Migraine Headache

INTRODUCTION
A common complaint, headache, can occur for many different reasons, and its proper evaluation and treatment can be difficult. In most headache patients, an underlying structural lesion will not be present and this must be considered. The intensity, quality, and site of pain can help in the diagnosis as to the type of headache involved.

SYMPTOMS
A classic migraine headache involves lateral or general throbbing that generally periodically occurs after its onset in adolescence or in early adult life. A migraine headache may be dull or throbbing and may be associated with anorexia, nausea, vomiting, photophobia, phonophobia, and blurred vision. Usually, they will gradually build and may last for several hours or longer. Visual disturbances have included field defects, luminous visual hallucinations such as stars, sparks, uniformed light flashes, geometric patterns or zigzags of light, or a combination. Other symptoms may include aphasia, numbness, tingling, clumsiness, or weakness.

There may be a family history of migraine, and they may be precipitated by and/or made more severe by emotional or physical stress, lack of sleep, missed meals, fatigue, specific foods (chocolate), or foods containing niacin or tyramine, menstruation, alcoholic beverages, use of oral contraceptives, and other causes.

TREATMENT
Management of migraine consists of elimination of precipitating factors, to the extent possible, together with prophylactic or pharmacologic treatment. Sometimes it is helpful for the patient to move to a quiet, darkened room until symptoms subside.

Pharmacologic therapy for treatment often includes serotonin receptor agonists, ergot alkaloids, analgesics, anti-nauseants, vasoconstrictors, and others. Pharmacologic therapy for prevention often includes beta blockers, antiepileptics, tricyclic antidepressants, calcium channel blockers, angiotensin converting enzyme inhibitors, angiotensin receptor blockers, selective serotonin reuptake inhibitors, antidepressants, nonselective piperidine antihistamines, and antihypertensives.

Loyd V. Allen, Jr., PhD, RPh
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COMMON CAUSES OF HEADACHE INCLUDE::
- Cervical spondylosis
- Dental disease
- Depression
- Head injury
- Hypertension
- Intracranial lesions
- Migraine
- Ocular disease
- Sinusitis
- Temporomandibular joint dysfunction
- Tension

GENERAL OBSERVATIONS IN TREATING MIGRAINE
1. An opioid analgesic can be used for treatment of mild to moderate migraine.
2. A triptan is the drug of choice for moderate to severe migraine.
3. Nasal spray dosage forms have a faster onset of action as compared to oral dosage forms.
4. Nonopioid analgesics, aspirin, and acetaminophen, may be sufficient for mild or moderate episodes of migraine. They are also used in combination with other drugs, such as caffeine, butalbital, etc.
In many cases, the dosage forms available are not appropriate for the patient, and this requires compounding an individualized preparation for the patient. These may involve preparing liquids or troches where only tablets or capsules are available, preparing transdermals or nasal sprays, and even combinations of ingredients that are no longer available on the market. Some compounded preparations are listed.

### THE COMMERCIAL DOSAGE FORMS FOR THESE AGENTS ARE LISTED BELOW:

#### MIGRAINE TREATMENT

**Serotonin Receptor Agonists (Triptans)**
- Almotriptan: Tablets
- Eletriptan: Tablets
- Frovatriptan: Tablets
- Naratriptan: Tablets
- Rizatriptan: Tablets, Orally Disintegrating Tablets (ODTs)
- Sumatriptan: Tablets, Nasal Spray, Injection
- Zolmitriptan: Tablets, ODTs, Nasal Spray

**Ergot Alkaloids**
- Dihydroergotamine mesylate: Injection, Nasal Spray
- Ergotamine tartrate: Tablets, Suppositories
- Ergotamine/caffeine: Tablets, Suppositories

**Others**
- Aspirin: Tablets
- Prochlorperazine: Suppository, Injection

#### MIGRAINE PREVENTION/PROPHYLAXIS

**Beta-Blockers**
- Metoprolol: Tablets, Capsules
- Propranolol: Tablets
- Timolol: Tablets

**Antiepileptic Drugs**
- Valproate: Tablets, Capsules
- Topiramate: Tablets, Capsules

**Tricyclic Antidepressants**
- Amlotriptyline: Tablets
- Imipramine: Tablets

**Calcium Channel Blockers**
- Verapamil: Tablets, Capsules
- Nifedipine: Capsules
- Diltiazem: Tablets, Injection, Capsules

