Migraine Headache Treatments

Migraines are unilateral, throbbing headaches that are more common in women and are often associated with a preceding aura. They are thought to be primary neuronal dysfunction that is centered around activation of the trigeminal ganglion. This activation causes neurogenic inflammation due to release of vasoactive substances [such as substance p, calcitonin gene-related peptide, and neurokinin A.] The neurotransmitter serotonin also plays an important, although unclear, role in pathogenesis and treatment. Migraines are treated with NSAIDs, Triptans and Antihypertensive medications like beta blockers, Ca2+ blockers, amitriptyline are used as treatment in addition to anticonvulsant medications such as topiramate and valproic acid.



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Acute Treatment

Avoid Triggers
Avoid-sign with Trigger
Avoidance of triggers plays an important role in treatment. Common triggers include; emotional stress, menses, oral contraceptives, alcohol (especially red wine), weather changes, fasting, neck pain, bright light, and disrupted sleep patterns.

Sumatriptan
Sumo-trip
Triptans are considered the first line treatment after failure of NSAIDs. They act by stimulating serotonin 1b/1d receptors, and inhibiting the release of the vasoactive peptides known to cause neurogenic inflammation.

NSAIDs
N-sad
Nonsteroidal anti-inflammatory drugs are a first line treatment for migraines, and should be used before other medications. Different NSAIDs may have different efficacy from patient to patient, so several should be tried before escalating treatment.

Preventative Treatment

Beta Blockers
Beta-fish with Blocks
Preventative treatment may be warranted in patients with frequent or severe migraines, or those that have failed abortive treatments. Beta blockers are effective in preventing migraines when taken daily. Use with caution in smokers and patients over 60, as they may increase the risk of stroke in these populations.

Calcium Channel Blockers
Calcium-cow Channel with Blocks
Several Ca2+ channel blockers may be tried in patients who have failed or have contraindications to Beta Blocker therapy. The mechanism in which they work for migraines is unknown.

Amitriptyline
Amish-trampoline
Amitriptyline is a tricyclic antidepressant that acts by inhibiting reuptake of serotonin and norepinephrine. It is effective for preventing migraine, but has a large side-effect profile including sedation and anticholinergic toxicity.

Topiramate (Anticonvulsants)
Toe-primate
The anticonvulsants Topiramate and Valproate have been shown to decrease migraine frequency by up to 50%. Remember that Valproate is teratogenic, and therefore contraindicated in pregnancy!

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