

The acute and preventative treatment of episodic migraine

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Abstract

Episodic migraine is a common debilitating condition with significant worldwide impact. An effective management plan must include acute treatment to relieve the pain and potential disability associated with the attacks and may also include preventative treatments with an aim of decreasing attack frequency and severity in the longer term. Acute treatments must be limited to a maximum of 2-3 days a week to prevent medication overuse headache and focus on simple analgesia, non-steroidal anti-inflammatory drugs and triptans. Preventative treatments are numerous and should be considered when migraine attacks are frequent and/or disabling, acute medication is failing, in special circumstances such as hemiplegic migraines or if the patient requests them. All preventative medications must be given at therapeutic doses for at least 6-8 weeks before an adequate trial can be judged ineffective. The most important factor in choosing drugs is the patient and the clinical features of their attack and treatment should be tailored to these. Relative co-morbidities will influence drug choice, as will the side effect profile and the efficacy of the drug. First line preventative drugs include β -blockers, amitriptyline and anti-epileptic drugs such as topiramate and valproate. Drugs with lower efficacy or poorer side effect profiles include selective serotonin reuptake inhibitors (SSRIs), calcium channel antagonists, gabapentin and herbal medicines.

Key Words

Acute, migraine, preventative, prophylaxis, treatment

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Introduction

Migraine is a common episodic headache disorder with an estimated 1-year prevalence of 10-12%.^[1] The diagnosis of migraine is made clinically and effective treatment can only begin once an accurate diagnosis has been made. The International Headache Society lays out diagnostic criteria for migraine with and without aura^[2] [Table 1]. This review focuses on the pharmacological therapy for episodic migraine but the importance of non-pharmacological therapy should not be underestimated.

The pharmacological therapy for migraine is traditionally divided into acute and preventive treatments. Acute treatment is intended to reverse attacks once they have begun, to limit disability and to reduce pain and the associated symptoms of

migraine. Preventive treatments are used to reduce the severity and frequency of expected attacks in those with a significant headache burden.

An effective treatment plan must include an understanding of the patient's needs and expectations, the impact of the headache on their life, their symptoms and co-morbidities as well as knowledge of previous treatments. Educating patients about their headaches and the treatments they are receiving are essential to successful management.^[3]

Acute Treatment

The aims of acute treatment are

- To treat attacks rapidly without recurrence
- To restore function
- To minimise the use of rescue medications or acute medical services
- To encourage self-care
- Cost-effectiveness
- Minimise side effects

As acute attacks of migraine vary greatly between and within subjects, treatment must be tailored to the individual patient. The severity of the headache, prior response to treatments, associated features (especially nausea and vomiting) and co-

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Table 1: Selected Diagnostic Criteria from International Headache Society Classification (ICHD-II)^[2] for Migraine without aura and migraine with aura

Migraine without aura

Description

Recurrent headache disorder manifesting in attacks lasting 4–72 hours. Typical characteristics of the headache are unilateral location, pulsating quality, moderate or severe intensity, aggravation by routine physical activity and association with nausea and/or photophobia and phonophobia.

Diagnostic criteria

- A. At least 5 attacks, 1 fulfilling criteria B–D
- B. Headache attacks lasting 4–72 hours (untreated or unsuccessfully treated)
- C. Headache has at least two of the following characteristics:
 1. Unilateral location
 2. Pulsating quality
 3. Moderate or severe pain intensity
 4. Aggravated 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 attributed to another disorder

Migraine with aura

Description

Recurrent disorder manifesting in attacks of reversible focal neurological symptoms that usually develop gradually over 5–20 minutes and last for less than 60 minutes. Headache with the features of migraine without aura usually follows the aura symptoms. Less commonly, headache lacks migrainous features or is completely absent.

