An overview of the diagnosis and management Of headaches with emphasis on migraine

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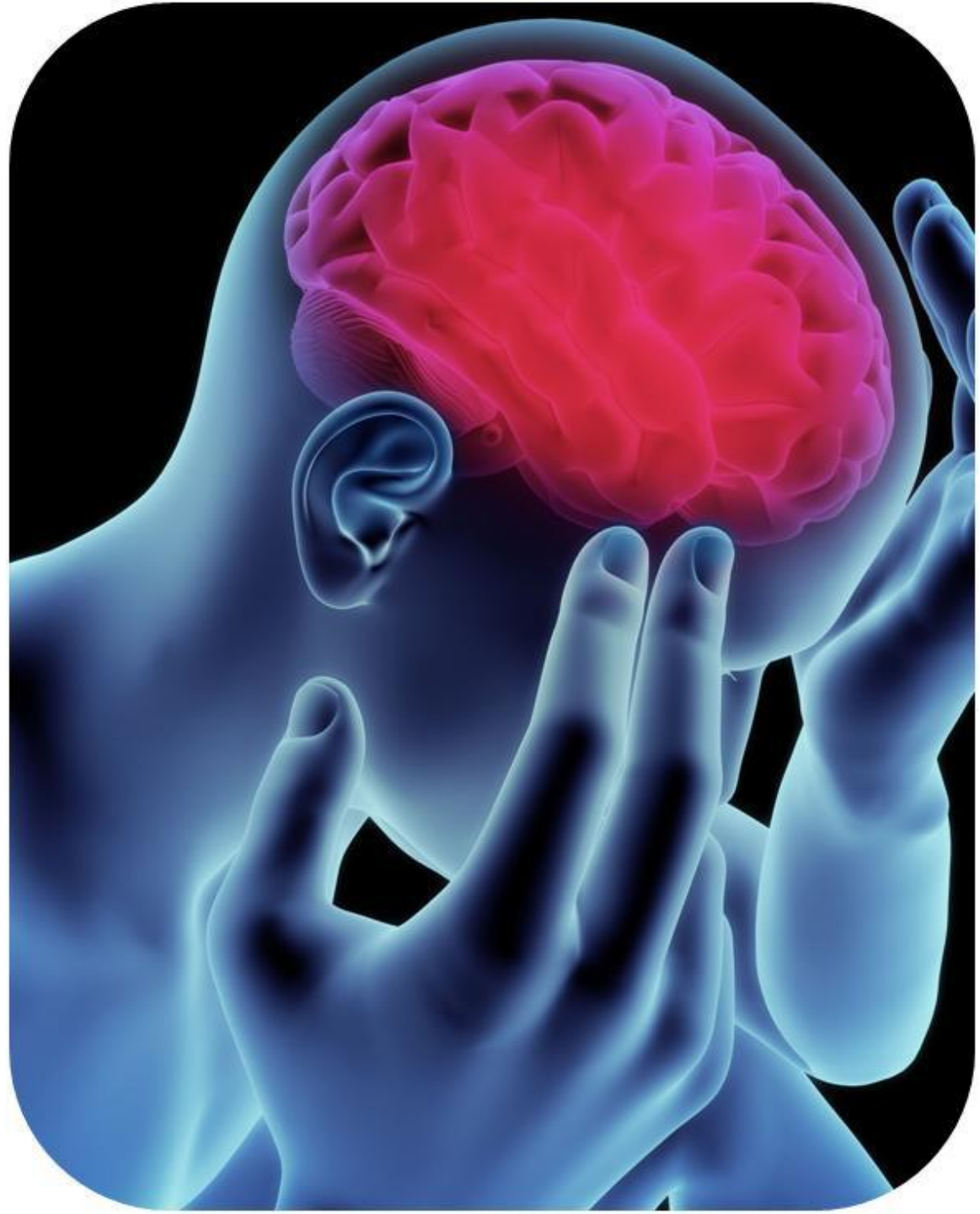


Objectives

- Describe the common types of headaches[HAs]
- Mention the unusual headaches
- When to seek medical help
- How to prepare for the doctor visit
- Diagnosis and management
- Patient’s role in the management
- Headaches which affect special population
- Recent advances

Types of Headaches [HAs]

- Several types:
  - Primary Headaches with no identifiable cause
  - Secondary Headaches due to a cause like:
    - Brain tumor, infection in the brain or over the head
    - Head trauma
    - Increased pressure in the brain
    - Stroke, especially bleed

Primary Headaches

- Tension Headaches: most common
  - Dull aching head and neck pain /tightness
  - No associated disabling symptoms.
  - Tylenol, Advil , massage, ice or heat
  - Relaxation measures all help
  - Rarely only persons seek medical help.

Other Primary HAs

- **Migraines**: most common disabling headaches
  - 15% of the population world wide
  - Affects any age including young children
  - 2/3 are women; majority in child bearing age
- Cluster Headaches[CH]
  - Very rare; more common in men
  - Extremely severe pain
  - Occurs in clusters
  - Always one sided with autonomic symptoms

Migraines

- Brain disorder with attacks of headaches
- Nausea, vomiting, dizziness,
- Light, noise, smell and touch sensitivity
- Worse with physical activity
- May last hours to days if untreated
- Many have a prodromal and postdromal phase
- Frequency /severity vary in same individual/others

Features of Migraine

Prodrome

Euphoria/irritability
Hunger/thirst
Cognitive

Aura

Visual
Somatosensory
Language
Motor
Vestibular/ Cerebellar?
Cognitive?
Arousal?

