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Migraine in Primary Care

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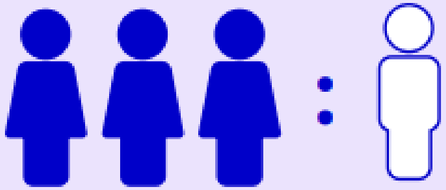
Migraine Is Frequently Underdiagnosed And Undertreated

More than 1 billion people live with migraine globally; approximately 40 million in the United States[3,4]

2nd

Most prevalent **neurological disease** in the US[a,4]



~3×

More common in females than males (3:1 ratio)[5]

25–55 years

Most common in the **productive years**[6]

Migraine definition by the International Classification of Headache Disorders (ICHD-3):

1. At least 5 or more attacks in lifetime
2. Headache attack lasting 4-72 hrs
3. At least 2 out of 4 features (unilateral location, pulsating/throbbing quality, moderate-severe intensity, aggravation by/causing avoidance of routine physical activity)
4. At least 1 of the following features (nausea and/or vomiting, photophobia and phonophobia)
5. Not better accounted for by another ICHD-3 diagnosis

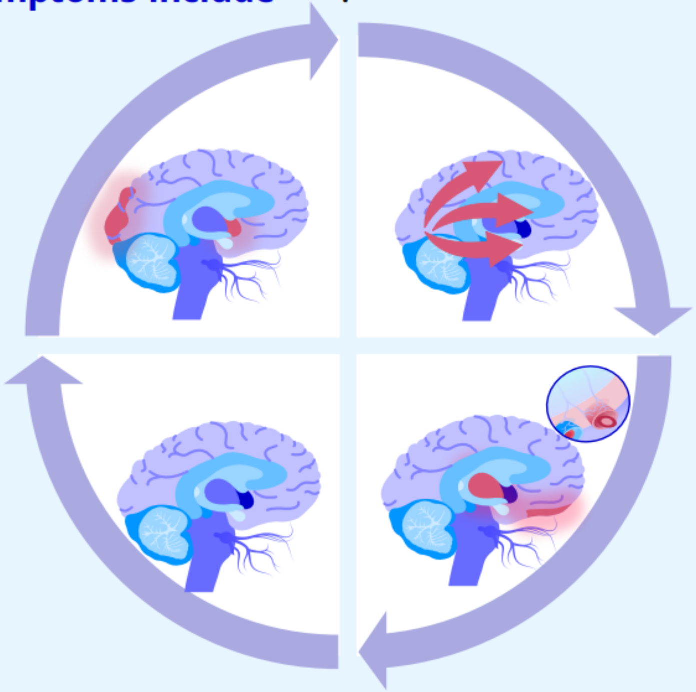
The ID Migraine Screener

- P: Photophobia
- I: Impairment/Disability (limits routine daily activity, work/school, social activity)
- N: Nausea

The screen is positive for migraine if the patient has 2 or more of the features.
Sensitivity of 0.81 (95% CI, 0.77 to 0.85), specificity of 0.75 (95% CI, 0.64 to 0.84).

Stages of Migraine

There are four stages of migraine; symptoms include[5,6,14]:



PRODROME

Few hours–days

Activation of hypothalamic region

- Impaired concentration
- Mental slowness
- Neck pain/stiffness
- Water retention

AURA

~1 in 3 people with migraine experience aura with some or every attack[2]

5–60 minutes

Cortical spreading depression

Symptoms include:

- Visual disturbances
- Paresthesia
- Expressive language dysfunction
- Motor dysfunction

POSTDROME

24–48 hours

Altered brain-blood flow

Symptoms include:

- Asthenia
- Tiredness
- Somnolence
- Difficulty with concentration
- Cognitive difficulties

HEADACHE

4–72 hours

Activation of trigeminovascular system

Symptoms include:

- Nausea, vomiting
- Photophobia
- Phonophobia

Stages can occur sequentially or overlap, and some may not occur at all for some patients.[15,16] Interictal periods occur between migraine attacks, during which symptoms may persist, and individuals remain susceptible to the next attack[5,14]

Clinical Pearls

- Clinical and family history + physical/neurologic examination findings are usually sufficient to make a diagnosis of migraine

- Patients sometimes would deny photo- or phonophobia but would still prefer to rest in a dark and quiet place.