Diagnostic criteria

- A. At least 2 attacks fulfilling criterion B
- B. Migraine aura fulfilling criteria B and C for one of the subforms 1.2.1–1.2.6
- C. Not attributed to another disorder

Typical aura with migraine headache

Diagnostic criteria

- A. At least 2 attacks fulfilling criteria B–D
- B. Aura consisting of at least one of the following, but no motor weakness:
 1. Fully reversible visual symptoms including positive features (e.g. flickering lights, spots or lines) and/or negative features (i.e. loss of vision)
 2. Fully reversible sensory symptoms including positive features (i.e. pins and needles) and/or negative features (i.e. numbness)
 3. Fully reversible dysphasic speech disturbance C. At least two of the following:
 1. Homonymous visual symptoms¹ and/or unilateral sensory symptoms
 2. At least one aura symptom develops gradually over ≥ 5 minutes and/or different aura symptoms occur in succession over ≥ 5 minutes
 3. Each symptom lasts ≥ 5 and < 60 minutes
- D. Headache fulfilling criteria B–D for 1.1 Migraine without aura begins during the aura or follows aura within 60 minutes
- E. Not attributed to another disorder

morbidities will all influence the acute drug chosen. There are a range of acute migraine medications available, however, a strong evidence base is lacking in most. Drugs are divided

into non-specific and migraine specific drugs, once again; the choice depends on the patient. Evidence suggests that early treatment of migraine attacks with acute drugs results in early pain relief, less recurrence of headache, less disability and fewer side effects.^[4–6] No matter what drug is used, it is important to limit all acute treatment to a maximum of 2–3 days a week to avoid medication overuse headaches developing.

An approach of stratified care in the acute treatment of migraine is widely favoured over a step care approach. Step care involves starting patients at the bottom of the therapeutic ladder and escalating the therapy as and when treatments fail. This assumes that all patients have the same needs and can result in delay of effective treatment. Stratified care focuses more on the patients' individual needs. Patients will be given migraine specific medications such as triptans to take for severe attacks, whereas they are encouraged to treat mild attacks with simple analgesia and anti-emetic drugs. This regime relies on the patient and physician being flexible in their approach to each attack and is dependent on patient education.

Non-Specific Drugs

Simple analgesia

Analgesics such as aspirin, ibuprofen or paracetamol are considered first choice in mild-moderate migraine attacks, especially if taken early in the attack and in combination with an anti-emetic agent.^[5,7] Cochrane reviews have shown that 1000 mg paracetamol is an effective treatment for mild attacks and that in combination with 10 mg metoclopramide it has a short-term efficacy equivalent to 100 mg sumatriptan.^[8] Aspirin at a dose of 1000 mg relieves pain at 2 hours in up to 52% people^[9,10] and is well tolerated. Cochrane reviews have also found that ibuprofen at a dose of 400 mg provides pain relief in up to 57% patients but complete relief of pain and associated symptoms in a minority.^[11]

Other non-steroidal anti-inflammatory drugs (NSAIDs) have been shown to be clinically effective and lack of response to one agent does not preclude response to another in the same family. Naproxen, diclofenac, tolfenamic acid and indometacin have all been shown empirically to work on patients with migraine.^[5]

The addition of anti emetics such as metoclopramide or domperidone is recommended if nausea is present. These agents are pro-kinetic and relieve the gastric stasis associated with migraine attacks. The combination often appears more effective than simple analgesia alone.

Combination analgesia

These agents should be avoided where possible due to their capacity to cause medication overuse headaches.

Opiate analgesics

Opiate containing medications have little evidence to support their use in acute migraine. They are less effective than triptans and their use is also limited by side effects and potential for causing medication overuse headache. The indications for opiates centre on those in whom triptans are contraindicated such as pregnancy or ischaemic heart disease.^[4]

Migraine Specific Drugs

Triptans (5-HT 1B/1D receptor antagonists)

The introduction of triptans has caused a revolution in the acute treatment of migraine. Triptans are the most effective migraine-specific drugs used in the outpatient setting for moderate to severe headaches. It is estimated that triptans are effective in 60% of non-responders to NSAIDs^[12] and their efficacy has been proven in a large number of randomised control and comparative studies. Triptans are contraindicated in ischaemic heart disease, peripheral vascular disease, stroke, uncontrolled hypertension and pregnancy. Sumatriptan nasal spray can be used in the 12-17 year age group but children younger than this should only have trials in specialist centres.

In total, 7 triptans have been developed although their availability differs country to country. The triptans are available in different strengths and formulations including oral tablets, oral dispersible tablets, and injection and nasal sprays. The pharmacokinetic profiles of the triptans differ and thus the individual features of the drugs must be paired to the needs of the patients [Table 2].

