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## **Magnesium prophylaxis of menstrual migraine: effects on intracellular magnesium.**

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### **Source**

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### **Abstract**

The effects of oral Magnesium (Mg) pyrrolidone carboxylic acid were evaluated in 20 patients affected by menstrual migraine, in a double-blind, placebo controlled study. After a two cycles run-in period, the treatment (360 mg/day of Mg or placebo) started on the 15th day of the cycle and continued till the next menses, for two months. Oral Mg was then supplemented in an open design for the next two months. At the 2nd month, the Pain Total Index was decreased by both Placebo and Mg, with patients receiving active drug showing the lowest values (P less than 0.03). The number of days with headache was reduced only in the patients on active drug. Mg treatment also improved premenstrual complaints, as demonstrated by the significant reduction of Menstrual Distress Questionnaire (MDQ) scores. The reduction of PTI and MDQ scores was observed also at the 4th month of treatment, when Mg was supplemented in all the patients. Intracellular Mg<sup>++</sup> levels in patients with menstrual migraine were reduced compared to controls. During oral Mg treatment, the Mg<sup>++</sup> content of Lymphocytes (LC) and Polymorphonucleated cells (PMN) significantly increased, while no changes in plasma or Red Blood Cells were found. An inverse correlation between PTI and Mg<sup>++</sup> content in PMN was demonstrated. These data point to magnesium supplementation as a further means for menstrual migraine prophylaxis, and support the possibility that a lower migraine threshold could be related to magnesium deficiency.

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