

THE CONCLUSIONS OF STUDIES INDICATE THAT HIVAMAT® THERAPY:

- ✓ **Reduced treatment times**
- ✓ **Improved the patient's quality of life**
- ✓ **Resulted in significant pain reduction**
- ✓ **Acted as an immunostimulator, enhancing the body's capacity to fight exogenous infections**
- ✓ **Possessed both antioxidant and anti-inflammatory effects**
- ✓ **Reduced swelling**
- ✓ **Has the ability to fight pain and edema**
- ✓ **Improved outcome in terms of alleviation of pain, increased mobility, and lymphedema volume reduction**
- ✓ **Leads to considerable acceleration in the healing of damaged tissue**

ROLE OF HIVAMAT® IN THE TREATMENT FOR THE LYMPHEDEMA OF THE LIMBS

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CONCLUSION

HIVAMAT® 200 is a new instrumental physiotherapeutic method which employs intermittent electrostatic fields with DEEP OSCILLATION™ in order to stimulate the transportation of interstitial liquids and their components and allow fibre and tissue layers to regain motility and flexibility. All these effects are achieved through minimal external pressure.

On the basis of our experience, the optimum treatment for lymphedema of the limbs can be achieved through two or three-week cycles of Complex Decongestive Physiotherapy (CDP). Thus, through a combination of CDP and HIVAMAT® methods, which are able to stimulate transportation of interstitial fluids and their components, we can ensure an improvement of the treatment quality, a reduction in treatment times with positive effects on the patient management costs and an improvement of the patient's quality of life.

Evaluation of the Effect of HIVAMAT® 200 on Tissue Changes of the Breast in Patients with Secondary Breast Lymphedema

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Results

HIVAMAT® 200 therapy resulted in significant, clinically relevant, pain reduction. This effect was not observed in the control group. Swelling was subjectively assigned a score of 5.9 on the VAS by the patients at the initial examination. Patients in both groups reported significant reduction of swelling. The reduction of swelling was objectively confirmed by 3D measurement in both groups. The results of our pilot study suggest that additional HIVAMAT® 200 therapy supplementary to manual lymphatic drainage can significantly improve outcome in terms of pain alleviation and volume reduction in patients with secondary breast lymphedema compared to manual lymphatic drainage alone. HIVAMAT® 200 therapy is a beneficial supplementary approach in treating breast lymphedema.

HIVAMAT® 200 EFFECTS ON BLOOD PARAMETERS

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CONCLUSIONS

We concluded that HIVAMAT® 200 acts as an immunostimulator enhancing the body's capacity to fight exogenous infections and, probably, to diminish the risk of tumor development. 3. Exposure to HIVAMAT® 200 slightly inhibited oxygen radical production by the whole blood leukocytes activated by Ca-ionophore A23187. The activation with A23187 results in the release of inflammatory mediators such as the products of arachidonic acid oxidation. Therefore HIVAMAT® 200 could be considered as having an anti-inflammatory action. The incubation of platelets under exposure to a weak electrical field for 3-30 min did not affect either platelet degranulation or aggregation. Therefore HIVAMAT® 200 did not have any effect on the major platelet functions in the in vitro experiments. On this basis we could suggest that HIVAMAT® 200 exposure would not increase the risk of thrombosis in the individuals.

HIVAMAT® 200 IN THE TREATMENT OF EXCISIONAL WOUNDS

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CONCLUSION

HIVAMAT® 200 exposure resulted in significant improvement of the wound healing process seen at the 4th and 8th days after wounding. Deep Oscillation™ exposure did not affect significantly the free radical production in the circulating blood. Therefore we could suggest it did not have generalized effects on the biochemical processes. HIVAMAT® 200 exposure resulted in significant inhibition of the glutathione peroxidase activity in the granulation tissue that reflected its anti-oxidant and anti-inflammatory action. HIVAMAT® 200 exposure significantly decreased swelling in the wounded area therefore the ratio of dry to wet tissue weight dropped statistically significant. HIVAMAT® 200 exposure resulted in the significant inhibition of myeloperoxidase activity in the wound. Therefore we concluded that HIVAMAT® 200 possessed evident anti-inflammatory effect. HIVAMAT® 200 exposure resulted in the significant inhibition of lipid peroxidation in the wound at the 4th day. Therefore we concluded that HIVAMAT® 200 possessed both antioxidant and anti-inflammatory effect.