Attack

Pain
Nausea/vomiting
Photophobia
Phonophobia
Allodynia
Conjunctival injection/ tearing/rhinorrhea
Flushing/sweating/pallor

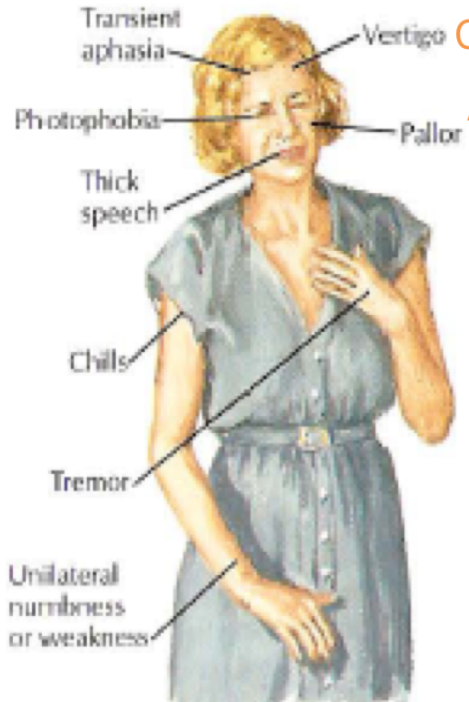
Postdrome (and Rebound)

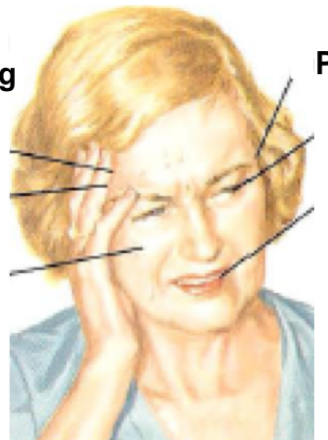
Pain
Photophobia
Phonophobia
Allodynia

Interictal (Modulation Chronification Recovery)

Hormonal (Menstruation Pregnancy Menopause)
Stress/Affective (Anxiety Depression)
Circadian

Comorbidities
Medication overuse
Trauma
Infection





Vomiting

Migraine Aura

- 25 % of patients have a focal neurological symptom
  - Visual, sensory, language dysfunction
  - Rarely motor paralysis, loss of vision,
  - Loss of balance, slurry speech,
  - Loss of memory, confusion, fainting.
  - Can have abnormal smell
- **Aura is fully reversible, lasts 5’-60’**
- Headache comes after the aura or during.
- Aura can occur without headaches.

