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Original article

The place of occupational therapy in rehabilitation strategies of complex regional pain syndrome: Comparative study of 60 cases

La place de l'ergothérapie dans la stratégie de rééducation du syndrome douloureux régional complexe: étude comparative de 60 cas

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Abstract

The purpose of the study was to assess the value of combining occupational therapy (OT) with physical therapy (PT) for the rehabilitation of complex regional pain syndrome (CRPS) and to measure its effectiveness on activities of daily life. Sixty patients with CRPS type 1 were recruited and interviewed between September 1, 2014 and February 1, 2015. Thirty patients had undergone PT and thirty had undergone PT+OT. They were administered the short-form of the ''Assessment of Life Habits'' questionnaire (v.3.0 LIFE-H) created in Canada. This questionnaire consists of 16 items exploring activities of daily living, which were used to compare the effectiveness of the two rehabilitation protocols. The results of each test were submitted to the Wilcoxon test. After confirming the complexity of CRPS in terms of its etiology, clinical signs and progression, rehabilitation was effective, especially for pain. The patients who received PT+OT had on average 10% better dressing and undressing function, 25% better for meal preparation, and 20% better on personal care than those who underwent PT only. In CRPS, OT combined with PT brings a real benefit in restoring the essential activities of daily life. This strategy could be implemented as soon the diagnosis confirmed and continued for a very long time. It helps to avoid the risk of dependence on third parties.

Keywords: Complex regional pain syndrome; Functional rehabilitation; Occupational therapy; Activities of daily living; Assessment of Life Habits

Résumé

Le but de l'étude était d'évaluer l'intérêt d'associer l'ergothérapie à la kinésithérapie dans la rééducation du syndrome douloureux régional complexe (SDRC) et d'en mesurer l'efficacité dans les gestes de la vie courante, en comparant deux groupes de patients ayant bénéficié d'une prise en charge différente. Soixante patients volontaires souffrant d'un SDRC de type 1 et membres d'un réseau de soins régional ont été recrutés et interrogés entre le 01/09/14 et 01/02/15. Ils ont été soumis au questionnaire « Mesure des habitudes de vie » (MHAVIE) créé au Canada et validé en langue française (MHAVIE v.3.0) ; il comprend 16 items explorant les activités quotidiennes, dont une partie a permis de comparer les effets de la rééducation. Les résultats de chaque test ont été soumis au test de sensibilité de Wilcoxon. Après avoir confirmé le caractère complexe du SDRC dans ses aspects étiologiques, cliniques et évolutifs, la rééducation faisait preuve d'efficacité en particulier pour la douleur sous couvert de délais parfois très long. L'ergothérapie apportait un réel bénéfice supplémentaire quand elle était associée à la kinésithérapie pour la restauration des activités personnelles et quotidiennes : habillage et déshabillage plus 10 %, préparation des repas plus 25 %, soins personnels plus 20 %. Dans le SDRC, dont l'évolution spontanée est imprévisible, l'ergothérapie en association avec la kinésithérapie apporte un réel bénéfice dans la restauration des gestes essentiels de la vie quotidienne. Cette stratégie pourrait être instaurée dès

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la confirmation définitive du diagnostic et poursuivie pendant des délais souvent très longs. Elle concourrait ainsi à éviter les risques de dépendance à une tierce personne.

Mots clés : Syndrome douloureux régional complexe ; Rééducation fonctionnelle ; Ergothérapie ; Activités de la vie quotidienne ; Mesure des habitudes de vie

1. Introduction

Complex regional pain syndrome (CRPS) is condition that often leaves the practitioner feeling helpless or in an awkward position. A complex, disabling disease [1–3], it leaves the patient dependent on others for activities of daily living (ADLs) [4–6]. Collaboration between surgeons, physiatrists and rehabilitation professionals (physical therapists and occupational therapists) [7] is vital.

While the role of physical therapy (PT) in the treatment of CRPS has been demonstrated [8], the benefit of adding occupational therapy (OT) has not been well defined. There is only one comparative study in the literature related to the pain relieving and functional benefits of OT. The Assessment of Life Habits (LIFE-H) questionnaire was developed in Canada to assess the social participation of persons suffering from disabling conditions.

To specifically define the role of OT in treating this complex, inadequately treated disease, we conducted a retrospective study to evaluate the relevance of combining OT with a standard PT program.

2. Material and methods

2.1. Patient enrollment

This was a multicenter retrospective study performed within a care network of 126 patients. We had to exclude 66 patients (nearly 50% of the starting population) because of challenges inherent to any open investigation: incorrect contact information, patients not available, telephone links not established, etc. The patients included in the study were undergoing medical care for CRPS of the hand between September 1, 2014 and February 1, 2015 (5-month span).

Eligible patients were contacted by mail; if they responded positively, they were evaluated during a telephone interview that averaged 30 min in length. The following information was collected:

- demographics (age, sex, address);
- identified triggering factor;
- time between triggering event and diagnosis;
- duration of CRPS;
- limb affected and hand dominance;
- time before rehabilitation initiated;
- functional assessment using the upper limb-related items in the LIFE-H questionnaire.

The patients were divided into two equal groups: 30 patients who underwent PT and OT (mainly at hospital) [9–11], and 30 patients who underwent PT only [12–14]. This random allocation of two groups of 30 subjects was the minimum needed for statistical comparisons.

2.2. LIFE-H assessment tool

The LIFE-H documents the level at which life habits can be accomplished; these comprise everyday activities and social roles valued by the person himself or his sociocultural environment based on his characteristics (age, sex, social and cultural identity, etc.). These includes activities performed daily (getting in and out of bed, eating meals, etc.) and others performed at different frequencies (going to a local business, planning a budget, ensuring education of his/her children, etc.) [15].

The life habits or extent of social participation ensure the patient's survival and development in society throughout his lifetime [15]. The extent to which life habits can be carried out is measured on a scale ranging from *full social participation* to *complete disability*. The extent to which life habits can be carried out is determined both by personal characteristics and by environmental factors that can hinder or facilitate the activities in the context of specific social activities [15].

Various validation steps have resulted in successive versions (v. 2.0 and v. 3.0) of the LIFE-H [15]. The short form of the tool was developed using the broadest items that adequately captured the widest possible range of life habits. This version contains 16 items (v. 3.0):

- communicating with others by various means (oral, written, electronic, body language);
- moving from one place to another in your home and nearby surroundings;
- moving from one place to another using transportation (as a driver or passenger);
- preparing and eating your meals;
- maintaining your physical fitness and your mental well-being;
- looking after your personal care (hygiene, appearance, looking after your health);
- dressing and undressing (clothing, accessories, including the choice of clothes);
- carrying out activities related to your home (maintenance, furnishings and equipment);
- carrying out your financial, civic and family responsibilities;
- maintaining social, affective, or intimate relationships with others;
- participating in activities and organizations in your life milieu (social club, spiritual or religious groups);
- shopping and accessing services in your community;

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