Side effects following conservative therapy for a carcinoma of the breast

Initial results with Hivamat (*histological variable-manual technique*)

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CONCLUSION

Typical side effects of radiation therapy following conservative breast surgery (QUART or LAITT), including axillary extirpation, are fibroses, pain or disturbances in the sensitivity of the breast operated, skin alterations (hyper pigmentation, depigmentation, edema, erythrodermia, telangiectases, desquamation, epithelial lysis, necrosis, restrictions to movement of the arm including disturbances of fine motor response, pain, paresthesias, lessening of strength in the arm on the side operated, and a lymphedema. Hivamat is used for the rapid dissimulation of local edemas, for the dissolution of indurations of the connective tissue, for improving motional readiness, and for improving the flow equilibrium and permanence of pain relief.

The treatment represents a special form of manual lymph drainage, with which an oscillating electrostatic force field builds up between the hands of the therapist and the body of the patient, giving rise to a vibrational and pumping effect which is still effective deep within the tissue. 15-20 minutes therapy daily is sufficient. Another particular feature of the Hivamat technique is that the lymph drainage can already be employed on the very first day postoperative; in order to restore lymph drainage after this has been damaged operatively or radiologically. It is our assumption that the rate of lymphedema occurrence following a prophylactic Hivamat lymph drainage will still be lower, even after 2-3 years.

Up to now, Hivamat-supported lymph drainage has shown significant improvements in the results for the following clinical criteria, compared with conventional manual lymph drainage: consistency; pain and disturbances to the sensitivity of the breast operated; skin alterations; arm movement; pain, paresthesias in the arm and/or axilla of the side operated, and lymphedema.

Expectations and reality: first experience of HIVAMAT-200 System clinical use in Russia

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CONCLUSION

We have carried out the treatment of 22 patients (15 males and 7 females aged 45 to 74 years) with osteochondrosis of cervicothoracic or lumbosacral re-gions of spine with radicular syndrome during exacerbation phase (5); closed fracture of shin bones (3) and early post-operative period after aortocoronary shunting (14 patients). In patients with osteochondrosis, corresponding regions of spine and extremities were alternately treated with high (160 to 120 Hz) and medium frequencies (20 to 30 Hz) using 1:1 or 2:1 exposure to pause ratio, 50 to 60% intensity and 15 to 30 min duration; a course of treatment included 5 to 15 sessions. Clinical alleviation of pain syndrome was noted already after one or two treatment sessions. There were no patients with aggravation of symptoms. Five to six sessions were sufficient for a course of treatment of patients with acute stage of the disease. Clinical observations showed that all 22 patients tolerated well this treatment; no side effects were noted during the treatment sessions.

To obtain the objective confirmation of clinical results, we have conducted several trial studies. Single treatment sessions did not cause any changes in ECG parameters or blood flow in brachial artery. Study of microcirculatory reactions in tissues using a method of laser tissue Doppler flowmetry; oxygen tension in tissues in the treated region; and blood gases content after single treatment session or a course of treatment is underway. Thus, our preliminary data enable us to state, that the described method has, undoubtedly, high potential of application in view of its ability to fight pain and edema, as well as its resorptive effect.

BIOLOGICAL EFFECTS OF LOW INTENSITY ELECTROMAGNETIC FIELDS AND ELECTROSTATIC MASSAGE IN THE MODEL OF QUARTZ-INDUCED ACUTE LUNG INFLAMMATION

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CONCLUSIONS

The present study showed that the physiotherapeutical device HIVAMAT 200 substantially suppressed both local inflammation in the lungs and redox imbalance induced by quartz in the lungs of experimental rats evidenced by the decrease of neutrophil content, protein level, and GPx activity in the BAL fluid as well as by the increase of GSH concentration in the lung tissue. At the same time, HIVAMAT 200 did not affect generalized oxidative stress in the blood. HIVAMAT could be recommended for the treatment of acute lung inflammations of different origin in combination with conventional therapies.

