

- 25 yr old with classic migraine, started age 17 with progressively worse now 3x per wk each lasting 24-48 hr, 10/10
- Failed topiramate d/t cognitive delay but it helped. BP runs 100s/60s. Not on birth control. Failed TCAs d/t sedation. PMHx: negative.
- MRI: negative, Exam: negative
- Options: acute and prevention: BB, CCB, anticonvulsants, SSRI, BTX, herbals, e

Case # 2

- 56 yr. Male with unilateral supraorbital severe pulsating pain lasting about 2min occurring 50x per day w/ mild nausea, ipsilateral conjunct, injection & lacrimation
- MRI/MRA negative
- Exam all normal
- Options: indometh just in case? Steroids? ? Lamotrigine, Carbamazepine, Gabapentin?

Case # 3

- 44yr female 5'4, 285 lbs 10yr + hx low grand global pressure h/a prog. worse
- "band of pressure" with visual sx but no aura, describes decreased periph vision and "blackening of vision"
- Exam-ok, except slightly elevated BP and no venous pulsations, slight papilledema
- MRI-normal except empty sella

Case #4

- 66yr old female new onset global 7/10 h/a with mild photo/sono, no other features. Always starts 2-3hr after going to sleep
- Exam all normal
- MRI all normal
- Tried triptans at onset minimal effectiveness. Tried TCA for prevention no better
- DX?

Case #5

- 70 yr old male with 6 yr progressive hx of occipital pain bilat, no assoc. Sx, no radic sx. Does c/o occ neck pain which can trigger h/a.
- H/a is worse laying down and moving head in certain positions
- Exam: bilat occipit tenderness, severe neck muscle spasms, head held in tight posture with occ. head tremor

Headache Prophylaxis

Headache Treatment