Current Management of Migraine

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What is migraine?

- Migraine is a neurological disorder characterised by recurrent episodes of headache, nausea, and neurological dysfunction (sensory hypersensitivity, fatigue, "brain fog", aura in 30%)
- Migraine is the *tendency* to these attacks, not just the attack itself
- Characterised by activation of trigeminovascular pain pathways with release of neuropeptides including calcitonin gene-related peptide (CGRP), reduction of descending inhibitory mechanisms and central sensitization.
- The commonest cause of disabling headache, and the 6th most disabling condition globally

Clinical diagnosis of migraine

- ICHD-3 criteria (migraine without aura):

  A. At least five attacks fulfilling criteria B-D

  B. Headache attacks lasting 4-72 hours (untreated or unsuccessfully treated)

  C. Headache has at least two of the following four characteristics:
     1. unilateral location
     2. pulsating quality
     3. moderate or severe pain intensity
     4. aggravation by, or causing avoidance of, routine physical activity (e.g. walking or climbing stairs)

  D. During headache at least one of the following:
     1. nausea and/or vomiting
     2. photophobia and phonophobia

  E. Not better accounted for by another ICHD-3 diagnosis.

- Subdivided into episodic (<15 days/month) and chronic (15+ days/month)

Prevalence of migraine

- American Migraine Prevalence and Prevention study
    - Survey of 120,000 American households.
    - 77,879 questionnaires returned, with data on 162,576 household members
- ~17% of women and ~6% of men experienced migraine in the previous year
- Of these:
    - 54% reported severe impairment/need for bed rest
    - 31% reported at least 3 migraine attacks per month
    - 39% met criteria for offering or considering preventative treatment
- But:
    - Only 56% had received a formal diagnosis of migraine
    - Only 13% were on preventative treatment for migraine
    - A further 18% were on medication with potential migraine benefit for other reasons

How to treat migraine?

- Approach needs to be tailored to the individual

- Assess the extent of the problem:
    - Frequency of symptoms
    - Severity of symptoms
    - Extent of functional impairment

- Look at contributory factors/triggers
    - Some may be modifiable, many may not be

- Assess for analgesia overuse – hugely important and often overlooked

The importance of addressing medication overuse

- Medication overuse is defined as:
    - 15+ days per month of simple analgesia (paracetamol/NSAIDs)
    - *or*
    - 10+ days per month if opiates/triptans are used
- Painkillers do not need to be taken for headache to cause/exacerbate headache
- **7% of the population take painkillers at least once a week**
- **1-2% take them 15+ days/month**
- Patients worry that analgesia withdrawal will worsen headaches, and 70% will experience a temporary worsening of symptoms lasting 4-14 days (triptans < OTC analgesics < opiates)
- For patients with medication overuse headache who remained painkiller-free for 2 months:
    - 45% improved (median frequency reduction of 67% in migraine patients)
    - 48% had no change
    - Only 7% had more headache

Acute treatments for migraine – when to use

- Patients with occasional, disruptive attacks may manage with acute treatments alone *but need to be aware of limits to avert overuse*

- When needed, acute treatment should be:
  - Taken promptly
  - Taken at effective dosage (higher initial dosage more effective than repeated smaller doses)
  - Taken via most effective route (especially if nausea/vomiting)

- Patient education (and feedback) is key to achieving prompt, effective treatment without veering into overuse

- These discussions can also be important for:
  - Identifying triggers (within reason)
  - Considering need for preventative treatment – discuss if 4+ days/month
  - Assessing red flags/need for investigation or onward referral

Acute treatments for migraine – what to use

Non-specific Treatments

Paracetamol 1g

NSAIDs (high-dose):

- Aspirin 600-900mgs (ideally soluble)
- Ibuprofen 600-800mgs
- Naproxen 500-1000mgs
- Diclofenac 50-75mgs

Consider taking with prokinetic: Domperidone 10-20mgs, Metoclopramide 10mgs

Specific Treatments

Triptans:

Sumatriptan, Rizatriptan, Zolmitriptan, Almotriptan, Eletriptan, Naratriptan, Frovatriptan

CGRP receptor blockers:

Rimegepant 75mg "melt" (once in 24hrs) - licensed but not reimbursed for acute use

Avoid using opiate-based and compound analgesics where possible

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Preventative treatments for migraine – what to use

