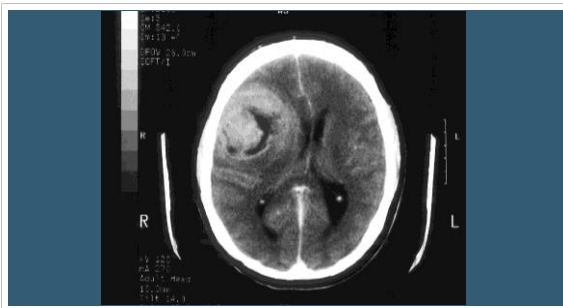


objectives

- 1. Describe the diagnosis and management of migraines
- 2. discuss other headache types- tension and cluster
- 3. describe signs and symptoms of Pseudotumor cerebri
- 4. discuss medication management of each type discussed



statistics

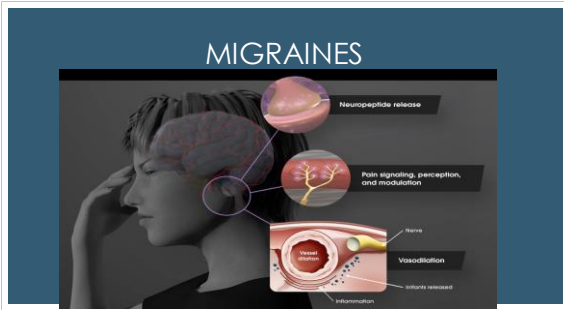
- Average age 30-39
- 2-3 times more common in women
- 12% of adult in US with migraines

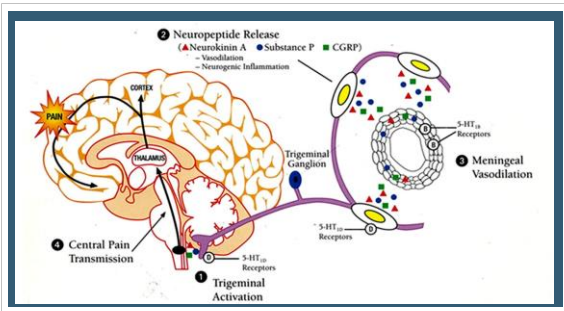
Migraine Definition

- Long term disease that can cause profound disability impairing their ability to carry out everyday activities; attending family events, going to work and can be a burden on the family.

Theories

- Posterior hypothalamus involved in pain (acute headache phase)
- Anterior hypothalamus involved in chronicity (recurring phase)
- Neuropeptide calcitonin gene related peptide (CGRP) is found in the trigeminal system and may be involved in the pathophysiology of migraines





DIAGNOSIS

- Patient and family history
- Sign and symptoms
- MRI

Migraines

PREVENTION IS THE KEY!!!!

Know your Triggers



TRIGGERS

- Tyramine- CHEESE *swiss chesse, cheddar and aged chese*
Mozzarella and ricotta ok
- SALAMI- and other cured meats. Burger and steak OK
- Beer on tap- drink bourbon or beer from a bottle
- Chocolate- probably not a cause but craving it can be an aura
- Red wine- no connection , according to the Italians
- MSG- not a culprit
- Coffee- skipping it can trigger a migraine

• Episodic migraine:
4 migraine attacks
< 15 days/month

Chronic migraine:
> 15 headaches per month for 3 months or > 8 migraine days /month

AURA

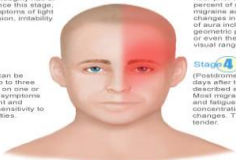
a complex of neurological symptoms that occur before or at the time of a migraine headache

Phases of migraine

- Initiation
- Peripheral nociceptors activation
- Transmission of the afferent neurons
- Trigeminal activation
- Cortical and subcortical activation

MIGRAINE PHASES

Migraine Symptoms and Stages



Stage 1
(Prodrome) Prodrome symptoms may occur 1-3 days before actual pain hits. Roughly half of all migraine sufferers experience this stage, which is characterized by symptoms of light and sound sensitivity, depression, irritability and lack of appetite.

Stage 2
(Aura) Auras usually occur up to one hour prior to the headache. Twenty percent of migraine sufferers experience migraine aura, a phase characterized by changes in visual perception. Symptoms of aura include seeing flashing lights, geometric patterns that obscure vision, or even the temporary loss of half of the visual range.

Stage 3
(Headache) Headache pain can be moderate to severe, lasting up to three days. Migraine pain may start on one or both sides of the head. Other symptoms may include intolerance of light and noise, nausea and vomiting, sensitivity to movement and speech difficulties.