VISAUL AURA

Pathophysiology

PROBABLE MIGRAINE CENTER

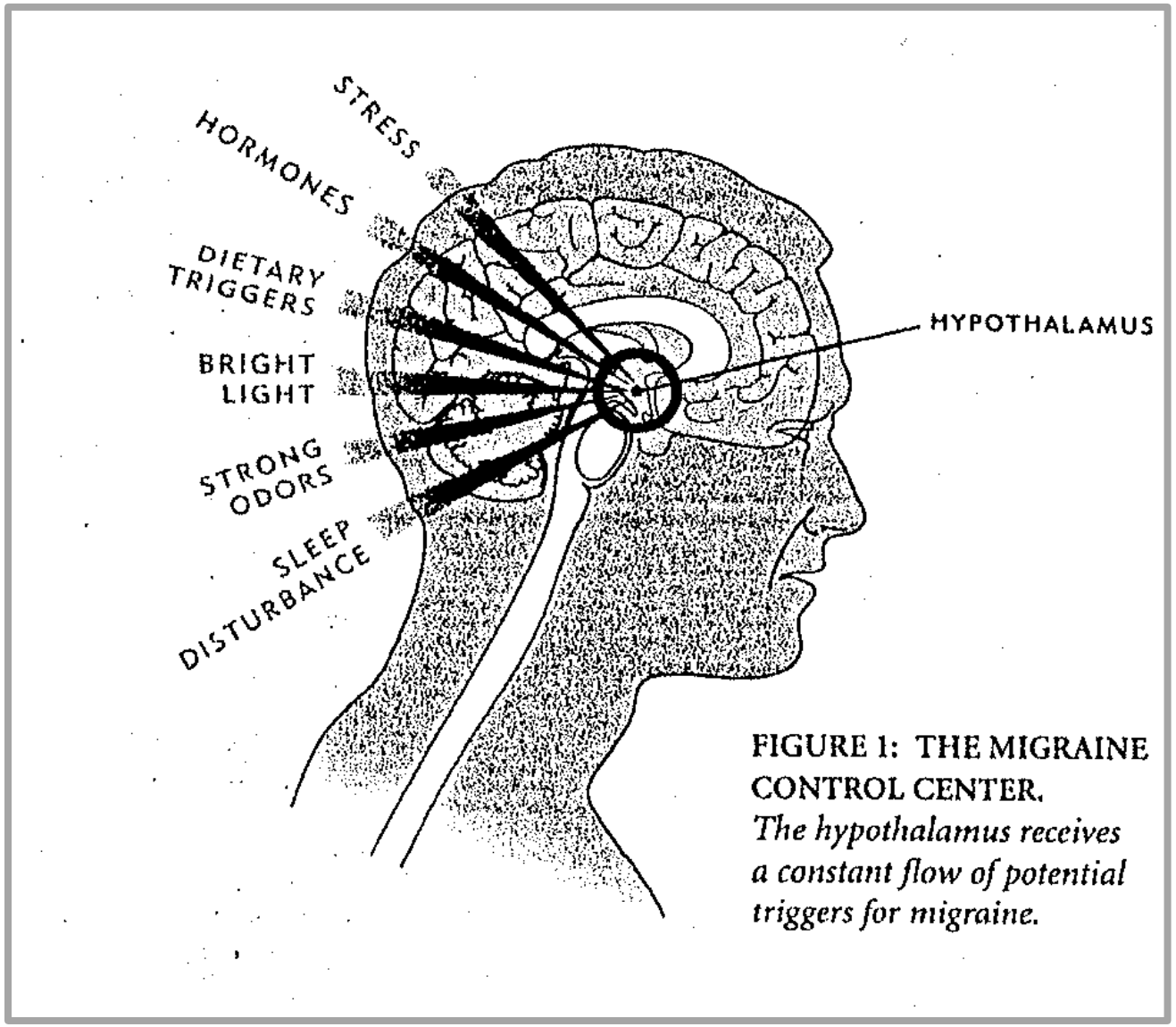


FIGURE 1: THE MIGRAINE CONTROL CENTER.
The hypothalamus receives a constant flow of potential triggers for migraine.

Cause of Migraine

- Migraine brain **is hypersensitive ;hyper excitable**
- 80 % patients have genetic history
- Multiple external and internal triggers
- Interaction causes brain activation
- Leads to secretion of inflammatory chemicals
- Main one is **CGRP.[** calcitonin gene related peptide]

Migraine cause

- CGRP + others cause swelling
  of the blood vessels
  in the lining of the brain [meninges]
  and inflammation of the tissues
  This sends nerve impulses to the brain
  when the patient feels pain and
  all the other associated symptoms
- Brain itself is not pain sensitive.
- **Modulating CGRP action may prevent migraine attacks.**

When to go to the doctor

- When headaches are frequent
- Affecting family life and work
- QOL and productivity impaired
- Taking too many HA medicine
- When there are “Red Flags”:

Diagnosis

- The Single most important diagnostic tool is **detailed history taken** by the doctor
- Then complete physical and neurological exam
- We look for “Red Flags” for secondary causes
- Eg: Onset for the 1st time after 50
- Sudden onset of the most severe headache
- New neurological symptoms
- Fever with neck stiffness, confusion
- Cancer, HIV, Lupus, TB

