Comparison of the Effects of Electroacupuncture plus Cupping with That of the Electrical Pulse Therapy for Different Types of Cervical Spondylopathy

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Objectives: To observe and compare the therapeutic effects of electroacupuncture (EA) plus cupping and the electrical pulse therapy on different types of cervical spondylopathy. Methods: 182 cases of cervical spondylopathy confirmed by X-ray or CT examination were divided into 4 types, and treated with EA plus cupping in Group A of 90 cases and with moderate or low electrical pulses in Group B of 92 cases. The therapeutic effects were compared after 3 courses of treatments. Results: For the vertebroarterial type and the nerve root type of cervical spondylopathy, the effect in Group A was better than that in Group B, while for the sympathetic type of cervical spondylopathy, the effect in Group B was superior to that in Group A. Conclusion: Appropriate therapies should be adopted for different types of cervical spondylopathy.

Cervical spondylopathy is a disease frequently encountered in the middle-aged and senior-aged people. It is a syndrome induced by pressure on nerves, blood vessels and their surrounding soft tissues, which is usually caused by protrusion of cervical intervertebral disc, hyperosteogeny, degeneration and thickening of the ligaments and joint capsules. Nowadays, over 95% cases of the cervical spondylopathy are treated with non-surgical therapies1.

Clinical Data

1. General Data

182 cases in this series were divided into two groups: Group A (n=90) and Group B (n=92). Of the 90 cases in Group A, 48 were male and 42 female, ranging from 24 to 76 years in age, and from 1 week to 30 years in the course of disease. Of the 92 cases in Group B, 45 were male and 47 female; and the age and disease course ranges in this group were comparable to those in group A. All the 182 cases were definitely diagnosed as having cervical spondylopathy by X-ray or CT scanning.

2. Clinical Typing

Cervical type (CT): local cervical pain and movement restriction without numbness and pain radiating to the upper limbs.

Nerve root type (NRT): rigidity in the neck, unilateral or bilateral shoulder pain or with pain radiating to fingers, cold and weakness of the limbs, and numbness of the fingers.

Vertebroarterial type (VAT): neck-shoulder pain or neck-occipital pain, and posture-induced vertigo.

Sympathetic type (ST): occipital pain, dizziness, palpitation, stuffiness sensation in the chest, cold limbs and skin, and blurred vision.

Therapeutic Methods

1. Group A (EA plus Cupping)

Point selection: bilateral Fengchi (GB 20), Taiyang (EX-HN5), Tianzhu (BL 10), Baihui (GV 20), Huatuojiaji (EX-B2) points on the affected cervical vertebral body and on those above and below the affected vertebra, bilateral Hegu (LI 4) and Lieque
(LU 7). Bilateral Jianjing (GB 21) and Jianwaishu (SI 14) were added for pain and soreness in the shoulders and back. Methods: 30-gauged filiform needles of 1 cun in length were obliquely inserted into Fengchi (GB 20) to a depth of 0.5 cun with the tips pointing toward the opposed eyeball to cause local soreness and distension sensation radiating to the vertex and temple, into Dazhui (GV 14) for 0.5 cun in depth to cause local soreness and distension sensation radiating to the shoulders, and into the cervical Jiaji points to a depth of 0.5 cun to make the needling sensation radiating to the neck, shoulder and back regions. When the other points were needled, it was enough to achieve a local soreness and distention sensation. A G6805-1 electrical apparatus made in Shanghai was used to deliver consecutive pulses, and the bipolar electrodes were connected to bilateral Fengchi (GB 20) for the cases mainly with dizziness, to bilateral Jiaji for those mainly with pain in the neck and restricted movement, and to bilateral Jianjing (GB 21) for those mainly with soreness in the shoulders and back. The stimulation intensity was adjusted within the tolerance of the patients. The treatment lasted for 20 minutes, followed by local cupping for 10 minutes, which was given once daily.

2. Group B (Electrical Pulse Moderate in Frequency)

An NMT91 multifunctional apparatus made in Beijing was used to deliver bi-directional electrical pulse, 24000 Hz in frequency, via the two electrodes covered by damp cotton cushions (7cm × 10cm in size) put on the posterior part of the neck and the affected area respectively, with an intensity tolerable to the patients for 20 minutes, which was given once daily.

For both the groups, 10 treatments constituted a therapeutic course, and the therapeutic effects were evaluated after 3 courses of treatments. All the other therapies were suspended during the treatments.

**Therapeutic Effects**

1. Criteria for therapeutic effects

Cured: disappearance of all the clinical symptoms and signs with normal ability of working and living. Improved: alleviation of the major clinical symptoms and signs. Failed: no improvement found after the treatment.

2. Therapeutic results

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<tr>
<th>Types</th>
<th>Group A of 90 cases</th>
<th>Group B of 92 cases</th>
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<th>P</th>
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<td>Effective</td>
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<td>ST</td>
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It was found that the therapeutic effect in Group A in treating the nerve root type and the vertebroarterial type of cervical spondylopathy is better than that in Group B (P<0.05), while in treating the sympathetic type of cervical spondylopathy the effect in Group B was better than that in Group A (P<0.05). There was no significant difference in therapeutic effects on the cervical type of spondylopathy between the two therapies.

**Discussion**

1. Cervical spondylopathy in the middle-aged or senior-aged patient is mostly induced by deficiency of the liver and kidney and insufficiency of qi and blood, which cause a poor nutritive supply to the meridians and blood stagnancy. Under this condition, the pathogenic wind and cold will take the chance
and invade the superficial of the body, leading to obstruction of qi in the Taiyang meridian and resulting in such symptoms as pains in the back and rigidity in the neck, dizziness and headache, tinnitus, nausea and vomiting.

2. The therapeutic principle was to dredge the meridians and promote blood circulation by removing blood stasis. EA can directly stimulate the nerves conducting painful sensation by activating the large fibers in the nerves to block the transmission of pain signals. EA can also inhibit the nociceptive responses of the neuron in the spinal dorsal horn to exert analgesic effects. EA applied at Fengchi (GB 20) and Huatuojiaji points can make regular relaxation and contraction of the local cervical muscles to promote blood circulation and improve its circulation in the pressed vertebral arteries due to hyperosteogeny to replenish blood supply in the brain. Besides, cupping has the function of balancing yin and yang, strengthening the body resistance and dispelling the pathogenic factors, dredging the meridians, and promoting blood circulation to stop pain. Electrical pulse in low or moderate frequencies can provide obvious functions of analgesia and tranquilization, and it can also inhibit the activities of sympathetic nerves, dilate the blood vessels, relieve spasm of the muscles, enhance tension of the muscles and improve the functions of the small joints, for which prompt pain alleviation and relief of symptoms related to sympathetic nerves can be achieved.

To sum up, appropriate therapies should be adopted for different types of cervical spondylopathy in order to gain a satisfactory therapeutic effect.

References

(Translated by Chen Zhengqiu 陈正秋)