Conventional Prophylactic Treatment of Migraine Headaches

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Migraine is characterized by recurrent attacks of headache, associated with other clinical manifestations. Its management includes treatment of acute attacks and preventive/ prophylactic treatment.

Prophylactic therapy can be divided into three approaches; episodic, intermittent and continuous.

Episodic prophylaxis is advised when a known trigger such as exercise or sexual activity leads to headache. Patients can be instructed to treat prior to the exposure or activity. For example, a single dose of indomethacin can be used to prevent exercise-induced migraine.

Intermittent prophylaxis is used when patients are undergoing a time-limited exposure to a provoking factor, such as ascent to a high altitude or menstruation. These patients can be treated with daily medication, just before and during the exposure. For example, peri-menstrual use of a NSAID (like Naproxen) or triptan may prevent the emergence of menstrual migraine.

Maintenance prophylaxis is indicated when patients need ongoing treatment.

Indications of prophylactic treatment include:

- Frequency of migraine attacks is greater than 2 per month
- Duration of individual attacks is longer than 24 hours
- Headaches cause major disruptions in patient's lifestyle, with disability lasting 3 or more days
- Symptomatic medications are contraindicated or ineffective
- Use of symptomatic medications more than twice a week
- Migraine variants such as hemiplegic migraine, producing profound disruption or risk of permanent neurologic injury

- Frequent, long or uncomfortable auras
- Patient preference (Life style, cost, co morbidities)

Goals of treatment include:

- Reduce frequency, severity & duration of attacks
- Improve responsiveness to treatment of acute attacks
- Improve function and reduce disability

Realistic goals should be set as complete remission may not be possible always. Success is defined as a 50% reduction in attack frequency or headache days, a significant decrease in attack duration, or an improved response to acute medication.

Classes of drugs used for migraine prophylaxis include:

- Anti epileptic drugs (Valproic acid and Topiramate)
- Anti depressants (TCAs are widely used. Limited data supports SNRIs as well).
- Anti hypertensives (Beta blockers, Calcium channel blockers, ACE Inhibitors and ARBs)
- Botulinum toxin (in selected cases)
- Calcitonin gene-related peptide (CGRP) inhibitors (monoclonal antibodies)
- Miscellaneous (limited data favors Riboflavin, Quetiapine, melatonin, magnesium and some natural products)

Selection of drugs depends upon multiple factors which include:

- Patient's age, sex and comrbidities
- Attack frequency, severity and associated disability
- Efficacy of the drug
- Patient's preference

Treatment with the conventional medicines should be started in low doses and built up gradually. Prophylaxis should not be declared failure until it has been given in maximum tolerable dosage for thirty days at least.

Non pharmacologic measures are being used in addition to pharmacotherapy. Of note are cognitive behavioral and relaxation therapies, occipital nerve stimulation and surgical removal of muscle or nerve tissue from headache trigger sites (Confirmed by response to Botox).

Some mechanical **devices** (like TENS) are showing promising results.