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Patient Education Kit for Migraine

AHS Complementary and Integrative Medicine Special Interest Section

Supplements

Dietary supplements are commonly used for the prevention of migraine. The following recommended supplements have all been studied and found to be effective in the prevention of migraine.¹ If you are pregnant or have other medical conditions, please check with your physician about whether you should take these. Supplements are not regulated by the United States Food and Drug Administration, therefore the actual supplement content may vary from the label.

Magnesium

- Mechanism: Important in energy production, muscle and nerve function, and may play a role in cortical spreading depression, which is an underlying migraine mechanism.
- Evidence: Two large randomized controlled trials found magnesium to be beneficial for migraine prevention.
- Dose: 600mg per day. Some people prefer to start at a lower dose to ensure tolerability. Formulations include magnesium oxide, magnesium sulfate, magnesium citrate (better absorbed than oxide or sulfate), and magnesium glycinate (less likely to cause diarrhea than other formulations)
- Side effects: May cause soft stools or diarrhea, but could help constipation.

Riboflavin (Vitamin B2)

- Mechanism: Involved in mitochondrial energy production, which may play a role in migraine
- Evidence: Five clinical trials, including one large randomized controlled trial, have shown positive effect on migraine.
- Dose: 400mg per day
- Side effects: Turns urine bright yellow/orange and may cause diarrhea.

Feverfew

- Mechanism: Parthenolide, the active ingredient, may prevent migraine through its vascular smooth relaxation and anti-inflammatory properties.
- Evidence: Four out of six studies showed benefit for migraine prevention

- Dose: 50-300mg twice daily
- Side effects: Nausea, bloating, and mouth ulcers. Feverfew can cause uterine contractions and is not recommended during pregnancy.

Coenzyme Q10 (CoQ10)

- Mechanism: **CoQ10** is involved in energy production and helps maintain mitochondrial integrity.
- Evidence: Two randomized controlled trials showed benefit over placebo.
- Dose: 300mg daily (can be split into 150mg twice a day)
- Side effects: Insomnia, fatigue, nausea, or diarrhea.

Melatonin

- Mechanism: Secreted from pituitary gland and regulated by the hypothalamus, melatonin modulates the circadian rhythm, or the body's internal 'clock' affecting the sleep-wake cycle. Additional mechanisms may also contribute to melatonin's role in migraine.²
- Evidence: Two studies have demonstrated improvement in migraine frequency and intensity with melatonin compared with placebo^{2,3} though meta-analyses and randomized control trials have been controversial.^{4,5} Two studies have suggested melatonin is as effective but more tolerable than traditional migraine preventive medications.^{3,6}
- Dose: Melatonin 3 mg, take 30 minutes prior to bedtime
- Side effects: Dizziness, headache, nausea, and sleepiness⁷

Other Supplements

Butterbur demonstrated benefit for migraine in two large randomized controlled studies; however; preparations may contain pyrrolizidine alkaloids which are toxic to the liver. Due to safety concerns, butterbur was removed from the market in Europe and is currently not recommended. Melatonin and the combination of folic acid/B6/B12 have mixed results for migraine prevention.

References

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