Stage 4
(Postdrome) Symptoms can last several days after the headache, and have been described as a "migraine hangover." About 80% of migraine sufferers may be irritable and fatigued. They may have difficulty concentrating, and experience mood changes. The scalp may also be very tender.

Prevention of migraines

- Beta blockers -propranolol (not with asthma, can worsen depression)
- Calcium channel blockers-verapamil 240 ER at bedtime (can cause constipation, monitor for hypotension)
- Amitriptyline- 25 mg at hs, if too drowsy during the day break in half (blocks substance P)
- Nortriptyline- 10 mg at hs, less drowsy side effects(blocks substance P)
- Antiepileptic:
 - topiramate-25mg hs for one week, then bid for 1 week, then 2 hs and 1 in the am for 1 week, then 2 bid.(Monitor patient in 4 weeks)May need to increase dosage, 200mg/day maximum dosage
 - Zonisamide - ~~start with 100mg~~, start 25mg at night for 1 week then increase to 50 mg at night
 - levetiracetam- 250 mg po bid

Prevention continued

- Divalproex sodium (Depakote)-250 po bid, liver precautions! Weight gain, hair loss and many more reactions
- Carbamazepine(tegretol)- start 100 mg bid, max 400mg bid - watch for ~~WBC and platelets~~, tremors.
- Medrol dose pack for prolonged migraine(status migrainous)
- BOTOX- have to have more than 15 headache days a month and have failed 3 prevention treatments for insurance to pay.
- Trigeminal intranasal block

• UPCOMING- GGRP blocking medications

CGRP Injection

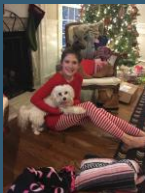
- ALDER biopharmaceuticals Inc.
 - Amgen Inc. (novartis)
 - Eli Lilly & Co.
 - Teva Pharmaceuticals
- Phase III trials:
- Erenumab- receptor blocker
 - Eptinezumab
 - Fremanezumab
 - Galcanezumab

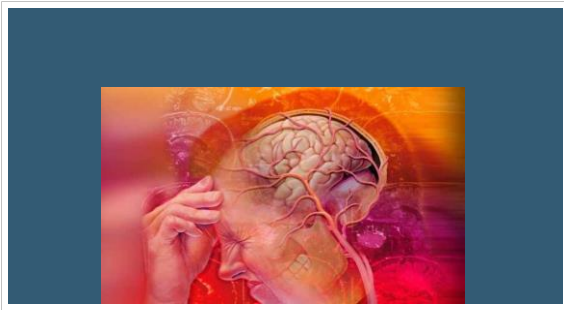
\$ 8000.00

Migraine Home Remedies

- Ice pack
- NSAIDS
- Caffeine- helps body absorb medicine faster
- Dark quiet room
- Exercise- but not during headache
- Magnesium for prevention
- 7-8 hours sleep per night
- YOGA
- Vitamin B2- riboflavin
- AVOID TRIGGERS
- Butterbur-plant extract- may reduce number and intensity
- hormones

Any questions about migraines?





ATYPICAL MIGRAINES

Formally called complicated or complex

PROLONG AURA SYMPTOMS

- Ophthalmoplegic
 - Hemiplegic
- Familial hemiplegic migraine
- Basilar type (Bickerstaff)

Ophthalmoplegic

- Recurrent headache with migrainous characteristics- pain around the eye that can last for weeks. This is associated with weakness of one of the cranial nerves that affects the eyes. Most commonly the third nerve. No MRI abnormality.

Familial Hemiplegic migraine

- Genetic from first or second degree relative.
- Migraine with aura that includes motor weakness
- Specific gene abnormalities have been identified.

Characteristics:

Aura with reversible motor weakness and visual symptoms (flickering light, spots or lines), reversible sensory symptoms, reversible dysphasic speech disturbances

Each aura last >5minutes and <24hours. Nausea/vomiting, photophobia, phonophobia with headache

SPORATIC HEMIPLEGIC MIGRAINE

- **NO FAMILY HISTORY**

ALWAYS have to rule out CVA!!!!

Bickerstaff migraine BASILAR -TYPE

- Fully reversible visual, sensory and speech aura but no motor weakness.

