

Follow up of the first series of pain exposure physical therapy (PEPT) treated CRPS-1 patients show further improvement

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Introduction:

In 2009, a treatment directed at the function while neglecting the pain showed good results for patients with longstanding complex regional pain syndrome type 1 (also shown on a poster). The therapy was named (PEPT).

Aim-The aim of this study is to investigate if the results remained, improved or declined. Pain Exposure physiotherapy may be a new treatment option for patients with Complex Regional Pain Syndrome type 1. It has been evaluated in retrospective also as in prospective studies and proven to be safe and possibly effective. This indicates that Pain Exposure physiotherapy is now ready for clinical evaluation. The results of an earlier performed pilot study with an n = 1 design, during which 20 patients with Complex Regional Pain Syndrome type 1 were treated with Pain Exposure physiotherapy, were used for the planning and power calculation of this study.

After completion and evaluation of this phase III clinical trial study, a multi-centre implementation study are going to be conducted.

The aim of this study is to work out whether Pain Exposure physiotherapy can improve functional outcomes in patients with Complex Regional Pain Syndrome type 1. Complex Regional Pain Syndrome type 1 (CRPS-1) or reflex sympathetic dystrophy (RSD) may be a chronic progressive condition of an extremity characterized by a spread of autonomic, sensory, motor and vasomotor symptoms, usually following injury. It describes a spread of painful conditions following injury which appears regionally having a distal predominance of abnormal findings, exceeding in both magnitude and duration the expected clinical course of the inciting event. It often leads to impairments of neuromusculoskeletal and movement-related functions, sensory functions and pain, activity limitations and participation restrictions. It shows a variable progression in the course of time. Clinical evaluation and diagnosis of CRPS-1 are supported clinical assessment of signs and symptoms, in accordance with predetermined sets of diagnostic criteria. Conventional therapy, consisting of pharmacological pain management and pain avoidance in functional management, has shown disappointing leads to pain control and disabilities, and sometimes results in inactivity and social disintegration. Considerable impairments are still present over eight years after first CRPS-1 diagnosis. Pain Exposure physiotherapy (PEPT) may be a new and

promising therapeutic approach. No prospective, randomized studies have yet been performed to evaluate its effectiveness and efficacy compared to the conventional therapy.

The CRPS outpatient department of the Radboud University Nijmegen Medical Centre has a long history regarding treatment and research on CRPS-1

PEPT-

PEPT is a functional form of physical therapy and consists of a progressive-loading exercise program and management of pain-avoidance behaviour without the use of specific CRPS-1 medication or analgesics. It is based on the assumption that behavioural and psychological factors can exacerbate pain and dysfunction and might help maintain the condition. Patients denominate clear treatment goals in the domains of activities and participation. PEPT aims to decrease kinesiophobia, pain behaviour and learned non-use [11], and increase self-confidence within the patients' own physical possibilities. Living without adaptations or living independently from caregivers, returning to work and employment, and restarting domestic life, self-care, mobility, hobbies and sports in a short time are the main treatment goals. Pain relief itself isn't a primary treatment goal, and patients are informed that a rise in pain during or after the exercises and activities might occur. Patients are reassured that an increase in pain is not a sign of injury or tissue damage. In this respect, all conscious and unconscious signs of catastrophizing and kinesiophobic behaviour are specified and talked through with the patient and partner. If, despite explanation, doubt remains about the treatment content or when patients aren't motivated to influence instructions of the therapists, the treatment are going to be ceased. The treatment consists of progressive-loading exercises and desensitization beyond the patients' pain limits. To decrease the enhanced skin sensitivity for touch and pressure, desensitization is carried out using self-massage and forced use of the affected arm or leg in daily activities. The progressive-loading exercises are tailored and focused on specific body functions using standard techniques in regular physical therapy, including passive and active exercises to mobilize joints and muscle stretching. During progressive loading, the physical therapists act mainly as instructors, rewarding functional progression and providing schedules for exercises and activities reception. Complaining about pain is discouraged and it's not a topic of debate or a reason to scale back the treatment intensity. Partly due to a

limited number of five sessions, PEPT is a very low-cost approach from micro- as well as macro-economic point of view.

Patients & Methods: Patients (199) treated with PEPT within the period 2003-2006 at the Bethesda Hospital in Hoogeveen were approached by mail and invited to participate during this follow-up investigation. For patients visiting the clinic with CRPS type 1 of the leg we used speed and walking distance as measurements and for patients with CRPS of the arm we used the RST. For both groups we used a VAS for functionality. For the patients we interviewed by telephone we used a NRS for functionality. All patients were asked if they had improved, declined or had not changed since the last appointment.

Results: 146 patients participated in the study. Seventy-nine visited the clinic and sixty-seven were interviewed by telephone. The functionality (VAS) of the patients that visited the clinic improved from 15.4 at T1 to 67.5 at T2 and 80.9 at T3. The patients interviewed by telephone also improved: 3.1, 5.7 and 6.79 (NRS).

Conclusions: The present follow-up study shows that the improvement in almost all cases is stable and even progresses by daily use and practice.

Discussion-

This is the primary randomized controlled study with single blinding that has ever been planned in patients with Complex Regional Pain Syndrome type 1 and doesn't specialise in a single aspect of the pain syndrome but compares treatment strategies supported completely different pathophysiological and cognitive theories.

References-

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