Pharmacopuncture in Dorsopathy Treatment

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Abstract
This work further investigates the mechanisms of pharmacopuncture based on clinical data from patients with dorsopathy at the lumbosacral level. For the first time, pharmacopuncture was analyzed from the perspective of "classical" medicine and not using homeopathic medicine preconceptions. This confirmed the benefits of the chondro-protector Alflutop. The reduction of the vaso-reflectory reactions observed in this study indicates an extension of its therapeutic uses at the expense of the pharmacopuncture reflectory mechanisms. In turn, the data obtained point the way to further study into the active mechanism of pharmacopuncture.

1. Introduction
Pharmacopuncture, namely, the injection of medicines in the area of the acupuncture spots, is legally considered to be an accepted medical practice in Russia [1,2]. We have made some contribution to the formation of the therapeutic method in Russia. The first monograph of our country to be published [3], introduced to a program for doctor education (144 hours), and a number of the scientific-practical conferences, at both the federal and regional level, have been held covering this subject.

However, the general mechanisms of pharmacopuncture are not fully understood. For example, the role of prolonged stimulation of the acupuncture points at the expense of the change of their volume characteristics has not been determined. Additionally, a therapeutic significance of formed product depots may occur, but the main mechanism of function is thought to be an interaction between the action of the acupuncture point and the injected medicine.

Meanwhile, western literature appears to emphasize homeopathic medicines as "classical" medicine when infused into acupuncture points [1,2], with pharmaceutical medications acquiring a good reputation. In our early studies a high effectiveness of pharmacopuncture using homeopathic medicines was also confirmed [4,5].

Similarly, Mhitaryan has demonstrated the effectiveness of injecting homeopathic medicines into acupuncture points [5]. One hundred and ten patients with reflectory and radicular demonstrations of dorsopathy at the lumbar level were observed. Patients were divided into two general groups, both taking homeopathy medicines. The first group received a specific homeopathic medicine administered intramuscularly, and the second group received their medication at the acupuncture points i.e., pharmacopuncture.

Comparison of clinical effectiveness confirmed greater effectiveness of pharmacopuncture. In particular, as a result of this type of the treatment, regression of the sensation of pain was more distinct (p<0.05) than in the comparing group. In addition, in the presence of radicular syndromes, positive changes in motional and sensible spheres were significant only in the case of pharmacopuncture, demonstrated by the growth of muscular force, by the decline of skewness of deep reflexes and also by...
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double contraction of the hypoesthesic, or numb, areas. At the same time a correlation was observed between the dynamics of clinical effectiveness and the indices of somatosensory generated potentials, with a number of the positive reactions of the latter being higher again in the case of the pharmacopuncture [5]. Similar positive results we observed in cases of dorsopathy with a leading vasovegetative component [4]. Furthermore, in this situation pharmacopuncture with a homeopathic medicine ensured a distinct vascular influence, in contrast to intramuscular injections with the same medicine.

In contrast to this data, a single work [6] has indicated an availability of pharmacopuncture for “classical” medicines, for example, the usage of the chondro-protector Alflutop in the case of above mentioned dorsopathy. The present work was performed to develop these data and aimed to study the mechanisms and the clinical effectiveness achieved using “classical” medicine.

2. Methods and Materials

We observed 90 patients (36 women and 54 men aged 26–50 years) with prolonged acute dorsopathy at the lumbosacral level. Complexities of the examination of these patients included neurological, roentgenological, psychological and electrophysiological methods of analysis.

During neurological examination, reflectory and the compressive (radiculopathy) syndromes were ascertained in approximately equal quantity; 47 and 43, respectively. Furthermore, two thirds of patients in a clinic had a dominant vasospastic component to their syndromes. A clinical diagnosis was affirmed by roentgenography and tomography: in particular the protrusions, from 3–9 mm, of intervertebral disks were typical for patients with radiculopathy.

The patient population was divided into three randomized groups, 30 people in each. As a previous drug-physical therapy was regarded to be not effective, an aspect of a therapy was moved to reflectory technologies—massage and manual intakes.