Clinical Pearls

- Neuroimaging is not indicated in patients with recurrent headache with typical migraine features, normal neurologic exam and no red flags

- If considering imaging – MRI brain with and without is the test of choice, vessel imaging is required in certain circumstances (e.g. thunderclap headaches).

Clinical Pearls

- Recurring so called “sinus headaches” is often an undiagnosed migraine, consider treating it accordingly

- Nagging diffuse/bilateral “tension type” headaches interfering with daily activities, again consider migraine diagnosis and treatment

Medication Overuse Headache

- Always delicately inquire about possible frequent use of short acting OTC or prescription medications for headaches:
  - ➢ Combination analgesics, opioids, ergots or triptans ≥ 10 days/month
  - ➢ Acetaminophen/NSAIDs ≥ 15 days/month

- Patient would not always volunteer to disclose it
- Patient would often become defensive about it
- Potential key is morning headaches (same as with caffeine withdrawal)
- Gentle counseling, avoid blaming/shaming the patient
- Most common approach is to start a migraine preventative treatment along with cutting down on the offending drug

Preventative Migraine Treatment

- Indicated for 4 or more headache days per month or less frequent, but significantly disabling
- Explain migraine (chronic disease, no identifiable structural pathology)
- Set realistic goals (can't cure, but can control, can decrease severity, frequency of attacks, improve response to rescue treatment, improve function and reduce disability)
- Set the timeframe (preventative treatment trial should be at least 2-3 months, not 2-3 weeks)
- Expected duration at least 6-12 months
- Be mindful of patient's preferences. OTC supplements and devices can be used if patient prefers "natural remedies", non-pharmacological options.

Migraine Preventative Therapy

- B-blockers: metoprolol, propranolol, and timolol (level A)
- Start with Propranolol LA 60-80 mg daily or 40 mg BID, titrate up to 240 mg daily
- Titration will be limited by HR and BP
- Cautiously in patients with asthma, diabetes mellitus, or depression

Migraine Preventative Therapy

- Antiepileptic Drugs: Topiramate, Divalproex sodium, sodium valproate (level A)
- Topiramate:
  - ❑ Titrate in weekly intervals from 25 mg to 200 mg daily, but at least to 50-100 mg, rarely go above 100 mg
  - ❑ Side-effects: paresthesia, drowsiness, change in taste of carbonated drinks, weight loss, cognitive complains.
  - ❑ Avoid in patient with recurrent kidney stones, glaucoma
  - ❑ Avoid in pregnancy, counsel on risk of facial clefts
  - ❑ Doses greater than 200 mg may impact the efficacy of oral contraception
- Valproate:
  - ❑ 500 -1500 mg daily
  - ❑ Side-effects: nausea, somnolence, tremor, dizziness, weight gain, and hair loss
  - ❑ Should not be used by females of childbearing age (lower intelligence quotient scores among children with prenatal valproate exposure) and during pregnancy (teratogenicity)

Migraine Preventative Therapy

- Antidepressants amitriptyline, venlafaxine (Level B)
- Amitriptyline:
  - ❑ Consider for patients with co-morbid insomnia, other chronic pain conditions
  - ❑ Can titrate from 10 mg to 100 mg in weekly intervals (usually don't go above 50 mg)
  - ❑ Side-effects: drowsiness, dry mouth, constipation, weight gain, tachycardia
- Nortriptyline is used frequently in clinical practice and is better tolerated
- Venlafaxine:
  - ❑ Consider with co-morbid GAD, panic disorder, perimenopausal syndrome
  - ❑ Can titrate from 37.5 to 150 mg daily
  - ❑ Side-effects: Diaphoresis, weight loss, anorexia, nausea, drowsiness, insomnia

Migraine Preventative Therapy

- AHS 2024 position statement: The CGRP-targeting therapies should be considered as a first-line approach without a requirement for prior failure of other classes of migraine preventive treatment.
- Injectable MABs: Aimovig, Ajovy, Emgality q 28-30 days
- Infusion MAB: Vyepti q 3 months
- Gepants: Nurtec 75 mg every other day; Qulipta 10-60 mg daily
- Botox therapy for chronic migraine

Migraine Preventative Therapy

Second line agents:

- Candesartan
- Lisinopril
- Verapamil
- Valproate
- Venlafaxine
- Memantine

Nutraceuticals

- Riboflavin (vit B2) 400 mg daily
- Coenzyme Q10 200-300 mg daily
- Magnesium 400-500 mg daily
- Feverfew
- Melatonin 3 mg nightly
- Combination formulations such as MigreLief

