# Optimization of complex therapy for patients with dorsopathy S.K. Makina, L.G. Agasarov

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### SUMMARY

The aim of the work was to optimize the treatment of patients with dorsopathy at the lumbosacral level by combining bioresonance therapy and local administration of the chondroprotector Alflutop. In the course of the study, the high efficiency of the proposed therapeutic approach was established. This fact is confirmed by a distinct improvement in the indicators of the physical and mental state of patients, significantly exceeding in this respect the characteristics of the compared treatment groups.

Key words: dorsopathies, adaptive bioresonance therapy,chondroprotector Alflutop.

# RESUME

The aim of the study was to optimize the treatment of patients with dorsopathy at the lumbosacral level through a combination of bioresonance therapy and local injection chondroprotector Alflutop. The study established the high effectiveness of the proposed therapeutic approach. This fact is confirmed by the distinct improvements in physical and mental condition of patients, significantly surpassing corresponding parameters of the comparison treatment groups.

Keywords: dorsopathy, adaptive bioresonance therapy, chondroprotector Alflutop.

## Introduction

According to statistics, the proportion of dorsopathies at the lumbosacral level is 30% of the total morbidity and over 80% of diseases of the peripheral nervous system [1,4]. At the same time, myofascial pain syndromes with a characteristic presence of trigger points are considered important pathogenetic factors in the formation of dorsopathies [5, 6].

This phenomenon also largely contributes to the therapeutic resistance of vertebrogenic syndromes. In addition to this, the frequency of negative effects of standard treatment for this contingent determines the feasibility of developing effective and safe methods of exposure [1]. Such methods of exposure include adaptive bioresonance therapy (BRT), based on the use of low-intensity pulsed low-frequency electrical signals [2].

Another effective way of treating patients with vertebrogenic syndromes is pharmacopuncture - local administration of drugs to acupuncture, trigger and other points, providing the addition of medicinal and reflex effects. Among the drugs used by the pharmacopuncture method in the case of dorsopathies, our attention was attracted by the chondroprotector Alflutop [3].

The lack of information in the available literature on the possible combination of bioresonance therapy and local administration of Alflutop in dorsopathies led to the conduct of this study, devoted to the analysis of the therapeutic potential of the proposed complex.

Material (contingent), methods of examination and treatmentThe study was of an open, controlled nature. The study included 110 patients (71 women and 39 men) with dorsopathy at the lumbosacral level, with the dominance of the muscular component of the process. The age of the subjects ranged from 27 to 62 years (average 43.1  $\pm$  5.2), the duration of the disease - from 1 to 8 years (average 3.7  $\pm$  2.4), real relapse - from 1 to 5 months (in average 2.5  $\pm$  0.9).

The neurological examination data were compared, depending on the severity of the lesion, with the results of X-ray, computed or magnetic resonance imaging. The degree of muscle disorders was characterized by the index of muscle syndrome (IMS), with an assessment of the level and irradiation of spontaneous pain, muscle tone, etc. In digital terms, the mild degree of IMS did not exceed 5 points in total, average - from 5 to 12 points; severe - more than 12 points.

All patients were questioned using a visual analogue scale (VAS), the Roland-Morris questionnaire "Pain in the lower back and disability". They also performed an assessment of the level of vital activity - according to the Oswestry questionnaire (ODI), as well as psychological testing using the Luscher color test. The data obtained were supplemented by the indicators of the General Clinical Impression Scale, highlighting the following positions - deterioration, no effect, slightly pronounced, moderate and significant effect. The studies were performed twice - at baseline and at the end of therapy.

In the treatment phase, the patients were divided into four randomized groups - three main, each of 30 people, and one comparison, consisting of 20 people. In all groups, basic therapy was used, including drug exposure (according to indications - analgesics, non-steroidal anti-inflammatory drugs, etc.), manual therapy and exercise therapy.

In addition to this, in the 1st group, BRT (apparatus "IMEDIS-BRT-A", Russia) was used, in the 2nd - the introduction of Alflutop ("Biotechnos", Romania) into trigger points, up to 4-5 points per procedure. In the 3rd group, a complex of BRT and local injections of Alflutop was used. The treatment course in these groups consisted of 10 procedures, carried out 3 times a week. In the comparison group, the effect was limited to the specified baseline therapy only.

The effectiveness of the treatment was assessed based on the dynamics of clinical and instrumental parameters.

# Results and discussion

As a result of therapy, a tendency towards normalization of neurological status was observed in all groups. This was manifested by regression, to varying degrees, of motor and sensory disorders, vegetative-trophic disorders and restoration of the functional activity of patients.

However, in the course of a comparative analysis of the effectiveness, a significant (p <0.05) superiority of the complex combining BRT and local administration of Alflutop over other groups was established. In particular, the overall performance in this third group was 80% of observations - versus 55-66% in the compared groups, which is reflected in the table. 1.