A meta-analysis of oral triptan trials by Ferrari *et al.*^[15] has shown that all triptans are effective and well tolerated at marketed doses. The highest likelihood of sustained pain freedom (that is patients pain free at 2 hour post dose and who do not have recurrence of moderate to severe headache and who do not need to use rescue medications 2-24 hours post dose) come from 10 mg rizatriptan, 80 mg eletriptan and 12.5 mg almotriptan. Sumatriptan 100 mg and 50 mg oral tablets show good efficacy, tolerability and benefit from the most clinical experience. However, there is actually very little to separate the triptans in terms of clinical use and no one single agent is thought superior to the others.

Early treatment of the attack – within one hour of the headache starting and before cutaneous allodynia occurs – maximises the chance of successful treatment.^[4,6] Triptans are not useful during the aura phase and should only be taken at the onset of the headache. If needed, a second dose can be taken if the

headache recurs. An individual's response to a single triptan cannot be predicted and it must be noted that failure to respond to one triptan does not mean subsequent non-response to another. There is some evidence to suggest a combination of NSAID and triptan may be more effective for some patients^[7] particularly with long attacks.

Ergot Alkaloids

Ergotamine

Although ergotamine has been in use for the treatment of acute migraine for over 50 years there is little in the way of evidence for its use in all but a limited group of patients. The major problems with ergotamine are the erratic absorption and poor oral bioavailability. The side effect profile also limits the use of ergots as first line agents as does the fact they produce medication overuse in low doses. The ergots should be reserved for those patients with prolonged attacks or problems with headache recurrence that have not responded to triptans.^[16] Even in these patients, use should be limited to rectal ergotamine used a maximum of once a week at a dose of 0.5 mg-2 mg.^[17]

Dihydroergotamine

Nasal Dihydroergotamine (DHE) is recommended by the AAN for moderate to severe migraine that does not respond to other medications^[18] and IV in those with severe attacks.^[19] Pre-treatment with anti-emetics is needed when DHE is given IV. DHE appears to work well into the migraine attack and it has a long half-life of 10 hours, contributing to its long lasting effect and low recurrence rate.

Preventative Treatment

Preventative therapy should be considered in all patients where:

- Recurrent migraine is significantly disabling despite acute treatment
- Patients suffer 2 or more disabling attacks a month or where headache attacks are infrequent but cause severe disability
- Patients have frequent headaches (more than 2 a week) or

Table 2: Comparison of available triptans. A summary of formulations, time to peak plasma levels, elimination half life, bioavailability and important clinical considerations*

Drug	Formulations	Time to peak levels	Elimination half life (hours)	Bioavailability (%)	Clinical use
Sumatriptan	SC	12 min		97	SC for rapid onset attack
	PO	2-3 hour	2	14	SC/NS with nausea and vomiting or nocturnal attacks
	NS	1 hour			
Rizatriptan	PO	1-2 hour	2	40-50	ODT for nausea and vomiting
	ODT				
Zolmitriptan	PO	1-1.5 hour	2.5-3	40-50	ODT/NS for nausea and vomiting
	ODT	3 hour			
	NS	2 hour			
Almotriptan	PO	1.5-2 hour	3.5	70	Previous adverse effects
Eletriptan	PO	1.5-2 hour	4	50	
Naratriptan	PO	2-3 hour	6	60-70	Previous adverse effects and long lasting attacks
Frovatriptan	PO	2-4 hour	26	20-40	Long lasting attacks

SC = Subcutaneous injection, PO = Oral tablet, ODT = Orally dispersible tablets, NS = Nasal spray *Data from Gladstone J, Dodick D. Acute migraine which triptan? *Practical Neurology* 2004;4:6-19^[13] and Johnston M, Rapoport A. Triptans for the management of migraine. *Drugs* 2010;70:1505-1518^[34]

attacks are increasing over time

- Acute medications have failed, are contraindicated or are causing side effects
- Acute medication is being, or is at risk of being overused
- Special circumstances exist (hemiplegic migraine)
- Patients express a desire to be on preventative medication.

All preventative medication must be started after a discussion with the patient so that they are aware of the treatment plans, side effects and time scale of treatments. Drugs should be started at a low dose and titrated slowly upwards until a therapeutic effect is seen, the maximum dose is achieved or side effects prove intolerable. All drugs should be trialled at an adequate dose for at least 6-8 weeks before being deemed ineffective.^[5] Most patients need treatment for at least 6 months to control their migraines after which time the medication can be slowly withdrawn.

