Effectiveness of traditional medicine “TK1” plus physiotherapy in treating periarthritis of the shoulder

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General Note
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ABSTRACT
Objectives: To determine the effectiveness of traditional medicine TK1 plus acupressure points and massage in treatment periarthritis of the shoulder. Methods: We prospectively analyzed 60 patients in Tue Tinh hospital who were diagnosed periarthritis of the...
shoulder according to the Boissier 1992 criteria during October 2017 and June 2018. This is a case-control study. Patients were enrolled into two groups: the case group, which was treated with TK1 traditional medicine plus acupressure points and massage (n=30); the control group which was treated with acupressure points and massage (n=30). Comparison, the result between 2 groups after 21 days of treatment with the criteria, includes visual analog scale (VAS) pain score, range of joint motion, Constant and Murley points, and inflammatory properties on ultrasound. Results: After 21 days of treatment, the VAS pain score was reduced significantly in the case group and similar to the control group; the range of joint motion was better in the case of the group than those in the control group. Constant & Murley point changed significantly in the case group more than that in the control group. Inflammatory properties on ultrasound were improved more in the case group than in the control group. The overall outcome showed 96.7% cases of good, 3.3% cases of rather good. One patient has abdominal pain on the 6th day, and another patient has nausea symptoms on the 7th day after treatment. However, all symptoms have disappeared when patients get medicine after a meal. Conclusion: Traditional medicine TK1 plus acupressure points and massage is better in treatment periarthritis of the shoulder than in case of using acupressure points and massage only.

Keywords: Traditional medicine, TK1, physiotherapy, periarthritis, shoulder.

1. INTRODUCTION

Periarthritis of the shoulder is a fairly common disease among common joint diseases in Ophthalmology, Oriental Medicine, and Rehabilitation Department (Juel et al., 2014, Chen et al., 2017). Although the disease does not directly affect life, it usually lasts for months, even years, causing pain and limiting movement, affecting daily activities, and the work capacity of the patient (Huang et al., 2019, Ai et al., 2020). In clinical practice, the treatment of arthritis around the shoulder is by medicine. Modern medicine mainly uses anti-inflammatory drugs, muscle relaxants, pain relief (nonsteroid, steroid, and derivatives). These drugs often have side effects such as impaired body resistance, osteoporosis, stomach ulcers, liver, and kidney damage, making patients unable to use for a long time or unable to use the drug (Duke et al., 1981, Famaey et al., 1984).

Vietnamese traditional medicine "TK1", which is a remedy based on herbal medication, has very good anti-inflammatory and analgesic effects (Tran Ngoc An, 1999). Therefore, TK1 remedy has been commonly used in treating periarthritis of the shoulder in our hospital. However, no author has studied the method of treating periarthritis with "TK1" or using the "TK1" remedy in combination with reflexology to treat periarthritis of the shoulder. Since then, we have implemented a topic aimed: determining the effectiveness of the TK1 remedy combined with acupressure massage to treat inflammation around the shoulder and shoulder joints merely.

2. MATERIALS AND METHODS

The patients were diagnosed with periarthritis of the shoulder joint simply by Boissier M.C. (1992) (Boissier et al., 2012): Clinical manifestations: Shoulder pain in varying degrees. Limit joint shoulder movement to a lesser or lesser extent. Subclinical: Ultrasound of shoulder articular images: tendonitis on spines, tendonitis of rotational muscles, musculoskeletal tendonitis. The study was conducted at Tue Tinh Hospital between October 2017 and June 2018. Institutional review board of Tue Tinh Hospital approved this prospective study under the reference number of 01102017-TTH. Informed consent of patients was obtained.

Study design

Case-control randomized clinical trial: The subjects were randomly divided into 2 groups so that there was the similarity in age, gender, and level of vulnerability (lottery to divide into groups) (Figure 1):

Group 1 (study group, 30 patients): treated with “TK 1” combined with reflexology massage.

Group 2 (control group, 30 patients): Periarthritis of the shoulder treatment with reflexology massage.

Monitoring, evaluating, and comparing the treatment results in these two groups after 21 days of treatment, from which we can see the effectiveness of the "TK1" remedy in the treatment of arthritis around the shoulder joint simply.

Evaluation criteria

Visual analog scale (VAS) pain points, joint mobility, Costant & Murley

Data processing using SPSS 20.0 software. Comparing mean values at each time (before and after treatment) between two independent groups (study and control) using the non-parametric test Mann Whitney U.
3. RESULTS

Sixty patients with periarthritis of the shoulder joint alone have taken, of which 20 were men and 40 were women. There is a similarity in age and gender between the two groups. After 21 days of treatment, the VAS pain score in the study group improved significantly (p <0.001) and no difference compared with the control group (Figure 2).

Regarding the outcomes after 21 days of treatment, Joint mobility was significantly improved in study group (Figure 3) (folding, straighten, extending, internal rotation, external rotation) and more than in control group (Figure 4).
After 21 days of treatment, the Constant & Murley score significantly changed in the study group (Figure 5), and the improvement was much bigger than that of the control group (Figure 6).

