
Headache

Eric Kraus, MD

Headache Case

This 23 year-old female has headaches behind the right eye that cause her to lay down in a quiet room. They have a throbbing quality and she may vomit.

Migraine Headache

- Types

- » Without aura (common)
- » With aura (classic)

- Epidemiology

- » 17% women
- » 6% men
- » Onset 5-40yrs

- 4-72 hrs duration

- Criteria

- » At least two
 - Unilateral
 - Throbbing
 - Prohibit activities
 - Aggravate by routine activity
- » At least one
 - N and/or V
 - Photo- and/or sonophobia

Migraine Treatment: Overview

- Non-drug
- Symptomatic
- Prophylactic

Migraine Treatment: Non-drug

- Diary - eliminate triggers
- Discontinue hormonal birth control
- Biofeedback/stress reduction
- Other
 - » Acupuncture
 - » Massage
 - » Chiropractic
 - » Smoking cessation

Migraine Treatment: Symptomatic

- OTC
 - » Naproxen
 - » Excedrin migraine*
 - » Advil migraine*
- Ergotamines*
 - » Cafergot
 - » DHE (nasal, SQ, IV)
- Triptans*
- Midrin*
- Butalbital
 - » ASA (Fiorinal)
 - » Tylenol (Fioricet)
- Compazine/Reglan
- Steroids
- Toradol
- Opiates*

*FDA approved

Migraine Treatment: Triptans

5-HT_{1B/D} agonists

<u>Generic (Brand)</u>	<u>Dose/Route</u>
Sumatriptan (Imitrex)	6mg/SQ, 50mg/PO, 20mg/NS
Zolmitriptan (Zomig)	2.5, 5mg/PO and ODT
Rizatriptan (Maxalt)	5, 10mg/PO and ODT
Naratriptan (Amerge)	1, 2.5mg/PO
Almotriptan (Axert)	6.25, 12.5mg/PO
Frovatriptan (Frova)	2.5mg/PO
Eletriptan (Relpax)	20, 40mg/PO

Migraine Treatment: Triptans

- Improvement in 60-80% over 1-4 hrs
 - » Most have no pain
 - » Recurrence 30-50% in next 24 hrs
- SQ > nasal > PO
 - » Faster
 - » More efficacious
- May repeat dose after 2 hours
- Rizatriptan and Eletriptan may be the best

Migraine Treatment: Prophylactic

- Level A: 2+ class I studies
 - » Depakote
 - » Topiramate
 - » Propranolol, metoprolol, timolol
 - » Frovatriptan 2.5mg bid (menstrual)
 - » Petasites (Butterbur) 75mg bid
- Level B: 1 class I, or 2 class II studies
 - » Amitriptyline
 - » Venlafaxine
 - » Atenolol, nadolol
 - » NSAIDs (Med overuse worry)
 - » Magnesium 300mg qd
 - » MIG-99 (feverfew) 100mg qd
 - » Riboflavin 400mg qd
 - » Subcu histamine

Migraine Treatment: Prophylactic

- Level C: 1 class II study
 - » Lisinopril
 - » Candesartan
 - » Clonidine, Guanfacine
 - » Carbamazepine
 - » Cyproheptadine
 - » CoQ10 100mg tid
 - » Estrogen
- Level U: Conflicting data
 - » Acetazolamide
 - » Fluoxetine
 - » Gabapentin
 - » Verapamil
 - » Aspirin
 - » Indomethacin
- Other (not reviewed)
 - » Tizanidine (Zanaflex)
 - » Zonisamide
 - » Botox 100u (>15d HA per month)

Migraine Treatment: Prophylactic

- Start low
- Gradual increase in dose until:
 - » Good effect
 - » Side effects > benefits
 - » Maximal dose
- Don't give up too quickly!

Summary: Migraine

- Headache diary
- Prophylactic
 - » HA freq. > 1/wk.
 - » Nortriptyline 10mg-150mg qd.
 - » Propranolol LA 60mg-360mg qd.
 - » Topiramate 25mg-200mg, divided bid
- Symptomatic
 - » Use no more than 2 headaches per week.
 - » OTC drugs or triptan.

Rebound Headache

- Daily or almost daily (5+ d/wk)
- Mild to moderate severity
 - » Tension-like
 - » Intermittent migraine features
- Overused drug works and provides positive feedback to take frequently
- No other cause
- HA improves when drug discontinued
 - » 1wk - 2mo washout

Headache Case

This 26 year-old obese female has a constant bilateral headache for two weeks. For three days she has experienced blurry vision and occasional pulsatile tinnitus.

Pseudotumor Cerebri

- Increased venous resistance to CSF absorption
- Young obese women. F:M 8:1
- HA, peripheral vision loss, diplopia (6th), blurring, distortion, pulsatile tinnitus
- Papilledema, visual fields, elevated CSF pressure (nl cells and protein)
- R/O tumor, cerebral venous thrombosis

Pseudotumor Cerebri

- Drug-induced

- » Tetracycline, etc.
- » Isotretinoin (Accutane)
- » Vit A
- » Flonase
- » Nitrofurantoin
- » Danazol
- » Lithium
- » Amiodarone
- » Bactrim
- » Cyclosporin
- » Cimetidine
- » Norplant

- Assoc. disease

- » Cushing dis.
- » Adrenal insuffic.
- » Hypoparathyroid
- » Hypothyroid
- » Pregnancy
- » SLE

Pseudotumor cerebri

- Treatment
 - » Weight loss
 - » Acetazolamide
 - » Repeat LPs
 - » Lumboperitoneal shunt
 - » Optic nerve sheath fenestration
- Acetazolamide (Diamox)
 - » 250mg, 500mg SR
 - » Start 250mg bid
 - » Increase to 250mg qid or 500mg SR bid after 1 wk
 - » Maintenance range 500-1500mg per day
 - » Paresthesias, GI
- Other: prednisone, topiramate, furosemide

Headache Case

This 32 year-old male has headaches behind the right eye that are severe with associated right sided ptosis and coryza. He will pace around the room.