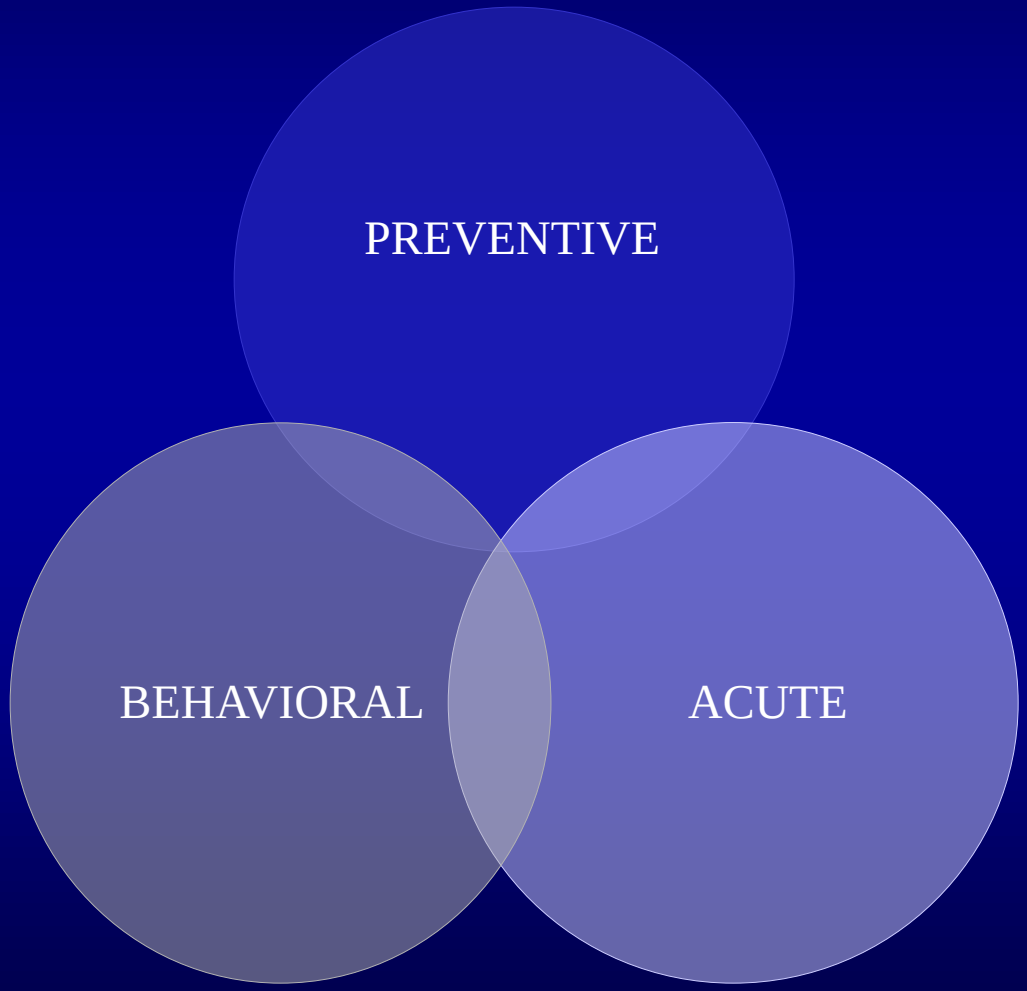
Diagnosis

- If red flags: May do MRI brain
- Spinal tap to look for infection, bleed
- Lab tests looking for systemic disease
  Brain circulation tests:
  looking for blood clot, aneurysm
  other anomalies
- Only 1-2 % of clinic patients have secondary
  Diagnosis is made by history and physical

Patient's role

- Prepare detailed, specific, relevant history:
  - Age of onset, frequency, duration, intensity
  - Associated symptoms, **trigger**s, FH
  - Medicines tried: dose, effects, side effects
  - Tests done , results
  - Medical history , list of all the Rx
  - Social history, personal history
  - psychiatric issues

Primary Headaches: Treatment



Management of migraines

- Three parts:
- **Behavioral, acute , and preventive**
- Behavioral and life style modification
- Understand and avoid your triggers
- Address stress and sleep issues:
- Yoga, tai chi, meditation, relaxation ,
- Cognitive behavioral therapy[CBT]
- Psychotherapy if needed

Acute treatment

- Use the most effective medicine **early**
- In **proper dose** for **that particular attack**
- Most specific Rx is Triptan: Eg:Suma or Riza triptan
- Ibuprofen, Naproxen or Tylenol
- Excedrin Okay but can cause rebound Has early
- Antinausea medicines. Effective for Has too
- Sometimes combination of all the 3 or 2 .
- Trial and error and feedback is important

