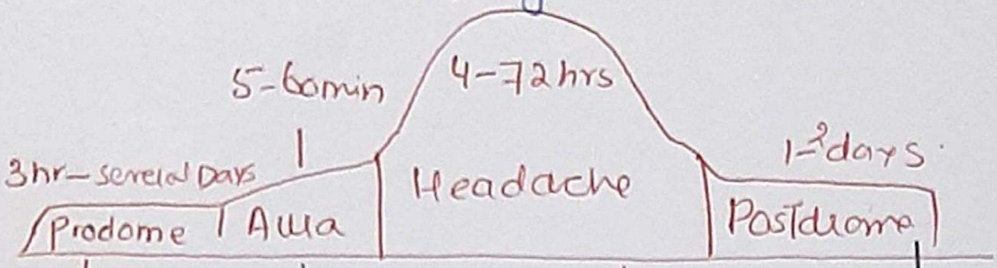
MIGRAINE

Migrain is a common, recurrent, primary headache (either on one side or on both (in case of severity), interfere ē normal functioning and is associated ē GI, neurologic and autonomic sympt. In migraine ē Aura, focal neurolog. symp precede or accompany the attack



Prodome
- cognitive disorders
- difficult speaking
- N/ Fatigue
- Food craving
- Sensitivity to light & sound
- ↑sc urination

Aura
- seeing flashing spots
- Numb or tingling skin
- Tinitus
- Temp. vision loss
- changes in smell
- speech change

Headache
- sensitivity to light, noise & odors
- N/V/A. pain
- pale skin
- speech change
- Diarrhea (rare)
- Fever (rare)

Postdrome
- Being unable to concen.
- Feeling depressed
- Feeling euphoria.

ETIOLOGY

- Genetics (50%)
  - ✓ – Family history (multifactorial polygenic basis)
    - one of effect is improper 3D struc of Ca^{2+} channel
- Other
  - Food triggers
    - Alcohol
    - caffeine / caffeine withdrav.
    - chocolate
    - fermented or pickled food
    - Monosodium glutamate (chineese food, seasoned salt or instant food) (a flavour enhancer, sodium salt of glutamic acid)
    - Nitrate-containing food (processed meats) e.g. Bacons, sausages, hot dogs etc
      - To enhace flavour
      - Avoid spoilage.
      - (nitrate → NO → vasodilation) (E250, E251, E252)
    - Tyramin containing food. → (E621)
    - 6) Skipped meals
    - 7) strenous physical activi
    - 8) stress or post-stress
  - Envriomental
    - Glare / lights
    - High altitude
    - Loud noise
    - strong smell or fumes
    - Tobacco smoke
    - Weather changes.
  - Behavioural-physiol.
    - 1) Sleep disturbance (↑/↓)
    - 2) Fatique
    - 3) Menstruation (estrogen → receptor mutation)
    - 4) menopause
    - 5) sexual activity

MSG – Neurotransmitter = stimulate nerve activity, excess glutamate can over activate NMDA receptors = neurotoxicity, oxidative stress, vasculation.

Types of Headaches

Characteristics	Migraine	Cluster	Tension Type
• Family history	yes	NO	yes
• Sex	F > M	M > F	F > M
• ONSET	Variable	During sleep	under stress
• Location	usually unilateral	Behind & around one eye	Bilateral in bands around head
• Character & severity	pulsating, Throbbing	Sharp, steady, Excruciating	Dull, persistent, tightening
• Duration	2–72 hr/episode	15–90 min/epis	30 min – 7 days/episode
• Associated Symp	• visual auras • sensitivity to light & sound, pale facial appear, N/V	• Uni or bilateral sweating • Lacrimation • Facial flushing • Nasal congesti • pupillary changes	• Mild intolerance to light & noise • Anorexia

Types of Migraines

Migraine with Aura

(before)
- Headache preceded by neurologic symp — called Auras
  - Can be visual, sensory and/or cause speech or motor disturbances
- Most commonly (these Prodomal symp) — visual (flashes, zigzag lines and glares) – occuring approx. 20–40 min before headache begin

