

## **Hirudotherapy in the complex treatment of facial neuropathy**

**Mindubaeva L.ZH.**

**Kazan State Medical Academy  
Department of Neurology and Reflexology**

It is known that the defeat of the facial nerve is the most common pathology of the peripheral nervous system (PM Alperovich et al., 1981; N.M. Antropova et al., 1984). About 25 new cases per 100,000 of the population are registered annually (V. A. Smirnov, 1976; V. E. Grechko, 1981).

The disease is considered to be polyetiological and monopathogenetic. The cause of nerve damage is most often infection, cooling or injury (VE Grechko, 1980). The factors contributing to the development of neuropathy of the facial nerve are arterial hypertension, cerebral atherosclerosis, diabetes mellitus, pregnancy.

It is believed that under the influence of cooling, infection and other factors, a spasm of the facial nerve vessels occurs, leading to edema, ischemia, small hemorrhages, perivascular infiltration. The narrowing of the bony facial (fallopian) canal, through which the nerve passes through the pyramid of the temporal bone, contributes to the compression of the nerve. In the pathogenesis of the disease, a certain importance is also attached to autoallergic processes (AB Greenstein, 1980).

Although this disease is not life threatening, it should be recognized as an emergency due to the threat of facial disfigurement, which can lead to the most severe psychological and social maladjustment of the patient.

According to modern concepts, the treatment of facial nerve neuropathy should be started at the first slightest manifestations of the disease, i.e. as early as possible (D. Klinger, D. Bibl, 1982). Basic treatment includes the use of dehydration therapy, desensitizing and vascular drugs, vitamin therapy, facial gymnastics (PM Alperovich and others, 1981; J.Yu. Popelyansky, 1989). In parallel, physiotherapeutic methods are prescribed: massage, UHF, ultrasound (MI Antropova, VM Koteneva, 1985), phonophoresis of hydrocortisone (AB Grinshtein, 1980), electrostimulation of mimic muscles (G, F. Kolesnikov, 1977; L.E. Pelekh et al., 1984), acupuncture (M.K. Usova, A.V. Kalashnikov, 1975).

We recommend including hirudotherapy in the complex of therapeutic measures, which can be explained by the effectiveness of the method and its compatibility with other therapeutic influences. It has now been convincingly proven that since ancient times widely used occupational therapy has been very effective in the treatment of various diseases. Today, this method of therapy is not only being reborn, but is increasingly being introduced into medical practice. Numerous studies show that the secret of the salivary glands of a medicinal leech has an antithrombotic, anti-sclerotic, anti-inflammatory, thrombolytic, immunostimulating action. Biologically active substances produced by leech have the ability to relieve

vasospasm, increasing the supply of oxygen and other nutrients to tissues, and expanding them.

There is hardly a remedy capable of equally affecting interstitial fluid retention and tissue edema during an inflammatory process (O.Yu. Kamenev, A.Yu. Baranovsky, 2006). The effect of leeches is especially bright in those diseases and conditions in the pathogenesis of which the development of edema plays an important role. This gives grounds to use hirudotherapy in the complex treatment of patients with facial nerve neuropathy.

Thus, the **main tasks** of hirudotherapy in the treatment of facial nerve neuropathy are as follows: anti-edema effect; stimulation of the repair of the affected nerve; normalization of metabolic and trophic processes in denervated muscles; normalization of the functional state of the segmental and suprasedgmental structures of the nociceptive and antinociceptive systems that carry out the acceptance, conduct, control and analysis of the nociceptive information; relief of anxiety-depressive disorders and associated autonomic reactions due to dysfunction of the structures of the limbico-reticular complex; symptomatic analgesia.

**Contraindications** to the use of leeches are diseases characterized by a tendency to bleeding (hemorrhagic diathesis, hemophilia); continued bleeding; severe anemia (hemoglobin level below 100 g / l); cachexia; pregnancy; individual intolerance to leeches.

It should be noted that the earlier leeches are assigned to the acute stage of the disease, the better the effect will be. At the session, we recommend using 4-6 leeches. Selection of attachment points (Fig. 1) on the affected side: zones 1 - 19 VI (IG), 2 XI (VB), mastoid zone 7 - 20 XI (VB), points of the neck-collar zone. In the acute stage, it is advisable to conduct sessions every other day (for a course of 3-5 sessions). Leeches should be placed before they fall away on their own.