When choosing which drug is best for the patient issues such as risk benefit ratios, side effects, co-morbidities, contraception and patient expectations must be discussed. Preventative treatment will not stop all attacks (2/3 of patients can expect a 50% reduction in headache frequency^[20] and they should be aware that acute medication would still be needed. Any co-morbidity should be considered as they can negatively or positively influence the choice of drug. Patients with asthma should not have B-blockers, for example, but co-existent sleep disturbance, depression and migraine would all benefit from tri-cyclic antidepressants.

The main preventative drugs recommended for use in migraine are shown in Table 3.

Beta-Adrenergic Blockers

β -blockers are the most widely used class of migraine preventative medications. Studies have shown them to be 60-80% effective in reducing attack frequency by more than 50%.^[3] β -Blockers are particularly useful in those with migraines associated with anxiety attacks, hypertension or angina. Although generally well tolerated they can produce fatigue, lethargy, depression and reduced exercise tolerance. Less commonly they can be associated with erectile dysfunction, orthostatic hypotension or bradycardia. β -blockers are contraindicated in patients with asthma, cardiac failure, insulin-dependent diabetes and Raynaud's disease.

Although propranolol is the most commonly prescribed drug in this class, there is no evidence of difference in efficacy between propranolol and other β -blockers such as atenolol, metoprolol or bisoprolol.^[5] Propranolol has a half-life of 4-6 hours and although longer acting formulations are available they are not shown to be more effective but may improve compliance. The therapeutic dose of propranolol varies from 40-240 mg a day in divided doses.

Anti-Depressants

The tricyclic antidepressants (TCAs) are the most commonly used antidepressants for migraine prophylaxis. Amitriptyline has been used for migraine prevention for over 30 years but there is little in the way of high quality evidence for its use.

Reviews of the limited clinical trials suggest that amitriptyline is at least as good as propranolol if not better in reducing headache frequency.^[3] The use of other agents such as dosulepin, nortriptyline and imipramine is based mainly on anecdotal results. TCAs are particularly effective in patients with migraine and medication overuse, migraine with insomnia, migraine with tension type headache and migraine with depression.

Side effects are common with TCAs and may limit their use. The most common adverse effects experienced are sedation, dry mouth, constipation, mental confusion, palpitations and orthostatic hypotension. They also increase appetite that can result in weight gain. TCAs should be used with caution in the elderly due to the risk of mental confusion and are contraindicated in those with cardiac arrhythmias, heart block or urinary retention. All TCAs should be started at a low dose before bed and slowly increased.

Other antidepressants such as the serotonin specific reuptake inhibitors (SSRIs) may help co-existent depression but Cochrane Reviews have shown no real evidence that they help in migraine.^[21] Venlafaxine, a serotonin-norepinephrine reuptake inhibitor, has been shown in a limited number of studies to be more effective than placebo in reducing headache frequency when given in doses of XR75 mg or 150 mg.^[22]

Anti-Epileptic Drugs

Anti-Epileptic Drugs (AEDs) are increasingly used for migraine prevention and there are a number of placebo-controlled trials proving their efficacy.^[20,23,24] A Cochrane Review of AEDs in migraine prophylaxis^[24] found that patients were more than twice as likely to have a 50% reduction in their headache frequency on AED treatment than with placebo.

Valproate, topiramate and gabapentin have all demonstrated some efficacy in migraine prevention.^[20] AEDs are particularly useful when migraine occurs in those with epilepsy, anxiety disorders or bipolar disease. Care must be taken when prescribing for women of childbearing age as many AEDs can be associated with foetal malformations and can interfere with the oral contraceptive.

Valproate is effective in reducing both migraine frequency and severity at a low dose (500-1000 mg/day).^[24] Placebo controlled studies have shown 40-50% of patients treated with valproate will have a 50% or more reduction in their headache frequency.^[25] In limited single blind or open trials,^[23] valproate has been shown to be as effective as propranolol and flunarizine.

