Letters to the Editor

Neuropsychology and complex regional pain syndrome

To the Editor:

We read with interest the case report of Robinson et al. [3] describing a CRPS patient with object-orientation agnosia. The authors present novel information on a little-studied neurological syndrome. In their introduction, Robinson et al. correctly point out that there has been little systematic study regarding neurocognitive deficits associated with CRPS. However, my colleagues and I would like to call attention to several experimental studies conducted in our laboratory. Libon et al. [2] conducted a large multivariate analysis of CRPS patients (n = 137) demonstrating the existence of a dysexecutive syndrome for at least a portion of patients. Another portion of our patients presented with global neurocognitive deficits. Koffler et al. [1] studied a group of CRPS patients with neuropsychological tests before and after 5-day coma treatment with ketamine, midazolam, and clonidine. After treatment, these patients could be maintained on no medication.

Moreover, Koffler et al. [1] reported improved posttest performance on neuropsychological tests related to executive control. As in the case study described by Robinson et al., our patients presented with no obvious structural brain lesions. Although their case report is striking for the body perception and visuospatial deficits, it is worth pointing out that in the initial neuropsychological evaluation of their patient, differential impairments on a variety of executive tests were noted. For example, performance on the Digit Span subtest, the Stroop Test, and tests of letter and category fluency were low compared to performance on tests that assess general intellectual functions. The authors comment that memory test performance was reduced because of attention problems. Thus, in addition to the interesting body schema and object-orientation deficits illustrated in this case, Robinson et al. [3] provide additional evidence for dysexecutive impairment associated with CRPS.

Conflict of interest statement

The authors report no conflict of interest.

References


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To the Editor:

With their article, Katz et al. corroborate the idea that blockage of nerve growth factor (NGF) provides much more effective pain relief than traditional therapy with nonsteroidal antiinflammatory drugs [7]. The authors treated chronic low back pain with a single dose of a humanised monoclonal antibody, tanezumab, and found no serious adverse events.

The clinical development of tanezumab is, however, on regulatory hold due to progressive worsening of patients with osteoarthritis, in, for example, knee and hip [7]. In an excellent editorial comment on the clinical potential of NGF inhibitors, Hill briefly discusses the biological aetiology for the joint deterioration associated with anti-NGF therapy.

Hill concludes that, except excessive wear and tear in the absence of joint pain, it is necessary to keep in mind that NGF-dependent nerve fibres control not just pain, but also blood flow through tissues, via the release of peptides. We agree with Hill and would like to expand the perspective of neuronal regulation. Knowledge of the principles governing neuronal regulation of tissue metabolism and repair will be a turning point for whether NGF-targeted therapies will ever reach the patients in need.

In fact, peripheral bone and joint innervation demonstrates an abundant number of nerves and neuronal mediators dependent on NGF, which are vital not only for blood flow, but for several trophic processes regulating tissue homeostasis and repair [5]. Two of the most important mediators regulated by NGF are the neuropeptides substance P (SP) and calcitonin gene-related peptide (CGRP) [2].

During the last 2 decades, our laboratory and other orthopaedic laboratories throughout the world have mapped a complex neuro-anatomical innervation of bone and joints [5]. Just recently, we are starting to understand that nerves in bone and joints do not only mediate pain signals, but also actively control tissue homeostasis by the release of proliferatively acting substances such as SP and CGRP [5]. The concept of neuronal regulation of joint integrity is strength-