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CASE REPORT

The clinical observation of muscle energy techniques and ligamentous articular strain in 2 cases of cervical disc herniation with thoracic outlet syndrome

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Abstract This case report presents two successful treatment outcomes of cervical disc herniation (CDH) with thoracic outlet syndrome (TOS) treated using manual therapy technique of the muscle energy technique (MET), ligamentous articular strain (LAS) and additional herbal medicine intake, acupuncture and pharmacopuncture sessions. Significant improvements were reported in the outcome measures at admission and at discharge for Visual Analogue Scale (VAS) and Neck Disability Index (NDI) scores and physical examinations followed by approximately three weeks of hospital admission. The successful outcomes suggest that integrative conservative management focused on muscle energy techniques (MET) and ligamentous articular strain (LAS) are effective in contributing to the conservative management of cervical disc herniation (CDH) with thoracic outlet syndrome (TOS).

Introduction

Thoracic outlet syndrome (TOS) is a relatively rare condition prevalent in 8% of the general population[1,2] whereas cervical disc herniation (CDH), a leading medical concern in the adult population,[3—5] has a prevalence of over 3.3 cases per 1000.[6] In CDH, neurological symptoms typically present concurrently with TOS,[2] making diagnosis difficult and demands both objective and subjective examinations.[7—9] CDH causes structural anomalies and medical imaging is often beneficial

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in establishing the diagnosis. TOS is defined as a complex condition involving the compression of either neurological or vascular elements passing through the thoracic outlet. The subclavian vein, artery and lower part of the brachial plexus are often involved[10–13] manifesting symptoms including pain, numbness and other related symptoms.[10] These symptoms are often aggravated by movement of the shoulder, cervical spine and head or by raising the upper limbs.[10]

Anatomically, the subclavian artery, subclacian vein and the lower part of brachial plexus travel through the thoracic outlet[14] and different clinical signs are observed depending on the affected site. Neurogenic TOS mostly presents with neurological symptoms, such as paraesthesia, weakness in the upper extremities, and pain. In cases where vascular elements are involved, symptoms of pallor, paraesthesia and coldness are often present due to arterial ischaemia in arterial TOS, and swollen upper extremities and cyanosis due to subclavian vein obstruction are observed in venous TOS.[15]

The overlapping signs and symptoms of CDH and TOS lead to issues with the differential diagnosis in many cases, as well as issues with the selection of treatment approaches. No reports have been presented on the effect of Muscle Energy Technique (MET)[16] and LAS (Ligamentous Articular Strain)[17] for the treatment of CDH with associated TOS. The two cases in the present paper had previously undergone injection therapies, medications and other medical treatments for their CDH with associated TOS. Although no improvement was reported with these medical approaches, significant improvement was observed with manual therapy using MET and LAS. This case report presents two cases of the management of CDH with TOS using these two techniques.

Clinical history

Case 1

A 49-year-old female presented complaining of posterior cervical pain with right arm pain and numbness (Fig. 1) following an accident that

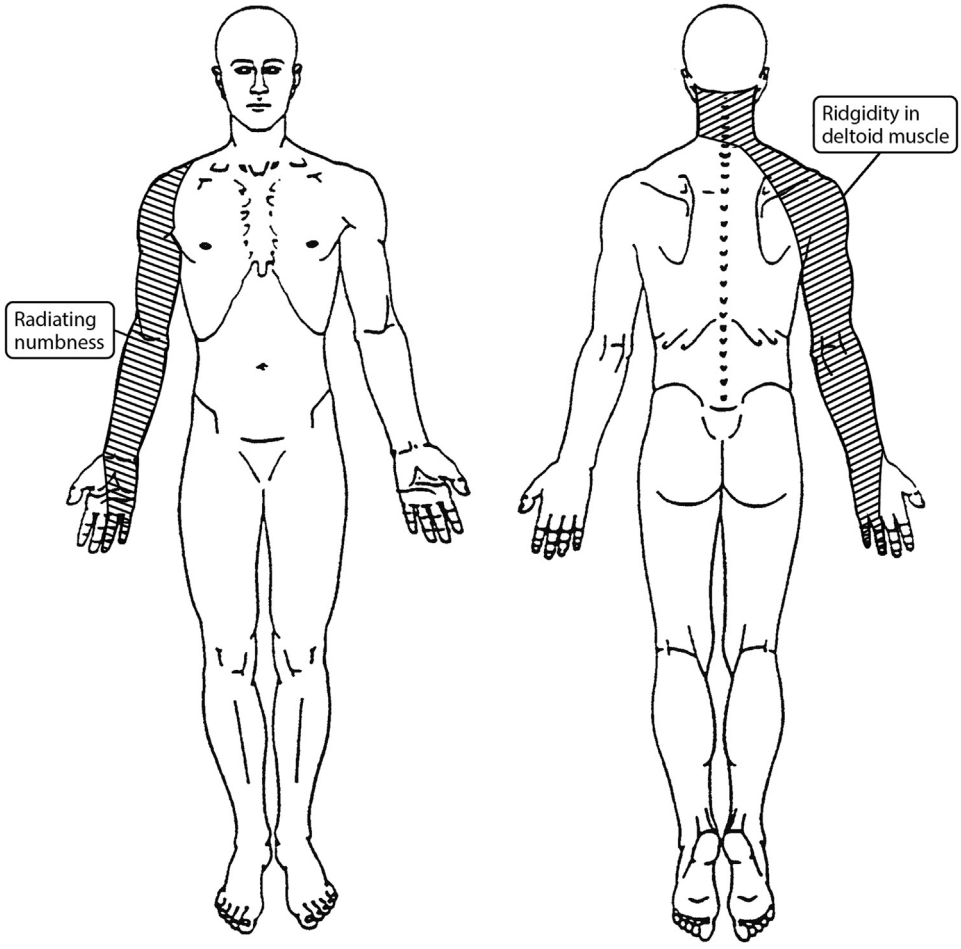

Fig. 1 Body chart — case 1.