A chondro-protector, Alflutop, was used as a basic medicine in treatment of all patients. In the first group this medicine was injected intramuscularly. In the second group a medicine was injected intramuscularly in combination with classical acupuncture. In the third group, a pharmacopuncture was made using the medicine Alflutop. Thus the application of traditional medicine methods united the second and the third groups. We used 1 mL of a medicine independent of the method of injection; a course of therapy included 10 injections every other day.

At the same time we observed and recorded the following items, which reflected an effectiveness of a therapy: “considerable improvement”—combination of positive dynamics of both subjective and objective characteristics; “improvement”—positive improvements only from the direction of subjective indices; “absence of an effect” and “deterioration”.

Comparison of the quantitative data was performed with the Student’s t test. At the end of a therapy in the second and third groups we noted positive, comparable results which surpassed the indicators of the first group.

3. Results and Discussion

During a pathopsychological observation where multilateral examination of a person (MEP) occurred, it was revealed that 81% of patients had changes in the mental sphere, mainly in a form of asthenic neurotization. An averaged profile of MEP data of patients revealed a peak on the I scale (within the limits 75–80 T-points) and a growth in the right half of the profile. The main variants are presented in Figure 1.

As a result of thermography, taking into account a dominance of vascular disorders, a temperature reduction in the area of lower extremities (especially from the direction of “lesions”) was found, which increased in the distal direction—till Δt 1.4±0.04°C. At the same time, thermographic changes were coordinated with the results of classic vascular research and dopplerography.

According to rheography, 62% of patients had a decline in blood supply to the shins and feet (p<0.05 in relation to control), which, especially

![Figure 1](image-url)

**Figure 1** An averaged profile of MEP of patients. 1, 2=variants of profile, 3=conventional standard. The abscissa axis is for the scales of MEP and the way one feels-activity-mood (FAM). The ordinate axis is for their intensity (in the T-points). Numbers of observations were presented in the brackets. * = authenticity of Student’s t test.
when combined with a spastic condition of the arteries, was expressed as pain. During an ultrasonic dopplerography a significant decline \( (p < 0.05) \) in the linear speed of blood flow (LSB) was marked in the back of the shinbones and arteries of the back of the feet, which confirm the evidence of spastic reactions in arteries of average and small gauge.

Such interweaving of vertebral, psychopathological and vascular components helps identify therapeutic characteristics of dorsopathy. In turn, the data presented allowed us to proceed with a decision concerning the optimization of patients’ treatment.

Effectiveness of therapy in patients’ groups revealed “considerable improvement” in 50% of patients in the first group. Positive improvements revealed themselves in 70% of observations in the other two groups using traditional therapy (Table 1). In this context it is necessary to point out that it is difficult to associate “deteriorations”, observed in these groups in one case, with the exact held therapy.

In spite of a regression of basic neurologic symptomatology in the first group of patients, the evidence of neuro-vascular disorders remained. A stable effect on reflexory syndromes and radiculopathies was observed on average after the injection of a medicine in the first group. On the contrary, in the second and third groups, besides a reduction of neurologic demonstration, a regression of vaso-reflexory disorders was noted. The great effectiveness of traditional methods may be caused by analgesic properties, vascular and other effects, typically seen when this type of action is observed.

Changes in the psychical status of patients depended on the level of achieved neurologic effect. In the second and third groups, 65% showed an evident decline of effective intensity, irritability, fatigue and an improvement of sleep quality compared with 32% of observations in the first group. The MEP test analysis of patients from groups with traditional influence reflected a reliable decline of the initial peak on the 1 scale and rather favorable arrangement of positions in the right part of a diagram (Figure 2).