Neuromodulation Devices

Nerivio

HeadaTerm 2

Relivion

Cephaly

REN: Remote electronic neuromodulation

eTNS: Electrical trigeminal nerve stimulation

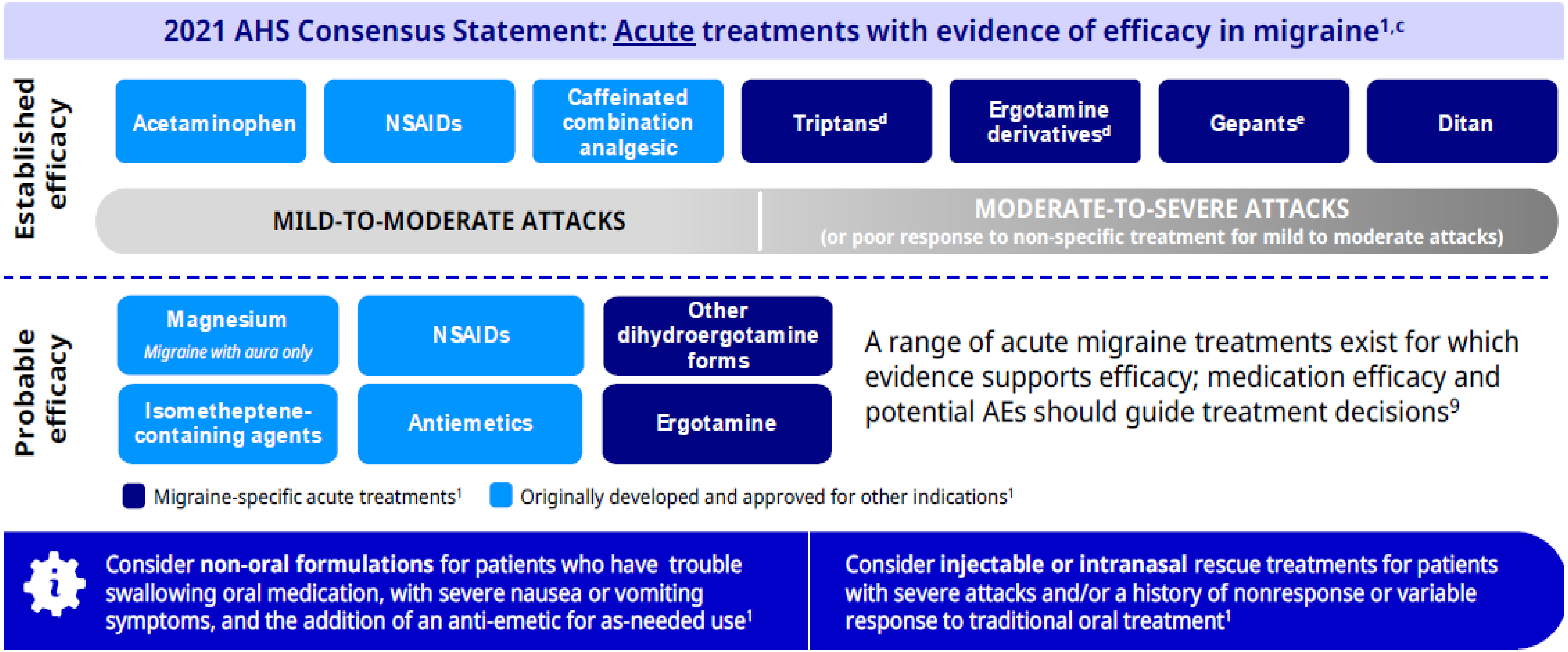
sTMS: Single-pulse transcranial magnetic stimulation

nVNS: Noninvasive vagal nerve stimulation

SAVI Dual

Gammacore

Acute Treatment of Migraine



Referrals

- It is very helpful to keep track of treatments that have been tried, e.g.:

  Preventative treatments tried:

  - Topiramate, up to 100 mg qhs, for 2 months (no response)

  - Amitriptyline, up to 50 mg qhs, for 1 week (could not tolerate)

  Acute treatments tried:

  - Sumatriptan, up to 100 mg (ineffective)

Contact Information

- Adult patients with headaches
  - ❑ Alexey Shikuev, MD
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  - ❑ Phone: 425-690-3585
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- Pediatric patients with headaches
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