

## APITHERAPY IN THE TREATMENT OF MULTIPLE SCLEROSIS

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### Abstract

Multiple sclerosis is an unusual illness, which needs unusual methods of treatment. Its base is in the chronic demyelination process of the myelin tunic with the possible regenerative changes of the very nerve tissue. To our point of view, bee venom has joint everything what is best today in the treatment of this disease. Because of MSD-peptide, 18 amino acids, melittine, phospholipase, activation of the hypothalamus-epinephrous system, "nerve growth" factor and reflecting we can do much to:

1. inhibit the development of multiple sclerosis;
2. decrease pathomorphologic changes in the myelin tunic;
3. improve the remyelination effect;
4. influence positively the neurologic status and to improve nerve conduction through synaptic tracts;
5. decrease the neutrophilic and monocytic leucocytosis and plasmatic reaction of the lymphoid tissue;
6. decrease the activity of the autoimmune inflammation;
7. improve the metabolism and immune mechanisms;
8. restore lost functions;
9. treat the syndrome of cronical fatigue;
10. improve the psychical status, mood, remove disturbance;
11. restore sensibility;
12. treat the DIC syndrome;
13. improve coordination;
14. create new physical possibilities;
15. inhibit the degeneration of the axons.

Besides the treatment of multiple sclerosis, correct and professional rehabilitation is necessary. The main accent in the physical rehabilitation should be put to the motion activity restoration. In our clinics the programme of apikinesitherapy has been worked out. Much attention should be paid to the psychological rehabilitation. Our aim is to change a negative position of a man to an optimistic one. During 11 years we've treated about 1500 patients. 300 of them take at least 5 courses annually. Nowadays 200 men have almost no symptoms of multiple sclerosis. The others have positive dynamics and only 5-7 % do not have any clinical effect.

### Introduction

Multiple sclerosis is an unusual illness, which needs the unusual methods of treatment. Its base is the chronic demyelination process of the myelin tunic with possible regenerative changes of the very nerve tissue. Multiple sclerosis is characterized by the indefinite clinical course. During a correct treatment a crisis can occur, and, on the other hand, the phase of remission can develop without any healing.

There are dozens of direct and indirect causes, which influence the appearance and development of multiple sclerosis, but they all can be combined into three main groups (KRYLOV V.N., 1998).

1. Predisposition;
  - a) inherited,
  - b) gained;
2. Accompaing factors;
3. Provocative factors.

For multiple sclerosis to appear all three factors should be present; the absence of one factor (any inhibits the development of the disease).

It is mainly the disease of young and capable of work people. It is an unexpected psycho-emotional stroke, which becomes a condemn after the first visits to a doctor. All that aids the rapid development of these processes.

Multiple sclerosis grows and gets younger today. And this is because of the confrontation, which is won not by the medicine.

Multiple sclerosis, as a disease, evidently allotted out of the others and changed the existing methods.

There should be a lot of specialists, who are engaged in the treatment of multiple sclerosis: neurologist, psychologist, psychotherapeutist, urologist, rehabilitologist and that's not all. To our point of view, the problem of multiple sclerosis will be solved quicker, if a qualified apitherapeutist joins this list of specialists.

### Methods and Materials

Since 1992 in Chelyabinsk there has been existing the first Russian treatment and rehabilitation center for patients with multiple sclerosis. During all this time different famous and infamous, medicaments have been used. But we prefer apitoxins – bee venom components, which allow us a lot:

1. to inhibit the development of multiple sclerosis;
2. to decrease pathomorphologic changes in the myelin tunic;
3. to improve the remyelination effect;

4. to influence positively the neurologic status and to improve nerve impulses conduction through synaptic tracts;
5. to decrease the neutrophilic and monocytic leucocytosis and plasmatic reaction of the lymphoid tissue;
6. to decrease the activity of the autoimmune inflammation;
7. to improve the metabolism and immune mechanisms;
8. to prevent infection complications;
9. to restore the lost functions;
10. to influence the coordination;
11. to influence actively the hypertonus;
12. to form the new reflex for motion activity restoration;
13. to carry on prenatal preparation and postnatal rehabilitation;
14. to change the patient's mood and his attitude towards the existing problem.

Such a variety of positive results is not occasional. Here are only some effects of the bee venom influence on the functions of the man's body:

- stimulation of the epinephrous cortex with the adequate corticosteroid production;
- immunomodulation;
- decrease of the cholesterol level in the blood and dissolution of the atherosclerotic plaques on the vascular walls;
- regulative effect on the blood pressure;
- anticoagulative and antiaggregant effect;
- remyelination effect;
- regulation of the gastrointestinal tract function;
- radioprotective effect;
- reflecting.

The scientific research of the apitoxin influence on the neurological and pathomorphological disturbances of the nerve tissue, on the immune index and blood system during the multiple sclerosis, were carried out in our clinics. We've come to a brave, but a proved conclusion: "Bee venom joints everything what is good today in the treatment of multiple sclerosis".