Altersations of the electrophysiological characteristics, in particular, the thermographic indices, differed depending on the medical methodologies used. Thus in the first group of patients the initial level of thermal asymmetry in the shin area varied insignificantly \( (p > 0.05) \). In other two groups, shifts of this index were more distinct, and already in limits of authenticity \( (p < 0.05) \). In addition, the maintenance of complaints of vascular character in the majority of patients from the first group correlated with insignificant alterations of indices of shin and feet rheograms. On the other hand, in the groups of using traditional therapy a reliable improvement of the rheographic characteristics of sphygmic blood filling in these areas was seen. In particular, in these two effective groups a reliable

### Table 1 Effectiveness of therapy in patient groups

<table>
<thead>
<tr>
<th>Patient groups</th>
<th>Considerable improvement</th>
<th>Improvement</th>
<th>Absence of an effect</th>
<th>Deterioration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Abs</td>
<td>%</td>
<td>Abs</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>16.7</td>
<td>10</td>
<td>33.3</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
<td>30.0</td>
<td>12</td>
<td>40.0</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>33.3</td>
<td>11</td>
<td>36.7</td>
</tr>
</tbody>
</table>

Abs = absolute.
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Similar changes were revealed during a Doppler investigation into vessels of interest. In the second and third groups, in contrast to group one, an increase of a linear speed of blood flow (LSB; on the average up to 20%) in the back tibial arteries was noted. Therefore, after a therapy a preference for traditional variants of influence using standard intramuscular injections of medicine was fixed. However, the analysis, which was carried out 6 months later, reflected changes in these results.

The recidivation of dorsopathy in the first group was noted in 32% of patients. In groups of traditional medicine treatment, acute conditions were observed in less number of cases (20.8 and 20%, respectively) and in the third group they were more “mild” (Table 3).

A persisting, positive vascular effect was achieved in the third group in the process of treatment. In the second group of patients however, an intensification of vaso-spastic reactions was noted. At the same time, electrophysiological indices changed to different extents. Thus in the second group a deterioration of thermographic characteristics was noted, while in the third group these indices were more stable. In addition, in the third group of patients after 6 months, basic characteristics of classic vascular research had not changed sharply. This was in contrast to indices of the second group, which reflected an increase of vaso-reflectory disorders.

Thus during the present research, the effectiveness of pharmacopuncture with a “classical” medicine was confirmed. The reduction of neuro-vascular reactions, observed in such circumstances and not an action of the medicine itself, may be explained by the additional reflectory influence. In turn, the data obtained favor further studies into pharmacopuncture mechanisms.

References


Table 2  Dynamics of indices of shin reovasography in patient groups (M±m)

<table>
<thead>
<tr>
<th>Groups</th>
<th>RI (Om)</th>
<th>DI</th>
<th>VP (c)</th>
</tr>
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<tbody>
<tr>
<td>Before</td>
<td>After</td>
<td>Before</td>
<td>After</td>
</tr>
<tr>
<td>1</td>
<td>0.045 ± 0.005</td>
<td>0.046 ± 0.006</td>
<td>0.35 ± 0.06</td>
</tr>
<tr>
<td>2</td>
<td>0.047 ± 0.006</td>
<td>0.055 ± 0.007*</td>
<td>0.34 ± 0.08</td>
</tr>
<tr>
<td>3</td>
<td>0.05 ± 0.006</td>
<td>0.061 ± 0.005*</td>
<td>0.35 ± 0.07</td>
</tr>
<tr>
<td>Control</td>
<td>0.07 ± 0.01</td>
<td>0.39 ± 0.06</td>
<td>0.09 ± 0.007</td>
</tr>
</tbody>
</table>

RI = rheographic index; DI = dicrotic index; VP = time of increase of a pulse wave. *Authenticity (p<0.05) of changes.

Table 3  Frequency of acute conditions of dorsopathy in groups of patients (6 months after a therapy)

<table>
<thead>
<tr>
<th>Group of patients</th>
<th>Number of observations</th>
<th>Number of acute conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Abs</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>25</td>
<td>8</td>
</tr>
<tr>
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<td>24</td>
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</tr>
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<td>3</td>
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<td>5</td>
</tr>
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</table>

Abs = absolute.