Table 1
Comparable effectiveness of treatment in groups of patients

| Группы больных     | Состояние              |      |           |      |                |      |           |     |
|--------------------|------------------------|------|-----------|------|----------------|------|-----------|-----|
|                    | Значительное улучшение |      | Улучшение |      | Без<br>эффекта |      | Ухудшение |     |
|                    | Acc.                   | %    | Aõc.      | %    | Абс.           | %    | Aõc.      | %   |
| $1-\pi (n = 30)$   | 8                      | 26,6 | 12        | 40   | 10             | 33,4 | -         | -   |
| $2-\pi (n = 30)$   | 5                      | 16,6 | 13        | 43,3 | 11             | 36,8 | 1         | 3,3 |
| $3-\pi (n = 30)$   | 12                     | 40   | 12        | 40   | 5              | 16,7 | 1         | 3,3 |
| Сравнения (n = 20) | 4                      | 20   | 7         | 35   | 9              | 45   | 20        | _   |

Примечание: n - число наблюдений

In order to detail the observed effects, the dynamics of the algic syndrome was recorded as one of the most severe manifestations of the disease. At the same time, according to the characteristics of the VAS, a high efficiency of pain-relieving stimulation was noted in all groups. Nevertheless, this indicator underwent significant (p <0.05) positive shifts in the 3rd group, decreasing from 6.4 to 1.4 units. The regression of the VAS level observed in other groups was not so pronounced (p> 0.05).

The results of the Roland-Morris questionnaire underwent similar changes - the level of self-assessment of pain in patients of all groups decreased on average by 70–75% (p <0.05). However, as in the previous example, the greatest regression of pain was observed in patients of the 3rd group, exceeding (unreliable, p> 0.05) the indicators of the compared groups (Table 2).

The presented data correlated with the information of the ODI questionnaire on the level of daily physical functioning of patients: the total number of points here varies from 0 "best level" to 50 - "worst level". An improvement in the quality of life was observed in all groups (a decrease on average from 30 to 12 points), however, the maximum (from 31.5 to 8.5 points, p <0.05) in the case of complex exposure. Detailed shifts of the estimated indicators

reflected in table. 3.

table 2 Dynamics of indicators of the Roland-Morris questionnaire of patients (in points)

| Группы             | Исходно        | После лечения   |  |  |
|--------------------|----------------|-----------------|--|--|
| $1-\pi (n = 30)$   | $12,3 \pm 2,2$ | $2,9 \pm 1,1^*$ |  |  |
| $2-\pi (n = 30)$   | $12,3 \pm 2,3$ | $3.1 \pm 1.2*$  |  |  |
| $3-\pi (n = 30)$   | $12,6 \pm 2,2$ | $2,1 \pm 1,1^*$ |  |  |
| Сравнения (n = 20) | $12,2 \pm 2,1$ | $3,3 \pm 1,2^*$ |  |  |

Примечание: n — число наблюдений; \* — достоверность (p < 0,05) изменений.

Table 3

Dynamics of indicators of the ODI questionnaire about patients (in points)

| Группы             | Исходно        | После лечения  |  |  |
|--------------------|----------------|----------------|--|--|
| 1-я (n = 30)       | $31,3 \pm 2,5$ | $12,3 \pm 1,4$ |  |  |
| $2-\pi (n = 30)$   | $30,4 \pm 2,3$ | $12,0 \pm 1,3$ |  |  |
| 3-я (n = 30)       | $31,5 \pm 2,2$ | $8,5 \pm 1,6*$ |  |  |
| Сравнения (n = 20) | $31,2 \pm 2,7$ | $12,3 \pm 1,5$ |  |  |

Примечание: n — число наблюдений; \* — достоверность (p < 0,05) изменений.

In clinical terms, special attention was paid to myofascial disorders, focusing on IMS. Initially, IMS in 34 patients (31%) was defined as pronounced (12.5  $\pm$  0.2 points) and in 76 persons (69%) - as average (7.6  $\pm$  0.2 points). By the middle of the treatment course, the index in all groups decreased by half, and by the end of the

- four times. However, the most distinct changes (from 12.9  $\pm$  21 to 2.1  $\pm$  0.2 points, p <0.05), this indicator underwent in the 3rd group, in response to the complex impact.

Psychological testing using the Luscher test initially revealed a violation of emotional stability and anxiety in the examined patients. In the treatment phase, it was found that in group 3 these disorders were reduced in 69% of cases, while in other groups - within 54% (differences between groups are statistically insignificant).

The General Clinical Impression Scale was used as a link uniting the presented results. And here, in the case of a complex effect, in contrast to other groups, a significant improvement in the condition of patients reached a maximum (Table 4). When analyzing other information presented in the table, the observed 5 (25%) cases of deterioration in the comparison group can be explained by the side effects of non-steroidal anti-inflammatory drugs.

- due to gastropathy.

Table 4

Dynamics of indicators of the Scale of General Clinical Impression of Patients (in %)

| Группы             | Показатели     |                |                     |                     |                |  |  |
|--------------------|----------------|----------------|---------------------|---------------------|----------------|--|--|
|                    | Ухудше-<br>ние | Без<br>эффекта | Незначит.<br>эффект | Умеренный<br>эффект | Значит. эффект |  |  |
| 1-я ( $n = 30$ )   | 200            | <del></del> 3  | 19                  | 65,7                | 15,3           |  |  |
| 2-я (n = $30$ )    | 177            | =2.            | 18                  | 68,7                | 13,3           |  |  |
| 3-я (n = 30)       | _              | <u>=</u> 77    | 13,3                | 50                  | 36,7           |  |  |
| Сравнения (n = 20) | 25             | <u></u>        | 15                  | 55                  | 5              |  |  |

#### conclusions

The results of the study showed the prospects for the use of a rehabilitation complex for dorsopathies, which combines adaptive BRT and local administration of Alflutop. This fact is confirmed by a clear improvement in the indicators of the physical and mental state of patients, exceeding in this respect the characteristics of patients in the compared groups.

At the same time, the inclusion of BRT in the therapeutic complex makes it possible to reduce the drug load, preventing the allergization of patients and reducing the need for non-steroidal anti-inflammatory drugs.

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