

Non-Pharmacological Management of Muscular Pain Secondary to Cerebral Palsy

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Abstract

Cerebral palsy is the most common cause of physical disability in childhood. Muscular pain is one of the commonest secondary problem for cerebral palsy patients. Since there are very less literature available on the muscular pain management secondary to cerebral palsy, this paper highlights relevant aspects of non-pharmacological pain management.

KEYWORDS: Muscular pain, Cerebral palsy, Non-pharmacological management, Physiotherapy, Complementary and Alternative Medicine

Introduction

Cerebral Palsy (CP) is a group of disorders of the development of movement and posture, causing activity limitations that are attributed to non-progressive disturbances occurring in the developing fetal or infant brain [1]. It is the most common cause of physical disability in childhood which affects ranging from 1.5 to more than 4 per 1,000 live births [1-6]. Cerebral palsy patients suffer from several secondary conditions, including muscular pain [7].

Muscular Pain

Muscular pain becomes a serious secondary problem for cerebral palsy patients [8]. A survey carried out in Norway on 406 persons with Cerebral Palsy (mean age -34 years), nearly one-third of the adults complained of chronic musculoskeletal pain. Pain was associated with gender, chronic fatigue, low life satisfaction and deteriorating physical function [9]. The prevalence of pain increases with time [8,10].

Back, neck and lower extremities have been reported to be the most common pain in the cerebral palsy [9,10]. Patients with multilevel surgery have also complained of myofascial pain syndrome [11,12].

The muscular pain may be associated with spasticity, impairments, dysfunctions, limited mobility[8], positioning issues, stretching, and bracing[13].

Assessment and Evaluation

There are several tools that may be used to evaluate the intensity of muscular pain. Pain Assessment Instrument for Cerebral Palsy (PAICP) is designed specially for the cerebral palsy patients [14]. Since the muscular pain may be due to joint dysfunctions too, various tests may be used to assess the underlying cause. Even subtle joint dysfunctions can be diagnosed by several sensitive tests like modified prayer test [15].

Non-pharmacological management

Since its possible inception in 460 BC, Physiotherapy has been helping patients with Cerebral Palsy for long [16]. The first Cerebral Palsy Clinic in United States of America (USA) was held 70 years ago on the 25th August, 1947 [17] and the first high frequency low amplitude current apparatus specially for cerebral palsy children was patented in 1985 [18]. Since then, there has been much development in pain management. The commonly used interventions are hot packs, ice packs, exercises, massage, stretching proprioceptive training, proprioceptive neuromuscular facilitation, TENS, IFT[8,19-21].

Though there are not many studies on manual therapy for pain management in cerebral palsy, various techniques may be effective in principles, if it is due to joint dysfunction or nerve entrapment[22-30].

Complementary and Alternative Medicine like music therapy, acupuncture and acupressure are claimed to have relieving effect on pain [31-37].

Conclusion

Muscular pain, specially in neck, back and lower extremities is a serious secondary problem for cerebral palsy patients and its prevalence increases with time. Various physiotherapy as well as complementary and alternative non-pharmacological medical interventions including but not limited to hot packs, ice packs, exercises, massage, stretching proprioceptive training, proprioceptive neuromuscular facilitation, TENS, IFT, music therapy, acupuncture and acupressure can be helpful in pain management.

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