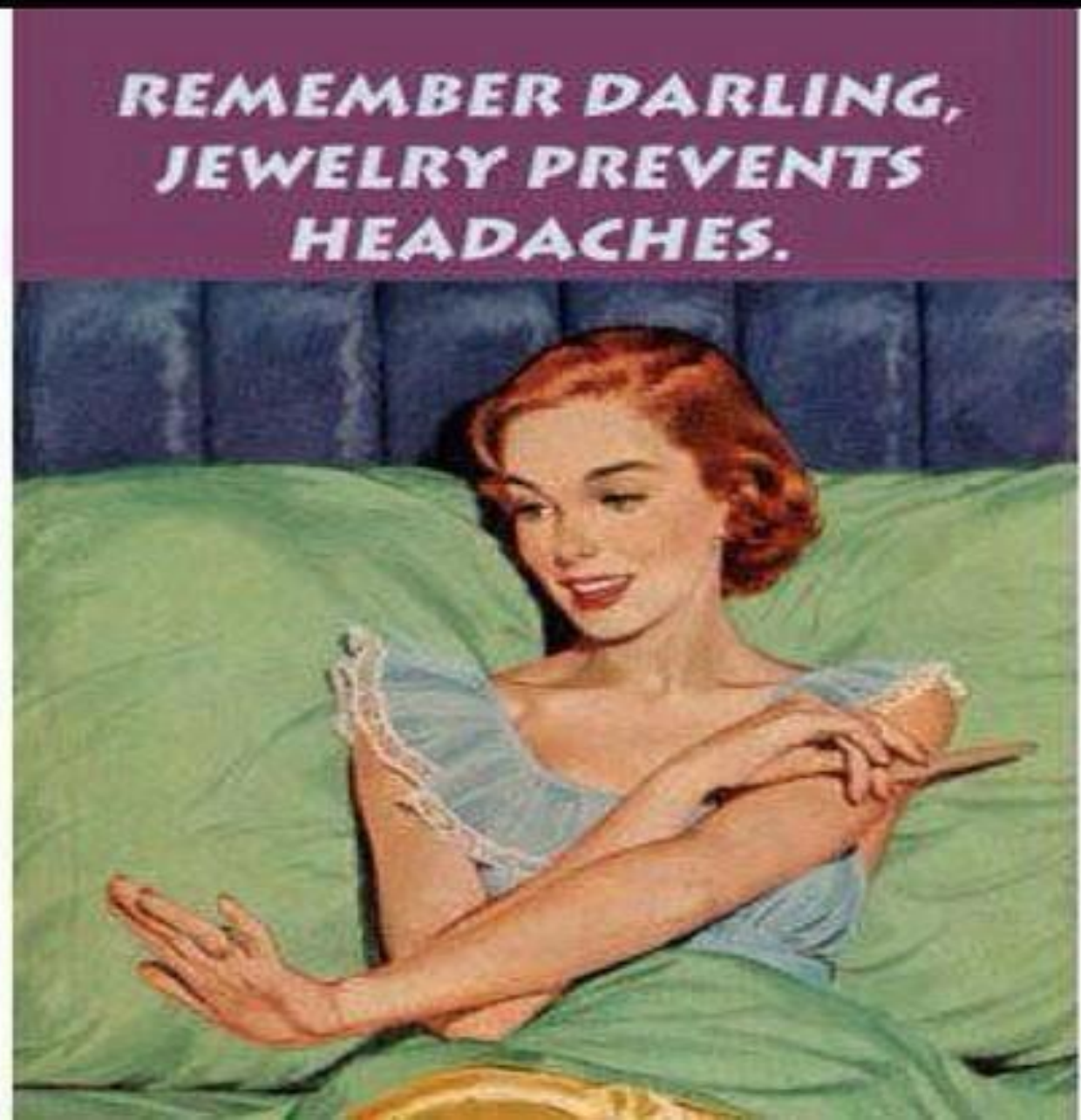
Preventive treatment

- If Has are frequent or disabling add
- daily preventive in addition to acute Rx
- Aim: to reduce the intensity and frequency
- Several classes of Rx: Antiseizure

  Antihypertensive, antidepressants

  Start low dose and increase slowly

  Minimum 3 months trial in adequate dose
- Goal 50 % reduction in 50 % of patients


REMEMBER DARLING,
JEWELRY PREVENTS
HEADACHES.

I'm not sure if my headache is because I'm dehydrated or that I need caffiene, but I'm fairly certain that it can be fixed with a bottle of wine.

yourecards
someecards.com

Botox therapy

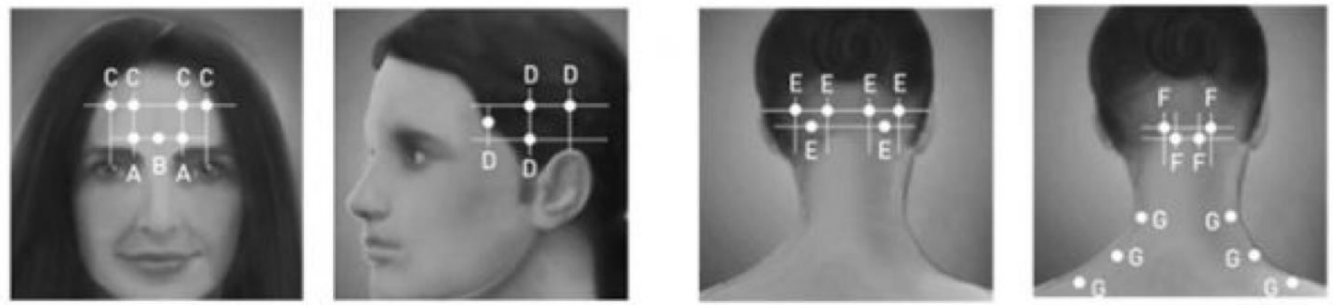
Approved for **chronic migraine**

>15 HA days / month for 3 months or more

- Must fail at least 2 preventive Rx trial
- 31 injections over the head and upper neck
- Well tolerated and very effective in selected patients
- Minimal side effects: Injection pain, neck pain, eyebrow droopiness, loss of forehead expression
- Very expensive, not recommended in pregnancy

Botulinum toxin

Recommended injection sites for chronic migraine:



A. Corrugator: 5 U each side

B. Procerus: 5 U (one site)

C. Frontalis: 10 U each side

D. Temporalis: 20 U each side

E. Occipitalis: 15 U each side

F. Cervical paraspinal: 10 U each side

G. Trapezius: 15 U each side

Original Article

Cephalalgia

Cephalalgia
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DOI: 10.1177/0333102410364676
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OnabotulinumtoxinA for treatment of chronic migraine: Results from the double-blind, randomized, placebo-controlled phase of the PREEMPT 1 trial

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OnabotulinumtoxinA for treatment of chronic migraine: Results from the double-blind, randomized, placebo-controlled phase of the PREEMPT 2 trial

Rebound or medication overuse headaches [MOH]

- Chronic headaches in a migraine patient
- Due to **overuse of acute medications** >3 months
- Eg: Excedrin, Advil, Tylenol, Sumatriptan, others
- Narcotics and barbiturate are the worst offenders.
- Caffeine >2 a day in any form in some patients
- Limit acute treatment to 2 days/week
- **60 % of chronic migraine due to MOH**

New exciting breakthroughs

- Approval of 3 **CGRP blockers** in 2018
- **Aimovig; Ajovy and Emgality**
- Very similar in action and side effects
- Block CGRP release or prevent attachment to the receptors acting on the mechanism
- 3 yr. data shows good effectiveness and safety
- >50 % response in > 50 % of migraineurs.
- Effective in episodic and chronic migraines

CGRP blockers

- Approved for preventive treatment
- Once a month injection under the skin
- Try up to 3 months minimum.
- Injection site reaction, constipation,
- Local reactions: itching , rash
- Not to be used in pregnancy or lactation
- Expensive; Have insurance regulations.

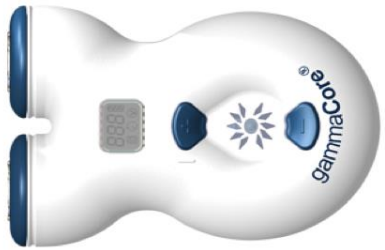
New safe devices

- TENS: transcutaneous electric nerve stimulation
  by Cefaly; 20’ daily preventive and 20’ in attack.
- Hand held vagus nerve stimulator
  For preventive and acute attacks
- Transcranial magnetic stimulation
  Same indication as above
- All are expensive and not covered by insurance.
- Cefaly most affordable.