Valproate is especially useful for those patients with co-existing depression or bipolar disease. The most common side effects of valproate are nausea and vomiting (often transient), tremor, weight gain and hair loss. These often make the drug less appealing for women. On rare occasions, the drug can be associated with severe idiosyncratic side effects such as hepatitis or pancreatitis. Although hepatic dysfunction is not a problem in healthy patients, liver function tests should be monitored every 3 months. Valproate is potentially teratogenic so all women should be informed of the risks and discussions

Table 3: Clinical summary of main drugs used in the prevention of episodic migraine

Drug	Therapeutic dose	Headache attack reduction	Common side effects	Positive co-morbidities	Contra-indications
Beta blockers propranolol	80-240 mg/day	50%	Fatigue Bradycardia Sleep disturbance Depression	Anxiety Hypertension	Asthma Diabetes Bradycardia Peripheral vascular disease
Tricyclic antidepressants Amitriptyline	25-150 mg	50%	Sedation Weight gain Dry mouth Blurred Vision Constipation Urinary retention	Depression Anxiety Sleep Disturbance Chronic /Neuropathic Pain	Closed angle glaucoma Prostatic hypertrophy Cardiac arrhythmia
Anti-epileptics Sodium Valproate	800-1500 mg/day	50-75%	Tremor Weight gain Nausea Alopecia	Depression Epilepsy	Obesity Pregnancy liver disease
Topiramate	50-100 mg/day		Weight loss Paraesthesia Sedation Mood change Visual disturbance Renal stones Acute glaucoma Sedation	Obesity Epilepsy Neuropathic pain	Pregnancy Renal stones Glaucoma
Gabapentin Calcium Channel Blockers Flunarazine	1200-2400 mg/day	30-50%	Dizziness	Epilepsy tremor	Depression Parkinson's disease Heart failure Cardiac arrhythmia
5-HT ₂ Antagonists Pizotifen	5-10 mg/day	50%	Sedation Weight Gain Parkinsonism Depression	Complicated aura Hemiplegic Migraine Resistant attacks	
Methysergide	1.5 mg/day	50%	Increased appetite Weight gain Drowsiness		Obesity
	3-6 mg	50-75%	Nausea Peripheral vasoconstriction Retroperitoneal/valvular fibrosis	Should only be used as 3 rd line treatment under specialist follow up	Pregnancy Cardiac disease Peripheral vascular disease Impaired liver/kidney function

regarding contraception should be had before starting the drug. The drug is contraindicated in pregnancy, a history of hepatic dysfunction and with caution in those with blood disorders or bleeding disorders. Most patients will have a therapeutic effect within the range 500 – 1000 mg a day.

Topiramate has been shown to be effective in migraine prevention in three large placebo-controlled trials.^[26] Topiramate 100 mg/day^[23] has been shown superior to placebo in reducing average monthly migraine days and rescue medication use.^[26]

The common adverse effect of paraesthesia of the extremities and lips is transient and often disappears with a gradual titration. If bothersome, the sensation can be reduced by eating bananas or drinking orange juice. Other adverse effects include word-finding difficulties, cognitive impairments and mood disturbance. Topiramate is associated with a two to fourfold increase of renal calculi and infrequent cases of acute closed angle glaucoma have been reported. One adverse effect that many female patients find desirable is weight loss. Clinical trials showed an average weight loss of 3-4% of body weight^[23] but it can be more dramatic and lead

to discontinuation of the drug. Topiramate may be a useful drug in patients with migraine and obesity, migraine and idiopathic intracranial hypertension and potentially migraine and diabetes. Topiramate is a hepatic enzyme inducer and can interfere with the efficacy of the oral contraceptive pill, the progesterone only pill and the contraceptive implant. The drug has no effect on the progesterone only injection or intra-uterine devices. All women of childbearing age being considered for treatment with topiramate must be given appropriate contraceptive advice. Topiramate should be given at a dose of 50-100 mg/day. Above this dose there does not seem to be a significant increase in efficacy but the rate of adverse effects does increase.^[26]

Gabapentin has been shown to be effective in a small number of single blind trials and has had variable performance in placebo-controlled studies^[23,27] (responder rates of 36% - 46%^[20,27]). However, in clinical practice, gabapentin appears to be less effective than both valproate and topiramate. The most common adverse effects seen are dizziness and drowsiness and high withdrawal rates due to adverse effects have been seen in some studies.^[20] Given its positive effect on neuropathic pain, gabapentin may be advantageous in those patients with co-existing neuropathy, chronic pain or trigeminal neuralgia. Therapeutic effect is seen with doses of 600-3200 mg/day.

