Available online at www.sciencedirect.com

SciVerse ScienceDirect

European Journal of Integrative Medicine 4 (2012) e223–e229

European Journal of INTEGRATIVE MEDICINE

www.elsevier.com/eujim

Case report

A single case report of physiotherapy and acupuncture treatment for cervical radiculopathy

Megan Drakeley (BSc Hons, MCSP) *, Jennie Longbottom (MSc, BSc, FCSP, MBAcC)

APPI Health Group, 1 Thornton Road, Wimbledon, London, United Kingdom

Received 24 September 2011; received in revised form 8 January 2012; accepted 11 January 2012

Abstract

Aim of the study: To present the use of acupuncture, alongside manual and exercise therapy, in a single case report of a patient with a C6/7 disc prolapse and radiculopathy. To clinically reason and evaluate the rationale and effects of acupuncture, according to current evidence, in this example.

Method: A case report following six sessions of acupuncture administered over 4 weeks, alongside manual therapy and exercise, for the treatment of a single patient with cervical radiculopathy. Outcome measures used were numeric pain rating scale (NPRS) and active range of motion (AROM) of the cervical spine.

Results: NPRS improved from 8/10 to 2/10. Cervical left rotation improved from 30° to 60°, and left side flexion from 15° to 30°.

Conclusion: Acupuncture was beneficial in reducing pain originating from cervical radiculopathy in this example. AROM improved with acupuncture alongside manual and exercise therapy.

Keywords: Acupuncture; Cervical radiculopathy; Disc herniation; Neck pain

Introduction

Cervical radiculopathy is a disturbance of a cervical nerve root which is inflammatory and/or mechanical in nature [1]. 20–25% of *cervical radiculopathies* are as a result of a herniated nucleus pulposus of a cervical vertebral disc, which causes mechanical nerve root compression [2]. The nerve roots of C7 and C6 are most commonly affected, and account for 85% of all *cervical radiculopathies* [3].

The symptoms arising from such an injury may include pain, pins and needles or numbness and muscle weakness, in a dermatomal or myotomal pattern [4], and absent reflexes corresponding to the nerve root level [5]. Pain in the cervical spine and limited cervical active range of motion (AROM) occurs as a result of the inflammatory mediators released by the herniated disc [1,6].

The primary objective of treatment for cervical radiculopathy is pain relief and improving neurological function. This case study presents the physiotherapy treatment of a patient with C7 radiculopathy in a private physiotherapy practice.

Subjective assessment

C, is a 45 year old lady, who was referred for physiotherapy by a consultant orthopaedic surgeon, following an ultrasound guided steroid injection at C7 nerve root. An MRI scan revealed a disc prolapse at this level with nerve root compromise.

C's symptoms began 5 months previously with left shoulder and upper arm pain. Initially C was treated with physiotherapy at another practice and Gabapentin medication. Whilst the medication eased the pain a little her symptoms continued to worsen with pain, pins and needles and numbness in the C7 dermatome. At 3 months C was referred to an orthopaedic surgeon who performed the nerve root injection and referred her for physiotherapy.

On initial assessment C reported a significant improvement following the injection although she was continuing with her

* Corresponding author. Tel.: +44 7920794939.
E-mail address: meggied01@hotmail.com (M. Drakeley).

1876-3820/$ – see front matter © 2012 Elsevier GmbH. All rights reserved.
doi:10.1016/j.eujim.2012.01.008

PA (Pain A): Constant, deep dull ache and intermittent sharp pain. 4/10 (NPRS pain scale)

PB (Pain B): Intermittent numbness (and previously sharp pain, now resolved) (in the C7 dermatome [4]).

Aggrevating factors for PA and PB:

Driving, housework and playing with her children for more than 10 minutes.

Carrying shopping.

Delay in taking prescribed medication.

Easing factors for PA and PB:

Gabapentin 300mg 3 times a day.

Past medical history:

Nil. Good general health. No previous neck or upper limb injuries.

Social history:

2 children, 7 and 9 years old. A house wife and volunteer 1 day a week as a classroom assistant.

Normally (not since injury) cycles most days and runs

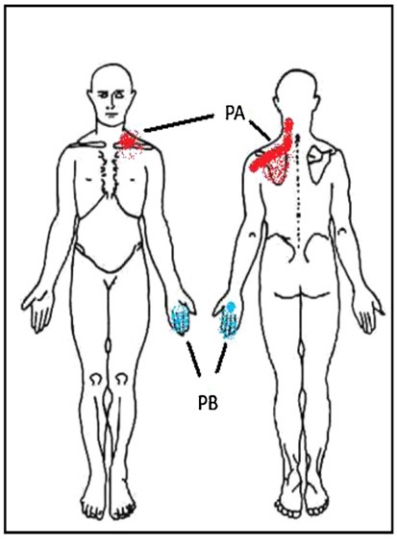

Fig. 1. Body chart and Subjective Assessment.

prescription of Gabapentin, and was avoiding most manual activities which would worsen her symptoms. See Fig. 1 for Subjective Assessment.

Objective assessment

On examination C is protracted at the shoulders with increased upper cervical extension giving a 'poking chin' posture. C's left shoulder sits lower than the right with medial and inferior angle scapular winging. AROM was assessed using a Myrin goniometer. C's left cervical rotation and side flexion were limited to 30° and 15° respectively, by pain 4/10 on the numeric pain rating scale (NPRS). Cervical flexion was also limited to 20° by pain at level 3/10 in the region of the upper trapezius muscle. Cervical extension, right rotation and side flexion were full and pain free. C's deep neck flexors, the stabilisers of the cervical spine [5], were reduced in power, and she was unable to contract these muscles in isolation. Upper limb dermatomes, tested with light touch, were 100% and equal left and right, as were Biceps, Triceps and Brachioradialis tendon reflexes. Myotomes C1–T1 were tested with an isometric, mid-range contraction of each muscle group. C's left thumb extension, C8 myotome, was reduced with power 2/5. On palpation pain was reproduced early in a posterior–anterior glide of the left C5–T1 facet joints. The left upper trapezius, levator scapulae, posterior and middle scaleniis were also tender on palpation.

Method

The outcome measures identified at the initial assessment to demonstrate results of treatment were pain, to be measured on an NPRS of zero to ten, a valid and reliable measurement for pain in the cervical spine [7], and cervical AROM, measured with a Myrin goniometer. Measurements were taken in sitting where the spinous process of C7 is the axis for lateral flexion, the external auditory meatus (ear canal) is the axis for flexion and extension, and the vertex is the axis for rotation. Left side flexion and rotation were considered most important measurements to be considered as Spurling and Scoville [8] identified rotation and side flexion towards the affected side would provoke neck and shoulder pain in the presence of a lateral rupture of a cervical disc (Table 1).

Treatment

Initial physiotherapy treatment included Maitland Grade 2 mobilisations [9] at the levels above and below the affected nerve root (C5 and T1, left transverse process posterior–anterior glide) and massage of upper trapezius and levator scapulae. The aim of