**Angiotensin-Converting Enzyme Inhibitors**
- Lisinopril: Tablets
- Candesartan: Tablets, ODTs

**Selective Serotonin Reuptake Inhibitor**
- Sertraline: Tablets

**Antidepressants**
- Fluoxetine: Capsules, Tablets, Oral Solution

**Nonselective Piperidine Antihistamine**
- Cyproheptadine: Tablets, Syrup

**Antihypertensive**
- Clonidine: Tablets, Transdermal System, Injection

### COMPOUNDED FORMULAS FOR MIGRAINES ::

**Rx**  
Dihydroergotamine Mesylate 0.5 mg/mL and Metoclopramide 10 mg/mL Injection

**Rx**  
Dihydroergotamine 2 mg/mL in Pluronic Lecitin Organogel Transdermal Gel

**Rx**  
Ergotamine 1 mg, Caffeine 100 mg, Belladonna 10 mg, and Pentobarbital 30 mg Capsules

**Rx**  
Ergotamine Oral Inhalation Spray (0.36 mg/spray)

**Rx**  
Ergotamine Tartrate 2 mg, Caffeine 100 mg, Atropine Sulfate 0.25 mg, and Butabital 60 mg Suppositories

**Rx**  
Ergotamine Tartrate 2 mg Suppositories

**Rx**  
Ketoprofen 25 mg, Riboflavin 100 mg, and Caffeine 65 mg Headache Capsules

**Rx**  
Metoclopramide Hydrochloride 5 mg Troche

**Rx**  
Metoclopramide Hydrochloride 10 mg/0.1 mL Nasal Spray

**Rx**  
Prochlorperazine 5 mg/0.1 mL Nasal Spray

**Rx**  
Prochlorperazine 25 mg/0.5 mL Pluronic Lecithin Organogel Transdermal Gel

**Rx**  
Prochlorperazine 25 mg Suppository

**Rx**  
Propranolol 40 mg/mL in Pluronic Lecithin Organogel Transdermal Gel

**Rx**  
Sumatriptan 20 mg Troches

**Rx**  
Verapamil Hydrochloride 40 mg/mL in Pluronic Lecithin Organogel Transdermal Gel

### COMPOUNDING FOR MIGRAINE

1. Thiopefen and other NSAIDs, such as naproxen, have also been shown to be effective in relieving migraine pain.
2. Metoclopramide, when taken at the onset of symptoms, can enhance the absorption of drugs by increasing gastric motility and may also prevent the nausea associated with some migraine attacks.
3. Sumatriptan, the first triptan marketed in the US, is very effective for treatment of an acute migraine attack. Use of a triptan at the onset of an attack, is more effective than when used later and will improve patient outcomes.
4. A combination used for many years, ergotamine tartrate (a nonspecific serotonin agonist) in combination with a vasoconstrictor, is effective in the treatment of moderate to severe migraine headaches. Dihydroergotamine mesylate is also effective in treating migraine attacks and is a weaker arterial vasoconstrictor than ergotamine.
5. Migraines associated with menstrual cycles, can sometimes be prevented with the short-term administration of an NSAID, ergot alkaloid, or a triptan, taken a few days prior and during the first few days of menstruation.
6. Continuous prophylaxis commonly utilizes the beta-blockers, including propranolol, metoprolol, nadolol, atenolol, and others.
7. Valproate and topiramate may be effective in decreasing migraine frequency; gabapentin may or may not be as effective.
8. Amitriptyline and nortriptyline have been used to prevent migraine in some patients and have been given in combination with other prophylactic agents.
9. Drugs for prevention and to reduce frequency have also included calcium-channel blockers (verapamil), angiotensin-converting enzyme (ACE) inhibitors (lisinopril), and angiotensin receptor blocker (ARB) (candesartan), NSAIDS (naproxen, flurbiprofen), and some dietary supplements (riboflavin, magnesium citrate, coenzyme Q10, feverfew).