Therapeutic Observation of Point-towards-point Electroacupuncture for Cervical Spondylotic Radiculopathy

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Abstract

Objective: To compare the therapeutic efficacies of point-towards-point electroacupuncture (EA), EA with Jiaji points (EX-B 2), and Jing Fu Kang in treating cervical spondylotic radiculopathy (CSR), and to explore the optimal treatment protocol.

Methods: Totally 160 patients with CSR were randomized into three groups: a point-towards-point group (n=60) treated with EA with point-towards-point method; a Jiaji group (n=60) treated with EA at cervical Jiaji (EX-B 2) points; a medicine group (n=40) treated with oral administration of Jing Fu Kang alone. The clinical efficacies were compared afterwards.

Results: After treatment, the recovery rate and total effective rate of the point-towards-point group were significantly better than that of the Jiaji group and medicine group (both \( P<0.01 \)). After 1-week treatment, the symptom and function score of the point-towards-point group was significantly better than that of the Jiaji group and medicine group (both \( P<0.01 \)); the point-towards-point group and Jiaji group both achieved significant improvements in the symptom and function score (\( P<0.01, P<0.05 \)). After 2-week treatment, the three groups all achieved marked improvements in the symptom and function score (\( P<0.01 \)). At the end of treatment, in comparing the symptom and function score, the point-towards-point group was significantly different from the medicine group (\( P<0.01 \)) and Jiaji group (\( P<0.05 \)); the difference between the Jiaji group and medicine group was also statistically significant (\( P<0.05 \)).

Conclusion: Point-towards-point EA can rapidly improve the symptoms and function of CSR patients, and it’s superior to EA at Jiaji (EX-B 2) and oral administration of Jing Fu Kang alone in comparing the clinical efficacy.

Key Words

Acupuncture Therapy; Electroacupuncture Therapy; Point-towards-point Needling; Radiculopathy; Neck Pain

As a common type of cervical spondylosis (CS), cervical spondylotic radiculopathy (CSR) occupies 50%-60% of the CS patients. People aged 40-60 are often affected. During the recent years, the incidence of CSR has been constantly increasing and the age of onset has become younger and younger, which have severely threatened people’s health condition. From June 2009 to October 2011, we had adopted point-towards-point electroacupuncture (EA) in treating CSR and used the symptom and function scale for CSR invented by the Japanese Orthopaedic Association (JOA) to evaluate the clinical efficacy. We also compared the clinical
efficacies of this method and EA at Jiaji (EX-B 2) points and oral administration of Jing Fu Kang. The report is now given as follows.

1 Clinical Materials

1.1 Diagnostic criteria
It’s in accordance with the diagnostic criteria of CSR form in the Criteria of Diagnosis and Therapeutic Effects of Diseases and Syndromes in Traditional Chinese Medicine\(^2\). Having a history of chronic trauma or strain, congenital malformation of cervical vertebrae, or degeneration of cervical vertebrae; patients aged over 40 years old and having a long-term deskwork experience; cervical pain, shoulder pain and backache, headache, dizziness, cervical stiffness, numbness of upper limb, and a predilection for stiff neck; limited cervical motion, tenderness at the affected cervical spinal process and the superior-interior angel of scapular on the affected side, muscular nodules, or weakened muscle tension of the upper limb and muscular atrophy, positive Eaton's test and Spurling's test; X-ray showing proliferation of uncovertebral joints, open-mouth projection showing oblique odontoid process, lateral projection showing straightened cervical spinal curve, narrowed intervertebral spaces, hyperostosis or calcification of ligaments, and oblique projection revealing smaller intervertebral foramen; CT or MRI is recommended for confirming the diagnosis.

1.2 Inclusion criteria
Conforming to the above diagnostic criteria; age 18-65 years old; having signed the informed consent and finished all requested tests.

1.3 Exclusion criteria
With radiological abnormalities but without symptoms of CS; other types of CS rather than CSR; occiput or atlantoaxial diseases; external humeral epicondyritis, carpal tunnel syndrome, periartthritis of shoulder, bicipital tenosynovitis, thoracic outlet syndrome, etc.; acute intervertebral disc herniation caused by trauma with surgical indications; severe internal conditions such as severe coronary disease and hypertension; weak constitution due to long-term illness, severe neurosis, or pregnant women; fracture, dislocation, tumor, osteoarticular tuberculosis, osteoporosis, or vertebral fusion; conforming to the inclusion criteria but disobeying the treatment protocols, or short of medical materials, affecting the evaluation of the therapeutic efficacy or safety evaluation.

1.4 General data
Totally 160 CSR patients were recruited from the Acupuncture Outpatient of Wuhan Hospital of Traditional Chinese Medicine and Hubei Provincial Hospital of Traditional Chinese Medicine. They were randomized into three groups according to their visiting sequence at 3:3:2, namely, a point-towards-point group \((n=60)\), a Jiaji group \((n=60)\), and a medicine group \((n=40)\). Finally, 149 subjects finished the whole study, including 58 from the point-towards-point group, 56 from the Jiaji group, and 35 from the medicine group. The dropped cases occupied less than 10%, which was allowed by the statistical principles. The clinical managements of the three groups are shown in Figure 1. There were no significant differences in comparing the gender, age, and disease duration among the three groups \((P>0.05)\), indicating the comparability (Table 1).

![Figure 1. Clinical management](image)

<table>
<thead>
<tr>
<th>Group</th>
<th>Gender (case)</th>
<th>Average age ((\bar{x} \pm s, \text{ year}))</th>
<th>Average disease duration ((\bar{x} \pm s, \text{ month}))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Point-towards-point</td>
<td>58 Male 26 Female 32</td>
<td>48.5±12.2</td>
<td>22.3±4.5</td>
</tr>
<tr>
<td>Jiaji</td>
<td>56 Male 23 Female 33</td>
<td>45.4±9.4</td>
<td>20.9±5.6</td>
</tr>
<tr>
<td>Medicine</td>
<td>35 Male 14 Female 21</td>
<td>47.2±11.5</td>
<td>19.6±6.3</td>
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</tbody>
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