



Topical review

Peripherally-triggered CRPS and dystonia

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1. Introduction

It is increasingly recognised that the Complex Regional Pain Syndrome (CRPS) may be accompanied by several movement disorders, and as a consequence these are now included amongst the proposed research criteria for diagnosis of CRPS (Bruehl et al., 1999). Some of these movement disorders, including weakness, stiffness, clumsiness, and motor neglect, give rise to impaired movements. Others give rise to various involuntary movements, including tremor, myoclonus, spasms, jerks, and notably dystonia – ‘a movement disorder that causes sustained muscle contractions, repetitive twisting movements, and abnormal postures of the trunk, neck, face, or arms and legs’ (Tarsy and Simon, 2006).

CRPS is frequently triggered by peripheral trauma, and, as discussed below, appears to be associated with dystonia surprisingly often. In contrast, dystonia is only rarely associated with CRPS, and whether dystonia is triggered by trauma remains controversial (see Jankovic, 2001; Weiner, 2001). In the light of these similarities and differences, are peripherally-triggered CRPS and dystonia sometimes linked, as has been postulated in the past (Schott, 1986); and if so, how?

2. The increasing recognition of CRPS-associated dystonia

Dystonia and other movement disorders in CRPS, and its nosological forerunners including causalgia and

reflex sympathetic dystrophy (RSD), were rarely commented on until 1984, when Marsden and colleagues described five patients with ‘Muscle spasms associated with Sudeck’s atrophy after injury’, including one with dystonia (Marsden et al., 1984). Soon afterwards, Jankovic and Van der Linden (1988) identified 23 patients who had sustained peripheral injury during the previous year, 18 of whom developed focal dystonia of the involved limb, and nine of these 18 had RSD; and Schwartzman and Kerrigan (1990) reported that amongst 200 patients with RSD, 43 had dystonia and other motor symptoms.

Subsequent reports of large numbers of patients with CRPS have confirmed that dystonia indeed co-exists, but its prevalence in different series varies considerably, and not all reports identify dystonia selectively. For example, dystonia and/or myoclonus was reported in 5% of 1006 patients studied retrospectively (van der Laan et al., 1998). This compares with a prospective study of 829 patients with RSD, in which involuntary movements occurred in 36% of patients, and ‘severe muscle spasms’ in 25% of those whose condition was more longstanding (Veldman et al., 1993); and in another prospective study of 145 patients with post-traumatic CRPS, irregular myoclonic jerks with dystonia were seen in 30% of patients (Birklein et al., 2000). In this number of *Pain*, van Rijn and colleagues report a retrospective study of 185 patients with CRPS Type I resulting from peripheral trauma; remarkably, 121 (65%) of these patients exhibited a movement disorder, which in 91% of cases was dystonic in some form.

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