After ten days of treatment, the signs on the shoulder ultrasound in the study group improved, but the change was not statistically significant. After 21 days, these signs improved markedly, and the level of improvement was higher than control group (Figure 7, Figure 8) statistically significant with \( p < 0.05 \).
Figure 7 Alteration of inflammatory signs around the shoulder on shoulder ultrasound after 10 and 21 days of treatment in study group

Figure 8 Alteration of inflammatory signs around the shoulder on shoulder ultrasound after 10 and 21 days of treatment in control group

Table 1 Overall treatment effect after 21 days

<table>
<thead>
<tr>
<th>The overall effect</th>
<th>Study group (n = 30)</th>
<th>Control group 2 (n = 30)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Good</td>
<td>29</td>
<td>96.7</td>
<td>26</td>
</tr>
<tr>
<td>Rather</td>
<td>1</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td>Medium</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Least</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 2: Unwanted effects of TK1 drugs during treatment

<table>
<thead>
<tr>
<th>Clinical symptoms</th>
<th>n</th>
<th>%</th>
<th>The symptoms appear day</th>
<th>Treatment/Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nausea</td>
<td>1</td>
<td>3.3</td>
<td>D7</td>
<td>Take medicine after eating/No nausea</td>
</tr>
<tr>
<td>Vomiting</td>
<td>0</td>
<td>0</td>
<td>D2</td>
<td></td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>1</td>
<td>3.3</td>
<td>D6</td>
<td>Take medicine after eating/No pain</td>
</tr>
<tr>
<td>Itching</td>
<td>0</td>
<td>0</td>
<td>D2</td>
<td></td>
</tr>
<tr>
<td>Diarrhea</td>
<td>0</td>
<td>0</td>
<td>D2</td>
<td></td>
</tr>
<tr>
<td>Tired</td>
<td>0</td>
<td>0</td>
<td>D2</td>
<td></td>
</tr>
</tbody>
</table>

After 21 days of treatment, the overall treatment effect in the study group was 96.7% of patients achieved good results; 3.3% of patients had good results. The percentage of good patients in the study group was significantly higher than that of patients (96.7% versus 86.7%, p <0.05) (Table 1). The study recorded one patient with epigastric abdominal pain on the 6th day after treatment and one patient with nausea in the next seven days (Table 2). However, this symptom disappears as soon as the patient takes the medication after eating it.

4. DISCUSSION

After 21 days of treatment, the VAS pain score in the study group improved significantly in the study group (p <0.001) and no difference compared with the control group. Our results are similar to those of Park’s study with 23 patients with shoulder, and joint injection under the guidance of ultrasound analgesic effect was found in all patients. At the time before VAS was 6.2 ± 0.9 points, after two weeks of VAS, it significantly decreased to 2.8 ± 0.5 points. After six weeks, VAS was 2.2 ± 0.4 points (Park et al., 2015). The study of Halverson injected shoulder-joint dilatation for 27 patients under the guidance of ultrasound, at 6.30 ± 0.38 before VAS, after one week of VAS significantly reduced to 2.81 ± 1.81 points, after five weeks of VAS point is 2.15 ± 1.89 points, improving after nine weeks VAS is 1.81 ± 1.84 points (Halverson et al., 2002).

There was a statistically significant difference after 21 days of treatment in patients with NNC and NDC in three basic ranges of motion, extending, internal rotation, and external rotation.

Our research results are also not much different from the results of the authors Halverson published in a total of 54 patients with periarthritis of the shoulder divided into two groups: The group of injections in the lower shoulder joint. The instructions of the X-ray and the group of shoulder angioplasty are under the guidance of ultrasound. In 27 patients injecting the shoulder dilatation under the guidance of ultrasound improved the motor angle significantly after one week of enlargement, folding increased by 21.67 degrees, after five weeks increased by 30.19 degrees (Halverson et al., 2002). Park performed of injecting the shoulder and joints under the guidance of ultrasound examination of 23 patients, after two weeks of postponing; the exercise increased 30 degrees after six weeks increased 34.34 degrees (Park et al., 2015). After 21 days of treatment, the Constant & Murley score changed statistically with p <0.01. Regarding the results of shoulder ultrasound after treatment: these signs were significantly improved, and the level of improvement was significantly higher than the control group with p <0.05. Inflammation around the shoulder joint often manifests inflammation of the tendons due to the degenerative process with eosinophilia, degeneration of mucus. When ultrasound, focal lesions of localized inflammatory lesions are heterogeneous (Jacobson et al., 2004).

Calcification often appears muscles of the rotator cuff of the shoulder. It may be due to the decreased oxygen in the tendon. About 7% of cases of calcification in tendons were not detected. X-ray images may be normal if the calcification does not increase or as a slurry (Farin, 1996). Calcification without photosynthesis is often associated with acute cases of inflammation. Mean while, calcification with photosynthesis is associated with subacute or chronic inflammation. Ultrasound examination was able to detect these calcified bodies well (Royall et al., 2011). The inflammation of Biceps tendon usually manifests itself by images of the synovial fluid. The shoulder joint fluid is well detected on ultrasound images and may occur in inflammation around the shoulder (Royall et al., 2011).

The overall effectiveness of treatment in the study group is 96.7% of patients reach well; 3.3% of patients had good results. In the control group, the number of patients achieved good is 86.7%, and quite 10%, on average, one patient accounts for 3.3%. During treatment with TK1 combined with reflexology massage, the study noted 1 case of epigastric abdominal pain on day six after treatment and one patient with nausea on day seven after treatment. However, this symptom disappears as soon as the patient takes the medication after eating it.
5. CONCLUSION
TK1 remedy combined with acupressure massage is effective in treating periarthritis around the shoulder only when compared to the simple reflexology massage method, as shown by the indicators: VAS pain points, range of joint mobility, and the change Costant & Murley points after 21 days of treatment.

Abbreviations
VAS : visual analog scale
D0 : day 0
D10 : day 10
D21 : day 21
SD: standard deviation

Author’s contribution
PHV and NTC contributed equally to this article. PHV and HQH gave a substantial contribution in acquisition, analysis, and data interpretation. Each author had a part in preparing article for drafting and revising it critically for important intellectual content. Each author gave the final approval of the version to be published and agreed to be accountable for all aspects of the work, ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Conflicts of Interest: The authors declare no conflict of interest.

REFERENCE