Effectiveness of acupuncture in cervical dystonia

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ABSTRACT
This case describes the successful addition of acupuncture to treat a patient with cervical dystonia previously managed with Botox (botulinum toxin) injections. This resulted in reduced pain and muscle spasm relief and to the authors’ knowledge is the first case to be reported using this treatment combination. The patient was diagnosed with the idiopathic variant of cervical dystonia and had been treated with regular Botox injections for almost a year and half. She was then referred for a course of acupuncture to manage pain and reduce excessive muscle tone. She had excellent benefit from the acupuncture and she continued to get top-ups of acupuncture every 8–10 weeks. Requirement for Botox injections had decreased thus reducing its long-term side effects.

CASE REPORT
This case report details the successful use of acupuncture in conjunction with Botox injections for the management of cervical dystonia.

A 65-year-old woman presented to our clinic with an 8-year history of torticolis, mainly affecting her left side, forcing her to adopt an awkward posture. This reduced neck mobility was sufficient to stop her driving. Figure 1 shows the patient’s usual posture before acupuncture treatment. She complained of pain in her left lower cervical area. Movements were reduced and painful particularly when she attempted right lateral flexion and rotation. This had been steadily worsening over the past few years and by 2005 she was not able to lift her head most of the time. There was no significant aetiology to explain the onset of symptoms and after confirming diagnosis of an idiopathic variant of cervical dystonia, she was referred to the neuro-rehabilitation doctor in 2005 for a course of Botox (500 units type A toxin — Dysport) injections into her left trapezius, sternocleidomastoid and splenius capitis muscles. This initially gave her excellent benefit. After two further repeat injections she was referred in February 2006 for a course of acupuncture to manage pain and reduce excessive muscle tone.

Her past history included ischaemic heart disease, reflux oesophagitis, thalassaemia minor and hypertension. Her drug treatment included aspirin, clopidogrel, atenolol, baclofen, losartan, bendroflumethiazide, simvastatin, esomeprazole and amitriptyline.

Examination
On examination she sat with her head turned to the left and her neck in forward and lateral flexion. All movements of her neck were restricted. Turning her head to the right, lateral rotation to the right and lateral flexion were almost impossible. The superior and middle fibres of her left trapezius were very firm, tight and tender on palpation. She also had diffuse tenderness on the left side of her neck and over the left supra scapular and infra scapular area (figure 2).

Treatment
The normal practice in our acupuncture clinic, dictated by time constraints, is to administer four weekly sessions of Western medical acupuncture followed by top-ups (consisting of single sessions) if the initial course proves to be beneficial.

The acupuncture points selected for her were a combination of classical Chinese points along with segmental points. The acupuncture points we used were GV14, GB20, GB21, SI9, SI10, SI11, SI12 and LI4 (figure 3). Needle depth was varied and periosteal ‘pecking’ and manual stimulation was done where possible. De qi was not sought after insertion and the needles were left in place for 15–20 min.

Outcome
She obtained more than 50% pain relief from the initial course of acupuncture and she continued to receive top-ups of acupuncture every 8–10 weeks alternating with Botox injections. She requested a repeat course of acupuncture (four sessions) in February 2007 with similar pain relief and much improved range of neck movements. She continues to receive top-ups every 8–10 weeks and has received Botox injections once every 6 months as opposed to once every 3 months previously. She continues to have improved
range of neck movements and her muscles are much more relaxed (figure 4).

**DISCUSSION**

As far as we are aware, this is the first case report showing a significant benefit using acupuncture in conjunction with Botox injections for the management of cervical torticollis. Spasmodic torticollis or cervical dystonia is the most common of all focal dystonias affecting the neck muscles, making the neck assume odd awkward postures. According to the National Spasmodic Torticollis Association, torticollis affects 90,000 people in the USA. Idiopathic spasmodic torticollis, the most common form of torticollis, starts insidiously and worsens over time and is associated with significant physical and psychological disability. Head tremors and neck spasms are characteristic clinical signs in patients with torticollis. This excessive muscle tone and ensuing neck contractions result in significant pain, and treatment is aimed at providing pain relief and muscle relaxation.

The pathophysiology of idiopathic torticollis is poorly understood and is thought to be due to an abnormal central motor processing; possibly in the thalamus. The condition is twice as common in women as in men. It can occur at any time in life but most patients report symptoms in middle age or later. A familial history of dystonia is found in 12% of cases. Most patients develop a sensory trick or ‘geste antagoniste’ to control or eliminate their symptoms and this has been reported as a unique feature of dystonia.

Standard treatment includes analgesic drugs, complementary therapies (acupuncture, biofeedback, massage), injections and patient education, all with varying success. Drug treatment, usually skeletal muscle relaxants and analgesics, has been the mainstay in relieving symptoms but their efficacy is limited with a low rate of success reported in clinical trials. Intramuscular Botox injection has been considered as one of the treatment options. Injecting overactive muscles with minute quantities of botulinum toxin type-A (Botox) results in decreased muscle activity by blocking the presynaptic release of acetylcholine from the neuron. This will render the muscle unable to contract for a period of up to 3–4 months, thus providing improved mobility and symptomatic pain relief. However, injections have to be repeated and they may not always be successful in achieving the desired effect.

Various clinical trials have reported 60–90% improvement following injection but benefits last only for about 10–12 weeks, requiring further repeat injections. Furthermore, repeat injections are associated with the risk of developing neutralising antibodies and the toxin is associated with adverse side effects such as dysphagia, dysphonia and xerostomia that may last from weeks to months. Reported adverse events from cosmetic use includes headaches, focal facial paralysis, muscle weakness, dysphagia, flu-like syndromes and allergic reactions. Our patient, however, did not develop any of the above mentioned adverse effects and this may be partly owing to the reduced frequency of Botox injections after starting acupuncture.
Acupuncture is associated with a much better side-effect profile and is better tolerated. An audit highlighted the efficacy of acupuncture in providing pain relief lasting for more than a year in 40% of patients with chronic neck pain. Our patient responded well to acupuncture and obtained pain relief and functional neck mobility, which has been sustained for the past 18 months. Both the severity of her episodes and the general pain level decreased markedly since her acupuncture treatment began. The patient claimed that acupuncture had significantly contributed to pain relief and reduction of muscle spasms. This has also reduced her need for more frequent Botox injections, thus reducing the adverse effects due to the injections.

Another major study from Germany looked into the effectiveness of acupuncture alongside routine medical care in the management of chronic neck pain. A validated scale was used to assess neck pain and disability. They reported a significant improvement when acupuncture was added to routine medical care and this benefit was sustained for up to 6 months after treatment. Acupuncture has also been proved to be cost effective when combined with routine treatments for neck pain. Willich et al argue that in comparison with international cost-effectiveness threshold values, acupuncture is a cost-effective treatment strategy in patients with chronic neck pain. A recent pilot study has been published outlining the number of patients needed to perform a large-scale randomised trial looking into acupuncture and its effectiveness in treating chronic neck pain. It is to be noted that all the above studies have studied cervicogenic neck pain and primary musculoskeletal problems mainly due to trauma. There is, however, very limited evidence in English publications about the use of acupuncture alone or in combination with routine medical care in the management of cervical dystonia.

SUMMARY

In these times of multidisciplinary approach to chronic pain management, we propose that acupuncture should be offered in conjunction with routine medical care at a much earlier time in the management of cervical dystonia to improve outcome and, potentially, provide longlasting benefit.

REFERENCES

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