Supraorbital nerve stimulation

Occipital nerve stimulation

Noninvasive vagal nerve stimulation

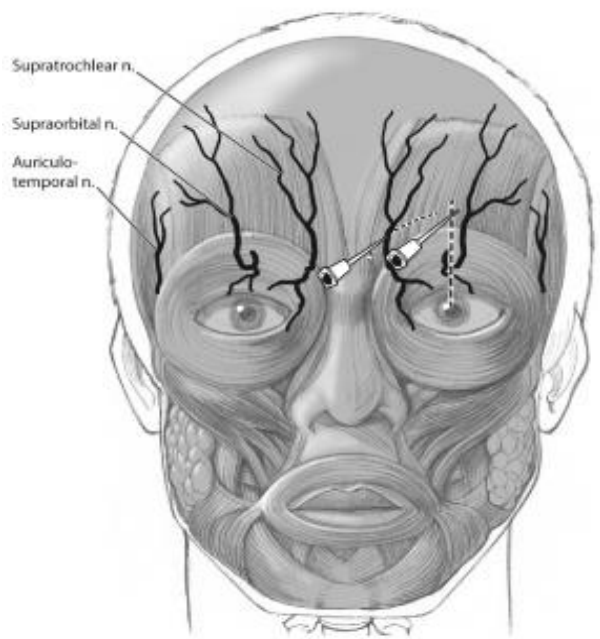


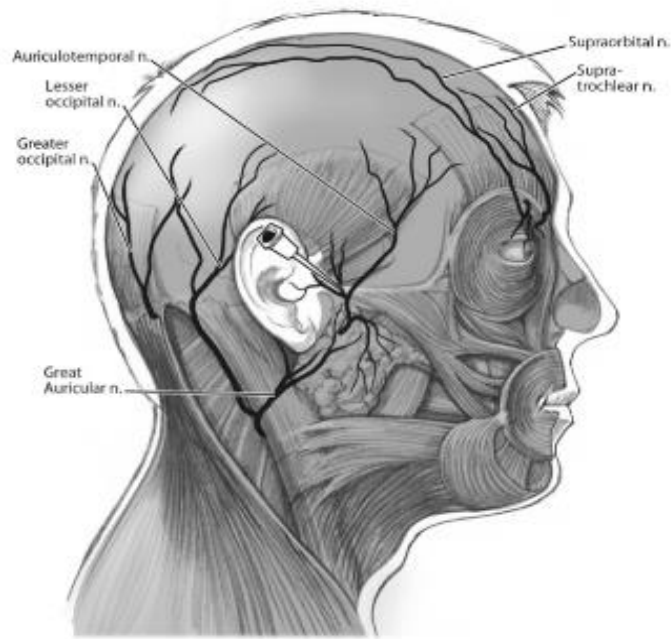
Transcranial magnetic stimulation

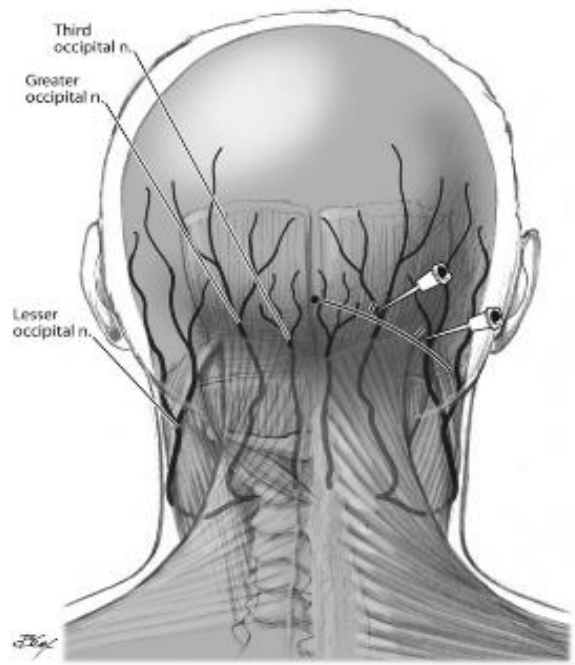
Nerve blocks and Trigger point injections

- Injections over the scalp around the nerves
- Blocks the abnormal pain impulses to the brain
- Uses very thin short needles, well tolerated
- Local anesthetic and +- steroids
- Good response in chronic headaches
- **TP** injections same to upper neck muscles
- Reduces neck pain and muscle spasm
- OP procedure; no downtime.