SYMPTOMS: dysarthria, vertigo, tinnitus, decreased hearing, double vision, ataxia, decreased LOC, bilateral visual symptoms, bilateral paresthesias

last 5 to 60minutes- headache attack occurs within this time, associated with N&V, photophobia and phonophobia

TREATMENT of atypical migraines

- PREVENTION is the key. (1 in 100,000 will have a stroke)
 - Secondary vascular component, so NO TRIPITANS or ERGOTS
 - Avoid individual triggers- food, bright lights,
 - Avoid BCP's
 - Beta blockers, amitriptyline, valproate, topiramate, gabapentin
- treatment.
- Diclofenac potassium(cambia)
 - Benzodiazepines to induce sleep
 - Acetaminophen, naproxen, aspirin, ibuprofen





CHARACTERISTICS

- **Pain location:** one side of face, head or neck(does not switch sides)
- **Severity:** **PIERCING** get bad fast
- Lying down makes it worse
- **Other symptoms:** watery eyes, nasal congestion, small pupil, droopy or swollen eyelids, sweating on the forehead

- May Wake you up at night

CLUSTER preventive treatment

- Calcium channel blockers- (verapamil) constipation, nausea, fatigue , ankle swelling ,hypotension
- Corticosteroids- not long term use
- Lithium carbonate- tremor, thirst , diarrhea
- Occipital block
- Melatonin- 10mg HS
- Topiramate

- FUTURE treatment- deep brain stimulation of the hypothalamus occipital nerve stimulator

LIFESTYLE MANAGEMENT

- Regular sleep schedule
- Avoid alcohol
- Keep headache diary
- medications

Treatment of Cluster migraines

- Oxygen-100% mask for 15 minutes
- Triptans-better with injections, avoid sumatriptan with HTN and CAD
- Octreofide-somatostatin (ok for some)
- Intranasal lidocaine
- Dihydroergotamine- DHE 45- injection, inhaled migranal -not proven effective

Maggie 12 years old



Tension headaches

Characteristics of tension headache

- **Location:** both sides or all over
- **Description of pain:** deep pressure or tightening(no throbbing)
- **Things that make it worse:** physical activity
- **Symptoms:** no Nausea/vomiting, worse around light or sound (not both), may last several minutes to several days

TREATMENT

- NSAIDS
- Acetaminophen
- Low dose muscle relaxers (tizanidine 4 mg at bedtime)
- Stress reducing exercises

2016 AANP legislature of the year





Pseudotumor Cerebri

AKA:

- Idiopathic Intracranial Hypertension
- Benign Intracranial Hypertension

Definition

Condition characterized by increased intracranial pressure with no evidence of intracranial mass, hydrocephalus, infection or hypertensive encephalopathy.

Diagnosis of exclusion!!!!!!

Pathogenesis

UNKNOWN!!!!

Epidemiology

- Female to male ratio 2-8:1
- Obesity (11-90%)
- 3rd decade peak incident
- Severe visual deficits (4-12%)
- Child-bearing age

Symptoms

- H/A (94-99%) worse in the am
- Dizziness
- Nausea
- Blurred vision
- Double vision (6th nerve palsy)
- Pulsatile intracranial noise
- Eye pain on movement

Differential Diagnosis

- Tumors, abscess, hematomas
- Cranial venous problems
- Infection
- Inflammatory diseases
- Vasculitis
- Lead poisoning
- Guillain-Barre' syndrome
- Head trauma
- Meningeal carcinomatosis

Diagnostic Criteria

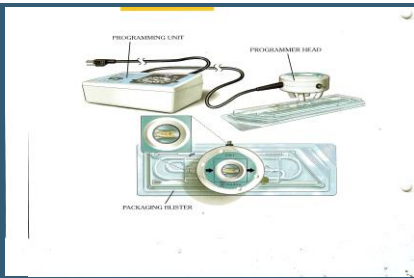
- CSF pressure > 20cm H2O
- CSF studies- normal glucose, cell count and normal or low protein
- Signs/symptoms of increased intracranial pressure: papilledema and Headache
- CT and MRI normal or small ventricles

Medical Treatment

- Repeated eye exams
- Stop offending drugs
- Weight loss
- Fluid and salt restriction
- Diamox 125-250mg q 8 hrs or lasix 160mg/day
- May add decadron if diamox or lasix ineffective

Surgical Treatment

- Serial LP's
- Lumbo-peritoneal shunt
- VP shunt – difficult because of small ventricles
- Optic nerve sheath decompression- may reverse visual loss





ABBY 3 years

THANK-YOU

ANY
Questions?
