Vitamin C for prevention of CRPS-I in traumatology and orthopaedic surgery

Complex regional pain syndrome type I (CRPS-I), formerly known as Reflex Sympathetic Dystrophy, can occur after a trauma to an arm or leg. CRPS is frequently seen after wrist fractures. The diagnosis of CRPS is based on clinical signs and symptoms. According to Veldman et al., it is characterized by unexplained diffuse pain, differences in skin colour and temperature relative to the other limb, diffuse oedema, and limited active range of motion. These signs and symptoms occur or increase after use and are present in an area larger than the area of primary trauma.

CRPS is one of the most important causes of invalidation after an injury to an extremity and the therapy is difficult, time consuming and costly. When it occurs it has a devastating impact on the patient in personal, social and economic view. The emphasis of treatment should therefore be on prevention.

This thesis, by orthopaedic surgeon Paul Zollinger, gives an overview of the evidence-based therapy of CRPS in an outline of the Dutch clinical practice guideline 'Complex regional pain syndrome type I'. A general exposition on the chemical, pharmacodynamic and clinical aspects of vitamin C (ascorbic acid) is presented.

In two placebo-controlled randomized clinical trials Zollinger et al. show that 500 mg vitamin C daily, reduces the chance for the occurrence of CRPS after wrist fractures. In addition, this application of vitamin C is proposed in hand surgery as well.

An alphabetical list of the relevant literature and summaries in English, Dutch and German complete this book on CRPS, which may be of interest for a variety of health care professionals (general practitioners, physiotherapists, trauma and orthopaedic surgeons, etc.).