Рис. 1 Зоны приставки пиявок при нейропатии лицевого нерва

In the subacute stage of the disease, in addition to the zone 1, 7 and the points of the neck-collar zone, it is advisable to act on the points 2, 3, 4, 5, 6 in the projection of paretic muscles. Exposure at these points is up to the first signs of hemorrhage (first

peristaltic waves). Course treatment includes 5-7 procedures, 2-3 times a week, 5-8 leeches per session.

The feasibility of leeches increases with the treatment of secondary contracture of facial muscles. As you know, the late recovery period may be complicated by the development of secondary contracture of facial muscles, which is manifested in the lesion of the facial nerve of any etiology and at any level of damage to the nerve trunk, but always with incomplete regeneration with residual paresis (Ya.B. Judelson, 1982; G. A. Ivanichev, 1990). The clinical picture of mimic muscular contracture arising after suffering acute facial nerve neuropathy of moderate severity is characterized by a unique spasmoparesis syndrome. The resulting asymmetry of the face, synkinesis, and hyperkinesis of the affected muscles are due to the possibility of transmitting the action potential in an unnatural way — transversely, causing unnecessary contractions of the adjacent muscles.

G.A. For the treatment of contracture of facial muscles, Ivanichev proposed the combined use of post-isometric relaxation and myopuncture of local hypertoniuses. Considering the trophic, regenerating, reflex effect of occupational therapy, we recommend including it in the complex of therapeutic measures for the contraction of facial muscles.

In case of contracture, leeches should be placed in the amount of 2-3, using no more than one or two local zones and with incomplete hemorrhage (exposure 25-30 minutes). It also recommends the use of points of the neck and collar zone. The course of treatment is 10-12 procedures with an interval of 2-3 days.

We applied occupational therapy in the complex treatment of 33 patients with neuropathy of the facial nerve in the acute stage of the disease at the age of 16 to 55 years, 16 of them are women, 10 are men. Hirudotherapy sessions were performed every other day, on average, patients received 3-5 sessions. Already after the first 2-3 sessions, positive dynamics was observed in the form of a reduction in pain, a regression of clinical symptoms, a decrease in the severity of the facial muscles.

As a result of complex treatment, in 22 patients (66.7%) there was a complete restoration of the function of the facial muscles, in the rest of the patients - a decrease in prozonnarese severity. Long-term practice shows that early (on the first day) the use of occupational therapy leads to a more rapid regression of clinical symptoms.

In 6 patients (18.2%), 4–6 weeks after the onset of the disease, contraction of facial muscles developed in the presence of recovery of motor functions. These patients underwent a second course of occupational therapy in combination with post-isometric relaxation of the facial muscles. All had positive dynamics in the form of a reduction in pain, feelings of tightness, a decrease in the severity of hyperkinesis.

Thus, the obtained positive results allow us to recommend hirudotherapy in the complex rehabilitation of patients with facial nerve neuropathy. The method is available, well tolerated by patients and is particularly indicated in the acute stage of neuropathy of the facial nerve, as well as in those patients in whom the disease occurs

against the background of arterial hypertension, venous encephalopathy, diabetes, head injury.

### **Literature**

1. Alperovich P.M. and others. Bell's palsy (etiology, pathogenesis, clinic, course, outcome) // Zhurn.neropathol. and psychiatry - 1978. - T.78. - No. 6.-P.836-846.
2. Ivanichev G.A. Mimic musculature contracture. - Kazan, 1992.
3. Kamenev O. Yu., Baranovsky A. Yu. Treatment with leeches. St. Petersburg: publishing house "Vse", 2006.-302c.
4. Popelyansky I, Yu. Diseases of the peripheral nervous system.-M ,: Medicine, 1989.-464c.
5. Samosyuk I.Z., Lysenyuk V.A. Acupuncture. Encyclopedia. - Kiev - Moscow: "AST-Press", 1994.-541 p.

**Mindubaeva L.ZH. Hirudotherapy in the complex treatment of facial neuropathy // Alternative medicine. - 2007. - №1. - P.30-32.**