Cluster Headache

- Acute onset of unilateral pain. Centered around orbit.
- Clustering of attacks
- Multiple attacks at same time each day
- Severe pain, constant, N/V, photophobia
- Duration 15 mins. to 3 hrs.
- Ipsilateral autonomic symptoms required
 - » Ptosis, miosis, red eye, facial swelling or redness, nasal drainage

Cluster Treatment

- Abortive

- » Oxygen
- » Sumatriptan SQ*
- » Zolmitriptan or Rizatriptan ODT
- » DHE nasal
- » Narcotics

- Prophylactic

- » Prednisone
- » Verapamil
- » Indomethacin
- » Sodium valproate
- » Lithium
- » Topiramate

- Surgical

*FDA approved

Headache Case

This 25 year-old male was bench pressing 200 lbs when he had sudden onset of headache. He has never had a bad headache before. In the ER he is alert.

Subarachnoid Hemorrhage

● Clinical

- » Often “worst HA of life”
- » Sudden onset (usually)
- » Neck rigidity, N/V, photophobia
- » Severity
HA only ---> coma

● Etiology

- » Aneurysm rupture at bifurcation of large intracerebral vessels

● Vessels

- » 85% anterior
- » 15% posterior

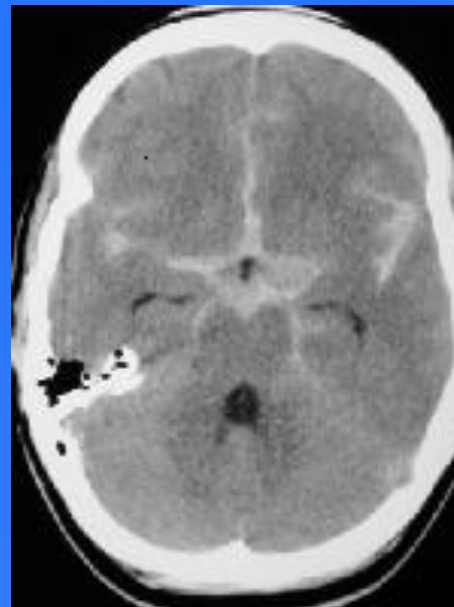
Subarachnoid Hemorrhage

● Diagnosis

	<u>Sensitivity</u>
CT	
<24 hrs	90-95%
3 days	80%
5 days	70%
1 week	50%
2 weeks	30%
Lumbar puncture	
<2 weeks	100%
3 weeks	70%
1 month	40%
Angiography	

● Treatment

- » Surgical clips
- » Coils



Exertional Headache

- Clinical

- » Sudden onset
- » Bilateral throbbing

- Exercise

- » Mins. - days

- Cough, valsalva

- » Seconds
- » Think Chiari malform.

- Sexual (3 types)

- » Mins. - days

- Differential

- » Benign
- » Chiari malformation
- » Subarachnoid bleed
- » Brain tumor

Pascual, et.al. Neurology 1996;46:1520.

Chiari 1 Anatomy



Exertional Headache: Treatment

- Symptomatic

- » 30 mins. before activity
- » Indomethacin
- » Naproxen
- » Cox-2 inhibitor
- » Ergotamine

- Prophylactic

- » Rarely needed
- » Indomethacin
- » Verapamil
- » Propranolol
- » Acetazolamide (cough)

Headache Case

This 62 year-old male has had a left sided constant headache of moderate severity for two weeks. ROS positive for joint pain and fatigue.

Giant Cell Arteritis

- Epidemiology

- » > 50 years, Caucasian
- » F:M 2:1

- Autoimmune

- Clinical

- » Headache
- » Scalp tenderness
- » Ophthalmologic
- » Jaw claudication
- » Fever, malaise, arthralgias

- Diagnosis

- » High ESR 90+%
- » Mild anemia, high WBC
- » Temporal a. Bx

- Treatment

- » Prednisone 40-80mg
- » Methotrexate
 - RCT (+)

Headache Case

This 23 year-old female has a constant (non-throbbing) headache involving the whole head. It has a pressure quality. When the pain is bad, she is light sensitive.

Tension Headache

- Types

- » Episodic
- » Chronic

- <24 hrs in majority

- Cause

- » Stress
- » Sleep disturbance
- » Bruxism

- Is it migraine?

- Criteria

- » At least two

- Bilateral
- Pressure, band-like
- Mild to moderate
- Not aggravated by routine activity

- » Possible

- Nausea
- Photo- and/or sonophobia

Tension Treatment

- Recognition of comorbid illness
- Physical therapy
 - » Stress reduction
 - » Biofeedback
 - » Massage
 - » Tens
 - » Chiropractic
 - » Heat
 - » Acupuncture

Tension Treatment

- Symptomatic

- » OTC analgesics
- » Fiorinal
- » Narcotics

- Prophylactic

- » TCAs
- » Gabapentin
- » SSRIs
- » Tizanidine
- » Trigger point injections
- » Botox

END