TREATMENT OF GYNOID LIPODYSTROPHY (CELLULITE) WITH HIVAMAT® 200: A PILOT CLINICAL STUDY

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CONCLUSIONS

The pilot study confirmed the absolute safety of the method (there were not any immediate or remote adverse effects or complaints from the participants), its high efficacy in 93% (n=28) of the women (the circumferences diminished from 59.0 to 57.1 cm, upper thigh, p<0.0002; from 51.4 to 49.8 cm, lower thigh, p<0.0001; from 40.7 to 38.5 cm, upper leg, p<0.0003). The elasticity characteristics were improved in 48% (n=14) of the patients; the edema, lymphostasis, and fibrous heterogeneity of subcutaneous layer were improved remarkably in 80% (n=24) of the patients. The general conclusions of the experts were that the HIVAMAT® 200 method was efficient in more than 80% of the cases with moderate (grade I-II) cellulite.

Evaluation of the Effect of Treatment with low intensity and extremely low frequency electrostatic fields (HIVAMAT® 200) on Breast Tissue in Patients with Secondary Breast Lymphedema

CONCLUSIONS

The results presented here show that the patients who underwent manual lymphatic drainage supported by the HIVAMAT® 200 were highly satisfied with the outcome and experienced a reduction of pain and swelling. The reduced mobility of the cervical spine and shoulder did not deteriorate further; which is in strong contrast to the situation in the control group. To our knowledge, there are no other studies that systematically investigate breast lymphedema therapy. In a study of the incidence of breast and arm lymphedema, Goffman et al. (3) merely mentioned that good results were achieved with manual lymphatic drainage in 21 of 23 patients with breast lymphedema. More data are available on physical therapy in patients with lymphedema of the arm after breast cancer treatment. The review by Klingman et al. (8) quotes three studies investigating lymphatic drainage of arm lymphedema in breast cancer patients; in one of the studies lymphatic drainage served as the standard of reference. Treatment resulted in significant reduction of the arm volume and improvement of symptoms. Similar results were obtained in two other, uncontrolled studies (7, 19) investigating the outcome of complex physical decongestive therapy (including manual lymphatic drainage and compression bandaging) in patients with arm lymphedema because compression bandaging is not possible for this ailment.

Schönfelder and Berg (11) applied manual lymphatic drainage assisted by the HIVAMAT® 200 in all breast cancer patients who underwent breast-sparing surgery with subsequent radiotherapy regardless of whether they had breast lymphedema or not. In an uncontrolled study performed by Gasbarro et al (20) this combined approach was shown to significantly reduce edema volume and the thickness of the subcutaneous layer in patients with leg lymphedema. In vitro experiments showed that the HIVAMAT® 200 has immunostimulating and antioxidative effects (21, 22).

The therapeutic benefit of manual lymphatic drainage assisted by a treatment with low intensity and extremely low frequency electrostatic fields (HIVAMAT® 200) may be attributable to a combination of different effects: stimulation of lymphatic flow, reduction of muscle tone and alleviation of pain by means of mechanical stimulation of pain receptors. The results of the pilot study presented here show that HIVAMAT® 200 therapy performed in addition to manual lymphatic drainage in patients with secondary lymphedema of the breast substantially improves outcome in terms of alleviation of pain, mobility, and lymphedema volume reduction compared to manual lymphatic drainage alone. We therefore conclude that more attention should be paid to patients with breast lymphedema and a treatment with low intensity and extremely low frequency electrostatic fields (HIVAMAT® 200) is a useful supplementary therapy in the management of patients with breast lymphedema.

For the complete studies please contact:

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