Serum Calcium and Magnesium Status in Women with Leg Cramps During Pregnancy

M. Hammar and G. Berg

Department of Obstetrics and Gynecology, University Hospital, S-581 85 Linköping, Sweden.

Up to 30% of pregnant women have been reported to suffer from leg cramps, usually during the night or early hours (1,2). Changes in serum calcium concentrations have been suggested as one of the causes (1).

Forty-two pregnant women with leg cramps were randomly selected for oral calcium treatment (1 g calcium twice daily for 2 weeks) or as control group. No differences were seen in total serum or ionized serum calcium concentrations compared with a second control group of 20 pregnant women without leg cramps. During treatment, total serum calcium concentrations increased from 2.25 ± 0.09 mmol/liter to 2.30 ± 0.13 mmol/liter, whereas ionized serum calcium concentrations remained unchanged. Nine of the 21 women who were treated with oral calcium were totally relieved of their symptoms, whereas ten women had cramps more seldom. One patient had more leg cramps during treatment, and one experienced no change. In the first control group, the symptoms and serum calcium concentrations were unchanged throughout the study period.

In order to study further the positive effects of oral calcium on leg cramps during pregnancy, a double-blind trial with calcium and an effervescent preparation of ascorbic acid was designed. Sixty women were randomized into two groups, both receiving treatment for 3 weeks. In two-thirds of the patients, the symptoms were significantly decreased or totally abolished. About 25% regarded their symptoms as unaffected, and the rest experienced an increase in frequency of their leg cramps; however, there was no significant difference between the two treatment groups with respect to clinical improvement.

Serum total and ionized calcium concentrations and serum total magnesium and albumin concentrations were determined. In no group were they found significantly changed throughout therapy. No biochemical differences
were found among the different treatment regimens or between those patients relieved or not relieved of their symptoms; however, serum magnesium concentrations were at or below the lower normal limit for nonpregnant women in all the patients.

In conclusion, we found that leg cramps during pregnancy responded well to calcium treatment as well as to an ascorbic acid preparation. No biochemical variable distinguished these patients from other pregnant patients. Serum magnesium concentrations were found to be low in all the pregnant women.

REFERENCES