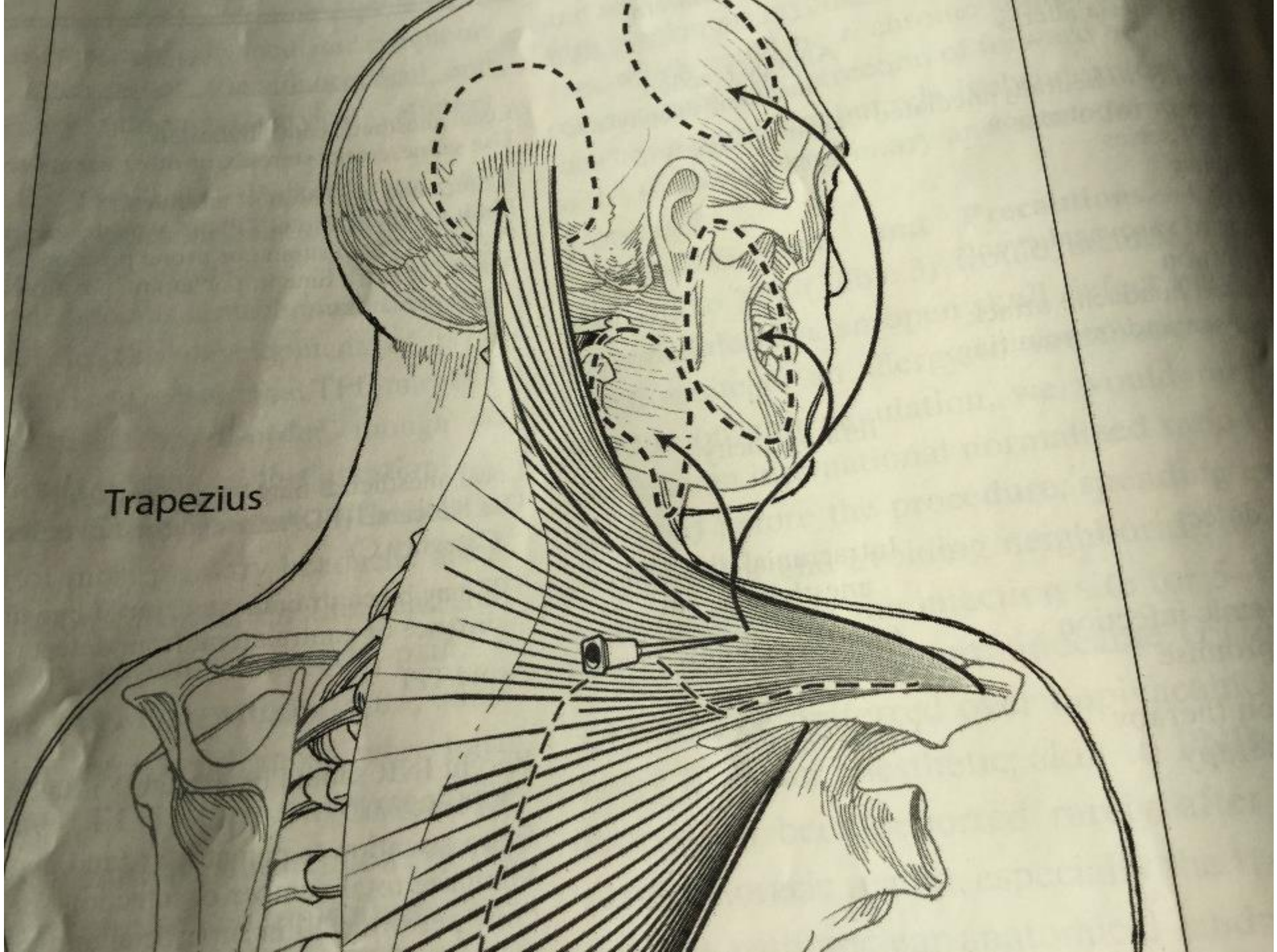
Nerve blocks



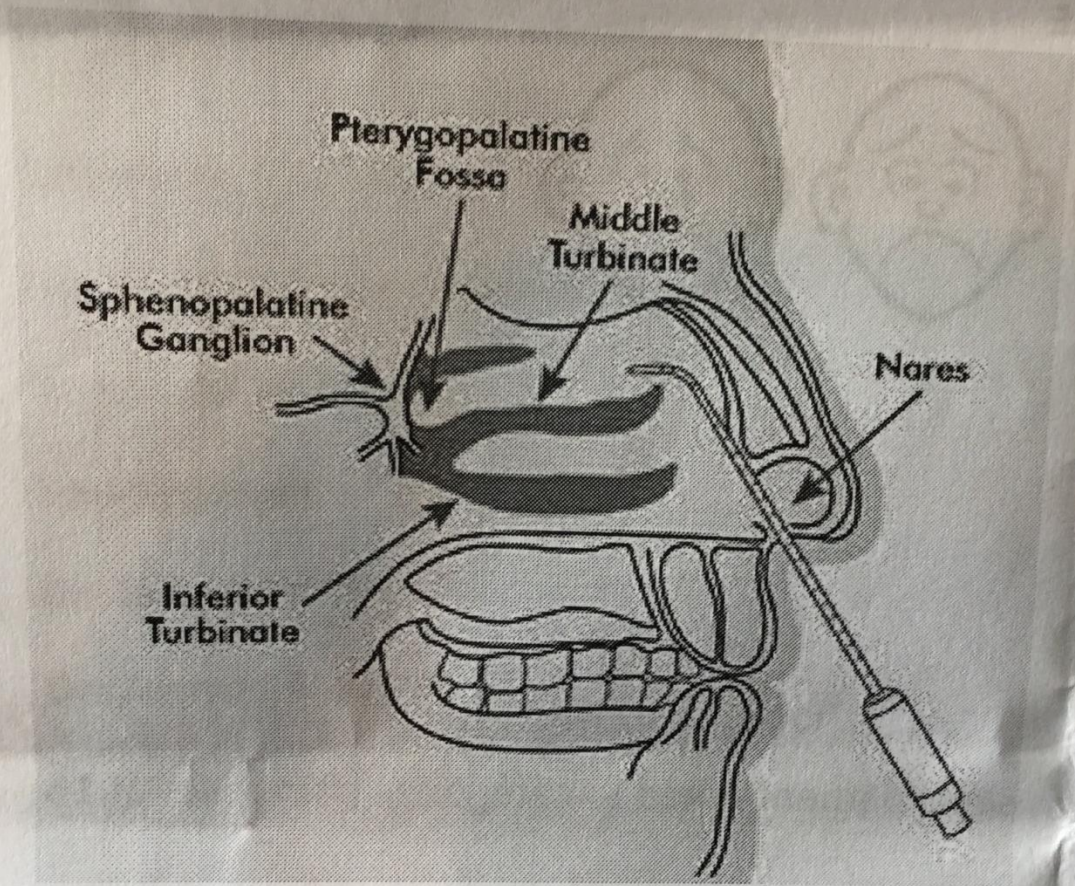




Blumenfeld et al. Expert Consensus Recommendations for the Performance of


Trapezius

Intra-nasal SPG injection:



http://bagherzadi.com/en/services-type/sphenopalatine-ganglion-block/

Complementary Medicine

- Magnesium **citrate or glycinate[400 mg]**

  Main side effect is loose stools
- Riboflavin [B2] 400 mg/day
- Fever few 150-300 mg
- Melatonin 3-10 mg at night
- Coenzyme Q-10 may help.
- peppermint/lavender oil
- Ice pack, eye mask, glare free ,sun glasses

Complementary therapy

- Acupuncture : good evidence in some patients
- Chiropractic manipulation: may help
- Yoga, Tai chi, Meditation, Relaxation measures
- Cognitive behavioral therapy[CBT]: **APPS**
- Psychotherapy, Treat depression/anxiety
- **Sleep** hygiene; **exercise, diet, massage**
- Physical therapy for neck pain/spasm

Patient’s responsibility

- Get educated using reliable resources:
  - **American Migraine foundation**
  - **National headache foundation**
- Work with the doctor as a partner
- Take charge of your management
- Keep HA diary and give feedback.
- Learn to avoid triggers
- Use good **migraine Apps**

Migraines in pregnancy

- 50% of pregnancies are unplanned!
- Discuss plan with the doctor **ahead**

  as **Rx will affect the pregnancy and the baby**
- Good # of patients get better in 2nd/3rd trimesters
- Some get worse; in some no change
- Migraines return after delivery

Treatment in pregnancy

- No medicine is safe
- Try natural measures and CBT
- Stay hydrated; do not miss meals
- Treat nausea with nausea Rx and or ginger
- Acute Rx: Tylenol, Nausea medicine
- Occasional narcotics if no relief.
- Nerve blocks and spraying **Lidocaine** in the nose
- Or instilling with Q tip

Menstrual migraines

- Occur around the menses time [3-7 days]
- More severe, and resistant to usual treatment.
- Daily magnesium and preventive therapy
- Mini prophylaxis for 5-7 days around menses