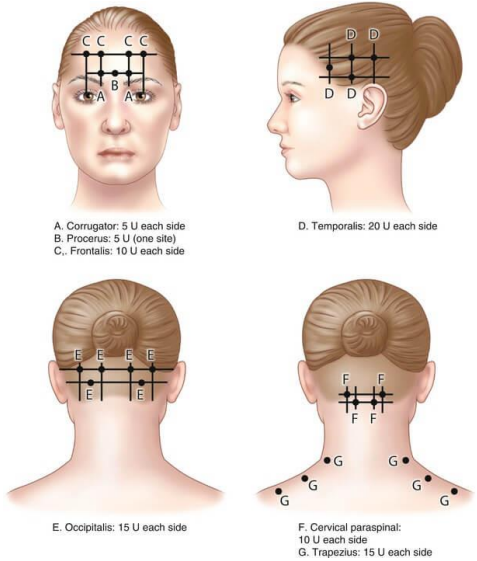
- Choice of preventative agent will depend on multiple factors:
  - Past and current medications
  - Co-morbidities
    - Helpful if two conditions (e.g. hypertension/epilepsy/low mood/poor sleep) can be treated with a single medication instead of two
    - Ischaemic heart disease contraindicates triptans
  - Remember to discuss pregnancy plans if applicable
- Address analgesia use first
- Start at low dosage and increase gradually
- Explain to patient that preventative treatment is likely to take 6-8 weeks to become fully effective *once adequate dose is reached.* Manage expectations
- Use a simple headache diary to monitor progress
- Be prepared to change treatment if not effective or well tolerated

Preventative treatments for migraine

- Nutritional supplements:
  - Magnesium citrate 600mg/day
  - CoEnzyme Q_{10} 300mg daily
  - Riboflavin (Vitamin B_2) 400mg daily
- Antidepressants:
  - Tricyclics: Amitriptyline (up to 1mg/kg), Nortriptyline, Dosulepin
  - SNRIs: Mirtazapine, Venlafaxine, Duloxetine
- Antihypertensives:
  - β-Blockers: Propranolol (80-320mg), Atenolol, Metoprolol
  - Candesartan (16mg-32mg daily if possible)
- Anticonvulsants:
  - Topiramate, (Sodium Valproate)
- Calcium channel blockers:
  - Flunarizine (5-10mg)
- Serotonin antagonists:
  - Pizotifen (0.5-3mg nocte)

Botox for migraine prevention

- Botox:
  - Only licensed for *Chronic Migraine*
  - Given as 31-39 injections to head and neck
  - Repeated every 12 weeks
  - May take 2-3 treatments to maximise benefit
  - Side-effects: Neck pain (7%), Headache (3%)
    Ptosis (3%)
  - 47% have >50% reduction in migraine days after 2 cycles
  - 23% have >75% reduction



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CGRP antagonism for migraine prevention

- CGRP receptor blockers (oral): Recently added to Managed Access Protocol
  - Rimegepant:
    - For prevention of episodic migraine (4 – 14 days/month) only
    - 75mg every 48 hours
  - Atogepant:
    - For prevention of episodic or chronic migraine
    - 60mg daily

- Anti-CGRP antibodies:

• Erenumab	S/C receptor antibody	70mg-140mg monthly
• Fremanezumab	S/C ligand antibody	225mg monthly
• Galcanezumab	S/C ligand antibody	120mg monthly
• Eptinezumab	IV ligand antibody	100mg three-monthly

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Eligibility for CGRP treatments for migraine

- Available through Managed Access Protocol (MAP) – specialist prescription only
- To be eligible, patients must have failed three previous treatments from the following list:
  - Acetazolamide, Amitriptyline/Nortriptyline/Dosulepin, Atenolol/Propranolol/Metoprolol, Candesartan, Flunarizine, Pizotifen, Valproate, Topiramate, Venlafaxine, Botox, Dihydroergotamine
  - Documentary evidence (pharmacy records) of these trials must accompany application
  - A patient headache diary is used to assess outcomes
  - Must achieve 30% (if chronic) or 50% (if episodic) reduction in migraine days to be eligible to continue reimbursement for treatment

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Summary

Migraine is:

- Common, but *underdiagnosed*
- Disabling, but *often dismissed*
- Treatable, but *undertreated*

To achieve best outcomes for our patients, we need to:

1. Make the diagnosis
2. Assess the extent of the problem (frequency & severity)
3. Optimise acute treatment (while being alert to overuse)
4. Consider preventative treatment earlier rather than later
5. Monitor outcomes and adjust treatment as needed

Thank you

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