Headaches In Pregnancy

OVERVIEW OF IDENTIFICATION AND MANAGEMENT

Objectives

- Overview of headache symptoms and differentiation
- Choosing safe management: focusing on primary headache treatments
- Identifying emergencies

General Scenarios

- 1. Usual primary headache
- 2. First new headache in pregnancy
- 3. History of headache, but now it's different

General Principals

- > 20 weeks
  - Evaluate for Pre-E
- Same headaches prior to pregnancy
  - Don’t overdo the work-up
- Red flags
  - Need further work-up

Identifying the Headache

- Primary vs. Secondary
  - The headache is the disease
  - The headache is a symptom

Primary Headaches

- Migraine
- Tension
- Cluster

Identifying Migraine

- Unilateral (70%)
- Gradual onset, crescendo, pulsating, moderate to severe
- Prefers rest and dark quiet room
- Lasts 4 to 72 hours
- Associated with photophobia, phonophobia, nausea/vomiting, aura

Migraine

- Correlates with increased risks of complications
- ½ to ¾ of improve
  - Especially if migraines associated with menses
- Improves as pregnancy progresses
- Migraine with aura→ less improvement

Management for Migraine

- Lifestyle/Non-pharmaceutical/OMM
- Acetaminophen
- Combinations with acetaminophen
- NSAIDs
  - 2nd trimester
- Opioids
- Triptans

OMM for Headaches

- Extracranial Structures
  - Cervical/thoracic/traps/Scalenes/SCM
  - Soft tissue, muscle energy, HVLA
  - Sub-occipital release
  - Sinus milking
- Cranial Techniques
  - Venous Sinus Technique
  - V-Spread
  - Frontal and parietal lifts

Migraine Treatment 1st Line

- Acetaminophen
  - Safest; risk of asthma and ADHD
- Acetaminophen + Reglan
- Dystonic reactions at higher doses
- Acetaminophen + Codeine*
  - Risk of fetal withdrawal near term
- Acetaminophen-Butalbital-caffeine*
  - Caffeine< 200mg/day
  - Butalbital associated with fetal withdrawal near term

Migraine Treatment 2nd Line

- Aspirin/NSAIDs
  - Trimester 1: Miscarriage
  - Trimester 3: PDA closure, renal, CP, intraventricular hemorrhage

Migraine Treatment 3rd Line

- Opioids
  - Tramadol and codeine best
  - Maternal dependence, neonatal withdrawal
  - Limited data showing neonatal CNS effects
- Triptans*
  - No major congenital defects
    - Based on registries
  - Possible behavioral issues in child

Migraine Preventatives

- 1st Line: Propranolol, metoprolol
- Verapamil
- Cyproheptadine
  - 2mg then increase to 4mg
- SNRI, TCA
  - Avoid venlafaxine*
  - Amitriptyline preferred
- Gabapentin*
  - Limited data
  - Possible osteological deformities

Migraine Treatment - Other

- Coenzyme Q10
- Magnesium 400-800mg QD*
  - Possible bone abnormalities with chronic use
- Riboflavin 400mg QD, *
- Butterbur 100-200mg QD*

Refractory Migraines

- 1st→ IVF/Antiemetic(reglan)/IV Opioid
- 2nd line→ +/-
  - IV Magnesium sulfate
  - IV Prednisone/methylpred
  - Nerve blocks: occipital, auriculotemporal, supraorbital, supratrochlear

Tension-Type Headaches

- Tend to remain the same in pregnancy

Identifying Tension Headache

- Bifrontal
- Waxing/waning tightness and pressure
- Lasts 30min to 7 days

Management for Tension

- Lifestyle/Non-pharm/OMM!
- Acetaminophen
- Acetaminophen Combinations
- Ibuprofen in 2nd trimester

Identifying Cluster Headache

- Always Unilateral (eye/temple)
- Quick onset, deep, continuous, excruciating, explosive
- Last 15min to 3 hours
- Patient active
- Associated with: redness/lacrimation of eye, rhinorrhea, pallor, sweating, Horner's syndrome
- Worsened by alcohol