- Eg: Triptans, NSAIDS, nausea medicine
- Extended cycle contraceptive use
- Use low dose of estrogen or progestin only Rx
- Work with your gynecologist or PCP.

Peri menopausal migraines

- Migraines get worse with hormonal fluctuations.
- Usually along with menopausal symptoms
- May start having new auras
- Daily preventive therapy and supplements
- Some may need low dose HRT. Estrogen patch preferred
- 60-70% of postmenopausal women get better
  or get complete relief after menopause.
- **50 % of women get worse after total hysterectomy**.

Stroke risk and migraine

- Risk of stroke slightly higher in MWA
- Estrogen containing pills increases it
- Smoking and other stroke risk factors add to it
- Better to avoid estrogen in these women
- Cardio vascular risk also increases in MWA

Headaches in the elderly

- Migraines may continue WA or WOA
- Aura can occur without headaches
- If HA for the 1st time, must r/o secondary cause
- Eg: Inflammation of the artery; brain tumor
- Neck problems ; blood clot in the neck vessels
- Stroke, cancer, chronic infection

Cluster HA[CH]

- Attacks of severe , sharp, stabbing one sided pain
- Lasts 30’ to 3 hours; may occur 1-8/day
- Occurs in clusters[cycles- weeks to months]
- Seasonal and circadian pattern
- Gets cranial autonomic symptoms same side
- Eg: tearing, redness, eye droopiness,
- Sweating, nasal discharge, flushing
- Restless; more common in men

Cluster headaches may involve pain around one eye, along with drooping of the lid, tearing and congestion on the same side as the pain

A.D.A.M.

Treatment of CH

- High flow oxygen 15-20’ ; very safe
- Injection Sumatriptan or nasal inhaler
- Nerve blocks
- High dose steroids; sedation
- Daily preventive Rx
- Always rule out a secondary cause

Other Rare Headaches

- Hemi Crania Continua
  - Always one sided with migraine features
  - Same side autonomic symptoms
- Cough headaches
- Exercise headaches
- Stabbing headaches
- Sex headaches
- Few others

Do animals have migraines?

Thank you all!