Migraine without Aura

- severe, unilateral & pulsating
- 2–72 hrs : Duation
- Aggrevated by physical activity
- Accompained by N/V/photophobia and phonophobia (intolerant to sound)
- More common form of migraine

MANAGEMENT – Acute Maig

Symptomatic/Non-Specific

- Analgesics (NSAIDS)
- Antiemetics (Prochlorperazine)
- opoids (when other treatment – unsuccess)

Mai. Specific

- Triptans (5-HT 1B/1D)
- Ergotalkaloid (5-HT 1D)

→ $5HT_1$ – agonists → vasoconstriction

Inhibit release of pro-inflam Neuropepti from CN-V

TRIPTANS

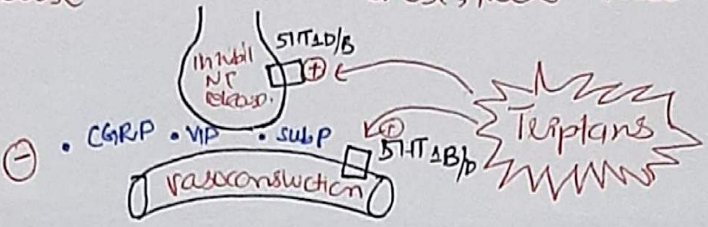
Sumatriptan – first available – prototype (S/C, IN, oral (combination product oral c̄ naproxen) (1-2hr onset oral), IV)

Zolmitriptan – oral and nasal spray

Frovatriptan – longest acting ($t_{1/2} > 24hr$)

Almo, Ele, Riza, Naratriptan (ONSET 20 min) ($t_{1/2}$ 2hr – short)

- These agents rapidly & effectively ↓se severity of m.headache in 70% p/s
- These are serotonin agonists – act on subgroup sero. recep – ON (1) vasoconstriction (2) peripheral nerves that innervate Intracranial vasculature → inhibit NT release
- Nausea: Triptan < Dihydroergotamine
- vasoconstriction: Trip < ergotamine
- Headaches recurs c̄ in 24–48hr after 1st dose of sumatriptan. However 2nd dose – ↓ M.H completely
- ↑B.P, cardiac events – CAD (contraindicated)
- pain & pressure sensitization in chest, neck, throat & Jaws
- Dizziness & malaise



ERGOT ALKALOIDS

ergotamine ← ERGOT-ALKALOIDS → DH-ergotamine (semi-syn derivative)

- The action of ergot alkal. is complex
  - Binds to 5-HT1 recep, α-recep & dopamine
  - most effective when given during prodromal phase.
- 5HT1 recep – on IC blood vessel → vasoconstriction
- effective when use in early stage of migraine
- Nausea – common
- PG (contraindicated) – vasoconstrictor
- Angina, Perip. vascul. d/se (contraindicated)

- currently avail: Sub-lingually, Oral tab. & supposi (ergotamine + caffeine)
- Use c̄ strict daily & weekly doses – as it causes dependence & rebound headache
- DHE → IV & IN
  - efficacy similar to sumatrip.
  - limited to severe cases

★ PROPHYLAXIS For Migraine

- Attack 2 or more/month OR severe headache then go for prophylax or preventive Treatment
- ★ B-blockers (DOC – prophylaxis) (PAM-Nado) – Propranolol, Atenolol, Metolol, Nado. (↓ sympathetic symp & ↓ vulnerability)
- ★ Ca^{2+} channel blocker (Flunarizine) – alternative (↓se neural spreading & excitation)
- ★ Anti-convulsant (divalproex) or tricyclic anti-depress. (TCA) – effective in p/s c̄ comorbid depression

★ TENSION-HEADACHE

- NSAIDS (Napro, Ibup, Asp) or Acetaminophen
- with or w/o caffeine (↑se central effectiveness of Aspin & APAP)
- Butalbital, barbiturate (APAP or Aspin) c̄/c̄out caffeine

★ CLUSTER HEADACHE

Inhalation of 100% oxygen & sumatriptan – 1st line