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Effect of vitamin C on prevention of complex regional pain syndrome type I in foot and ankle surgery.

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Abstract

BACKGROUND: The public health cost impact of complex regional pain syndrome type I (CRPS I) is considerable in both emergency and scheduled orthopaedic surgery. We proposed to assess the effectiveness of **vitamin C** in prevention of CRPS I in foot and ankle surgery.

METHODS: We carried out a "before-after" quasi-experimental study comparing two chronologically successive groups without (Group I: July 2002-June 2003) and with (Group II: July 2003-June 2004) preventive 1g daily **vitamin C** treatment. All patients having surgery on the foot or ankle were enrolled, with the exception of diabetic foot cases. Several factors were analysed: sex, age, type of pathology, history of CRPS I, psychological context, tourniquet time, and cast immobilisation time.

RESULTS: 420 feet (392 patients) were included in the study: 185 in Group I, 235 in Group II. CRPS I occurred in 18 cases in Group I (9.6%) and 4 cases in Group II (1.7%) ($p < 10^{-4}$), with history of CRPS I as a significantly correlated factor (relative risk=10.4). The psychological context (anxio-depressive state) showed a (sub-significant) tendency to increase the risk of CRPS I (relative risk=2.6).

CONCLUSION: **Vitamin C** has been shown to be effective in preventing CRPS I secondary to wrist fracture, but few data are available with respect to foot and ankle cases. The present study demonstrates the effectiveness of **vitamin C** in preventing CRPS I of the foot and ankle—a frequent complication in our control group (9.6%). The authors recommend preventive management by **vitamin C**.

Comment in

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