Management for Cluster

- 100% high flow O2 by NC
- Sumatriptan
  - 6mg SubQ
  - Intranasal
- Intranasal 4% lidocaine

Cluster Headache Prevention

- 1st Line: Verapamil 240 to 960mg* daily
- Prednisone 20mg QID x2 days
- Methylprednisolone 4mg PO 21 tabs over 6days

Identifying Secondary

- Pre-E
- Red flag symptoms
- Postdural Puncture Headache

Pre-E Definition

- Pre-E without Severe Features
  - BP≥140/90 + Proteinuria
- Pre-E With Severe Features
  - BP≥140/90 +
    - LFT's >2x ULN
    - Plt's < 100,000
    - Headache/visual changes
    - Cr >1.1 or double baseline
    - Pulmonary edema
  - Or BP≥160/110 + proteinuria

Pre-E vs. Migraine

- Pre-E headache
  - Diffuse, constant, throbbing
  - Associated with vision changes, AMS, photophobia
    - But not focal neuro findings
- Migraine
  - Majority are unilateral

Management Pre-E

- Labs
- Delivery
- IV Magnesium Sulfate
- BP control

Red Flag Symptoms

- AMS, seizure, papilledema, vision changes, stiff neck, focal neuro
- Sudden and severe
- New onset of migraine
- Change from normal
- Immunosuppressed
- Inciting event
- Awakens from sleep
- Unrelieved by medication

Postdural Puncture Headache

- Typically within 48hrs
- Worse with standing and raising head

Red Flag Work Up

- Rule out Pre-E→
- Thunderclap? ; Meningitis?→
  - Emergent non-contrast CT head
  - Non-diagnostic, consider LP and cultures
- Concerning Signs→
  - Seizure, papilledema, etc.
  - Elevated BP, or onset in age>40
  - MRI
- None of the above?
  - Consider exacerbation vs. primary vs. secondary

Secondary Headaches

- Idiopathic Intracranial Hypertension
  - Progressive daily frontal/retro=orbital headache, postural/valsalva, papilledema/tinnitus/sixth nerve palsy
  - Rule out other with MRI and LP
- CVT
  - Non-specific headache, focal signs
  - Usually 3rd trimester and post-partum, Mortality 30%
  - MRI+MRA or CT+CTA
- Stroke
  - Headache especially if posterior, focal signs predominate
  - Stroke work-up

Secondary Headaches

- Subarachnoid hemorrhage
  - Headache predominate, thunderclap→ vomiting, LOC
  - Mortality 40-50%
  - Non-contrast CT (LP if non-diagnostic)
- Arterial Dissection
  - Severe, ipsilateral, persistent pain, Horner's
  - Cervical MRI, carotid duplex, MRA +/- CTA
- Reversible Cerebral Vasoconstriction Syndrome
  - Severe/diffuse/thunderclap, recurring 1-2wks

Secondary Headaches

- Posterior Reversible Encephalopathy (PRES)
  - Insidious occipital/bilateral headache with AMS/visual/focal
  - Associated with pre-e, reversible
  - MRI (Gold Standard): vasogenic edema
- Pituitary Tumor
  - MRI
- Metastatic Choriocarcinoma
  - MRI

Imaging and Diagnostics

- Concern for Space Occupying Lesion
  - CT vs. MRI
  - MRI: Slower, Don't use Gadolinium
  - CT: Faster, Radiation exposure
    - Exposure is minimal with head CT
    - Contrast can affect fetal thyroid
- Concern for meningitis or SAH
  - LP

The Dont's

- Ergotamine
  - Uterotonic, vasoconstrictive, congenital malformations
- Anticonvulsants (except lamotrigine)
  - Valproate: neural tube/cardiac/cleft palate/developmental
  - Topiramate*: Cleft palate/LBW

Sources

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