Other AEDs are used in migraine prevention although little evidence exists for their use. Lamotrigine blocks sodium channels thought to be involved in the process of cortical spreading depression. It has not been found to be effective for migraine prevention^[28] but some studies suggest it is beneficial in the treatment of troublesome migrainous auras.^[23]

Calcium Channel Blockers

There have been a number of studies involving calcium channel blockers in migraine prevention. Flunarizine has been proven more effective than placebo^[20] and comparable in efficacy to propranolol,^[29] pizotifen and methysergide. Although verapamil is used in migraine prevention no randomised controlled trial evidence exists to support its use. Adverse effects most commonly associated with flunarizine are drowsiness, weight gain and abdominal pain. Patients can also develop Parkinsonism and depression both of which can limit its use. Calcium channel blockers are contraindicated in heart failure, cardiac arrhythmia, depression and Parkinson's syndrome. Flunarizine is thought to be of particular benefit in patients with prolonged or complicated migraine aura. Therapeutic response is seen at doses of 5-10 mg/day and patients must be monitored for serious side effects.

Anti Serotonin Drugs

Methysergide is a semi-synthetic ergot alkaloid which was the first drug produced for migraine prevention. Although effective in reducing migraine frequency with comparable efficacy to propranolol, pizotifen and flunarizine,^[21] the use of methysergide is somewhat limited by its side effects. The most serious issue is that of retroperitoneal, pleural or heart valve fibrosis estimated to occur in 1 in 5000 patients on treatment.^[21] This process usually regresses with withdrawal of the drug. Other adverse effects reported are dizziness, nausea, weight

gain and abdominal pain. Approximately 10% of patients are unable to tolerate the medication due to adverse effects.^[21] Due to the potential of serious side effects, methysergide should be limited to patients who fail to respond to other preventative medications. In practice, drug holidays should be taken every 6 months to reduce the risk of retroperitoneal fibrosis. Some institutes screen patients on long term methysergide for signs of retroperitoneal, pleural or cardiac fibrosis with regular CT, MRI or echocardiograms. Any patient suspected of developing fibrosis must have the drug discontinued immediately.

Pizotifen is a serotonin antagonist, which is used in several countries. Placebo controlled studies do suggest clinical efficacy^[3] with 40-79% patients responding to doses of 1.5-3.0 mg.^[5] No superiority over other prophylactic agents has yet been demonstrated. The adverse effects are of substantial weight gain and tiredness.

Miscellaneous Drugs

Emerging treatment options are being highlighted through clinical practice and research. Anti-epileptic drugs such as levetiracetam and zonisamide have been suggested in open trials to have beneficial effects on migraine^[20] and there is some evidence that angiotension –converting enzyme (ACE) inhibitors (Lisinopril)^[30] or angiotension II receptor blockers^[31] are significantly better than placebo at treating migraine and have favourable side effect profiles.

Alternative Treatments

Often patients are keen to explore alternative treatment options for their headaches. Magnesium supplements may prove to be of benefit but further controlled trials are needed. Co-enzyme Q10 and riboflavin are elements in the mitochondrial electron transport chain and both have been found potentially useful in migraine treatment. Co-enzyme Q10 has been found in small-scale open label and placebo controlled trials to result in a 50% reduction in headache frequency in at least 40% of patients^[32] at a dose of 300 mg/day. Riboflavin (vitamin B2) has shown significant reduction in headache frequency compared to placebo when given in high dose (400 mg/day) with a 50% headache reduction reported in 59% of patients.^[3] Again, clinical effectiveness needs proven in more robust studies.

Very little evidence exists for the use of herbal remedies although trials have been performed on feverfew and butterbur extract. A Cochrane review into the use of Feverfew has not shown evidence of clinical effectiveness^[33] although the efficacy of butterbur extract to placebo has been shown in two placebo-controlled studies.^[32]

Conclusions

The treatment options for episodic migraine are varied and must be tailored to the individual patient. Physicians should be aware of the scientific proof, efficacy and side effect profile of the drugs they choose, but often they will rely on their clinical judgement and experience. Patient education is key to an effective migraine treatment program and whatever drugs are chosen, the response of the patient should be checked after

2-3 months and headache diaries kept. It is crucial that acute medication is limited to prevent medication overuse headache developing thus preventing prophylaxis from being effective. Although more high quality clinical studies into migraine preventative agents are needed we must currently be guided by our patient's response and preferences.

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