Table I

**Main effects of the apitoxins in the treatment of multiple sclerosis**

Achieved effects	Mechanisms and Assisting Factors of the Achieved Effect
1. Immunocorrection	Specific immunity: phagocytosis stimulation; complementary activity stimulation; inhibition of the rosette formation; inhibition of the leucocyte migration speed. Unspecific immunity: activation of the phagocytosis activity of leucocytes; increase of the bacterial activity of serum; increase of the properdin titer; increase of the lysocym and complement quantity.
2. Halting the myelin damage	Anti-inflammatory effect of MCD-peptide, melittine, phospholipase.
3. Halting the nerve cells' processes degeneration	Protective effect of melittine. Antihypoxanth effect of bee venom combined with remedy, based on pollen and royal jelly.
4. Remyelination	Synthesis of myelin, which is possible thanks to the maintenance of 18 from 20 irreplaceable amino acids in bee venom. "Factor of the nerves growth".
5. New physic abilities appear	Activation of the "hypothalamus – hypophysis - epinephros cortex" system Influence of apamin, melittine. Reflecting. Improvement of the impulse conduction through the nerve fiber.
6. Disseminative blood coagulation syndrome treatment	Bee venom is a direct and indirect anticoagulant. Fibrinolytic effect of the venom.
7. Improvement of coordination	Apitoxins penetrate through the brain-blood section and improve functional links between the parts of spinal cord and brain.
8. Improvement of the functions of the pelvic organs	Restoration of the trophic processes. Reflecting. Acceleration of the conduction of the nervous impulse in the spinal cord. Applying of medicines on the base of propolis and royal jelly.
9. Rehabilitation of the sensibility	Improvement of the tissue microcirculation. Improvement of the impulse conduction through the nerve fiber. Reflecting.
10. Mobilization of the protective and reserve forces of the organism	Stress-syndrome on the background of the bee stinging. Activation of the regulative peptides' system.
11. Improvement of the psychic status, spirit, removal of the anxiety	The stimulation of the production of the endogenous opioids. Sedative effect of secapine and tertiapine. Indirect analgesic effect of adolapin.
12. Chronic fatigue syndrome treatment	Improvement of the production of the connections in the central nervous system. Stimulation of the opioid peptide production. Activation of the regulative peptides in the central nervous system.

Traditionally the inflammation and myelin destruction processes' decrease, as well as the decrease of the dropsy around the nerve fiber, are achieved by the usage of synthetic hormone medicaments – corticosteroids. The usage of the bee venom gives a better effect, because MSD-peptide and peptide 401 are present. But on the other hand, it has a number of preeminences and the complete absence of the abstinent syndrome. The small dozes of hormones do not give the desired result, but their regular and long usage is unfavourable, because of a number of serious side effects. The results of the comparison are given in the scheme below:

Table II

Synthetic corticosteroids (hydrocortisone)	Bee venom (MSD-peptide)
Steroid diabetes, obesity	Normalization of carbohydrate, protein, fat exchanges
Abstinent syndrome	Absence of the abstinent syndrome
Increasing of arterial pressure, edemas, Itzenko-Kushing syndrome	Stabilization of arterial pressure, vasodilatation, diuretic with a potassium preserving effect
Immunodepressant	Immunocorrector
Increasing of coagulability, thrombogenesis	Decreasing of coagulability, thrombolysis effect
Low antiinfection resistance	High antiinfection resistance
Exulceration of stomach and bowels, regeneration processes become slower	Antiinflammatory, regenerative effect
Psychic disturbances, excitement, epileptoid cramps, insomnia, depressive state	Antidepressant, sedative effect, anticonvulsive effect

The best approval of the effectiveness of apitherapy in the treatment of multiple sclerosis is a fact, that cannot be contradicted: "Beekeepers almost never suffer multiple sclerosis". Physical rehabilitation is weak today. Even if it is present, it usually means different exercises, mainly difficult.

Common physical exercises are almost ineffective, and, at the same time, difficult exercises are contradicated, because they lead to hypertonus.

All or main attention should be paid (especially beginning from the second group of disability) to the restoration of motion activity. To influence only the physical factor, including the demyelination, is not enough, because we change possibilities, but a person continues to move in a certain manner. He's got a reflex, which should be destroyed, and a new one – formed.

The apikinesitherapy programme allows to teach how: to take care of oneself, to walk, to sit, to restore the physiologically correct point of support.

Today there is a widely spread mistake: no attention is paid to the psycho-emotional factor, which is rather important for a certain category of patients.

Multiple sclerosis likes the weak and progresses more actively.

Our aim is to change a negative position of a man to an optimist one.

## Results

During 11 years we've treated about 1500 patients. 300 of them took at least 5 courses annually. Nowadays 200 men have almost no symptoms of multiple sclerosis. The others have positive dynamics and only 5-7 % do not have any clinical effect.

Multiple sclerosis is a complicated disease and only a complex of apitherapeutical influences aimed at:

- pathogenic factors,
- improving neurologic status,
- restoring motion activity,
- psycho-emotional aspect,
- quality of life

can give a constant result.

## REFERENCES