Letters to the Editor  |  November 01, 2007

P.E. Zollinger, W.E. Tuinebreijer, R.S. Breederveld, and R.W. Kreis reply:

Paul E. Zollinger, MD; W.E. Tuinebreijer, MD, PhD, MSc, MA; R.S. Breederveld, MD, PhD; R.W. Kreis, MD, PhD

These letters originally appeared, in slightly different form, on . They are still available on the web site in conjunction with the article to which they refer.

The Journal of Bone and Joint Surgery, Incorporated

J Bone Joint Surg Am, 2007 Nov 01;89(11):2551-2552

We read the letter of our colleague, Dr. Frölke, with great interest. First, on the basis of our study, we believe that vitamin C does prevent complex regional pain syndrome. Unfortunately, most of Dr. Frölke’s comments do not apply to our study.

The number of enrolled patients in our study in relation to the number of eligible patients was mentioned in the Discussion of our article. The quality of reduction was studied in this paper and in our paper in Lancet as well. In both studies, there was no relationship between the occurrence of complex regional pain syndrome and the need to undergo fracture reduction. Moreover, the quality of reduction did not influence the chance of complex regional pain syndrome developing. We performed the current study because, to our knowledge, there have been no published studies since 1999 that either confirm or refute our original findings.

To our knowledge, no prospective study has ever demonstrated an association between the prevalence of complex regional pain syndrome and the quality of reduction. Retrospective studies do not have the level of evidence that is needed. Dr. Frölke makes a misjudgment by citing the article by Arora et al. Arora et al. found that, of 114 patients followed for one year, five had type-I complex regional pain syndrome and three had type-II complex regional pain syndrome. Thus, the prevalence of type-I complex regional pain syndrome in their study is 4.39% (not 3.5% as stated in Dr. Frölke’s letter) and is higher than our overall prevalence of 4.2%; it stands in contrast with the 2.4% for all of our patients treated with vitamin C. The difference is even more striking when the 4.39% rate is compared with the prevalence of only 1.8% in our group receiving 500 mg of vitamin C and 1.7% in the group receiving 1500 mg.

Why the articles by Rowbotham, Oerlemans et al., and Sherry et al. are cited is unclear to us. Our study is about the possible prevention of complex regional pain syndrome after a wrist fracture in adults treated with a prophylactic dose of vitamin C and not about the therapy for complex regional pain syndrome itself. The end point of our study was defined as the presence of complex regional pain syndrome at any time within one year after the fracture (see the Study Design section). The article by Rowbotham deals with pharmacotherapy in patients with complex regional pain syndrome.
The article by Oerlemans et al. is a very well-respected trial comparing adjuvant physical therapy with occupational therapy for patients with complex regional pain syndrome. Here lies the difference with our fracture patients. If we had treated our patients with physical therapy as well, we would have created our own confounding factor. Skeptics would have challenged our conclusions and pointed to the positive effect of the physical therapy rather than to the effect of vitamin C, as Dr. Frölke does now.

When complex regional pain syndrome develops in patients who have sustained a wrist fracture, it is of course treated with physical therapy and medication, if necessary. The article by Sherry et al. deals with the outcome in children with complex regional pain syndrome after exercise therapy. However, we believe that complex regional pain syndrome in children is a completely different entity than complex regional pain syndrome in adults, and so is the approach to its treatment. This was confirmed by Wilder et al., who reminded us that, in children, complex regional pain syndrome most often involves the lower extremity (87% of sixty-one of seventy cases), which is in contrast to the situation in adults, who have more upper-extremity complex regional pain syndromes. The therapy used by Sherry et al. consisted of aerobic functionally directed exercises, hydrotherapy, and desensitization. Which therapy achieved the desired outcome? Can it get more confounding than this?

References


7 Wilder RT, Berde CB, Wolohan M, Vieyra MA, Masek BJ, Micheli LJ. Reflex sympathetic dystrophy in children. Clinical