

Pneumonia

[Vestn Ross Akad Med Nauk](#). 2005;(9):20-6.

[Intracavitary laser therapy and its effect on the kallikrein-kinin system of blood in children with pneumothorax]

[Article in Russian]

[Tsuman VG](#), [Mashkov AE](#), [Shcherbina VI](#), [Surovkina MS](#), [Sinenkova NV](#).

The article presents the results of low-intensity laser application in complex treatment of 137 children with acute purulent destructive pneumonia complicated by pneumothorax with bronchial fistulas. A method of intracavitary laser therapy, developed in the clinic, allowed obliteration of bronchopleural fistulas without application of bronchial occlusion and other invasive techniques. Evaluation of the kallikrein-kinin system of blood revealed prominent reduction of kininogenesis in most (87%) patients upon admission (3 weeks after the onset of the disease), which is an important link of the pathogenesis of late stages of complicated acute purulent lung destruction in children. The study also demonstrated that low-intensity laser emission modulates pyoinflammatory process due to its effect on cell-mediated immunity, neutrophilic phagocytosis and the kallikrein-kinin system of blood. Intracavitary laser therapy is the treatment of choice in children with acute purulent destructive pneumonia complicated by pneumothorax with bronchial fistulas. Application of intracavitary laser therapy in complex therapy of complicated acute purulent lung destruction in children allowed discharge from the hospital 5 to 7 day earlier, and prevented lung inflammatory process chronization. None of the patients have died within last 10 years.

[Lik Sprava](#). 2002 Jul-Sep;(5-6):36-9.

[Degree of endogenous intoxication in children with acute pneumonia in the presence of hypotrophy]

[Article in Ukrainian]

[Gafarova FM](#), [Abduzhabbarova ZM](#).

Children with acute pneumonia in the presence of hypotrophy derive no benefit from conventional therapy, with no change for the better being noted in the degree of endogenous intoxication. Endotoxemia has been shown to be alleviated by endovascular laser irradiation of blood included in the complex of therapeutic means of remediation used in acute pneumonia against the background of hypotrophy, which fact permits

reducing the volume of medicamentous therapy. The above treatment option has also been found to exert a beneficial effect on the course of the illness.

Ter Arkh. 2002;74(3):40-3.

[Parameters of membrane permeability, microcirculation, external respiration, and trace element levels in the drug-laser treatment of pneumonia]

[Article in Russian]

Amirov NB.

AIM: To study effects of laser therapy in combined treatment of pneumonia on external respiration function, membrane permeability, microcirculation and serum trace elements. MATERIAL AND METHODS: 142 pneumonia patients were randomly divided into two groups: 96 patients treated with drugs and laser radiation (the study group) and 46 patients treated with drugs only (control group). RESULTS: In the study group there was more pronounced reduction in cell membrane permeability, a rise in concentrations of iron and chromium in the blood serum, improvement of microcirculation. These changes closely correlated with those in immunity, external respiration function. CONCLUSION: Laser therapy is an effective method of pneumonia treatment and can be included in relevant combined schemes.

Vopr Kurortol Fizioter Lech Fiz Kult. 2001 May-Jun;(3):15-8.

[Laser therapy of elderly patients with pneumonia]

[Article in Russian]

Lutai AV, Egorova LA, Shutemova EA.

The aim of the study was to evaluate the efficiency of laser therapy included into the treatment of pneumonia in the elderly. A follow-up included the analysis of their clinical status and external respiratory function, pulmonary blood flow, and immunological parameters in 2 matched groups of pneumonia patients aged 60 to 72 years. Low-intensity laser therapy (transcutaneous sliding contact procedure) was used as part of routine treatment in one of the groups. The findings demonstrate that non-drug treatment had an undeniably positive impact. There was an earlier regress of clinical symptoms and a sound recovery of functional parameters. In the absence of side effects of this method, these data allow infrared laser therapy to be recommended for rehabilitation of elderly patients with pneumonia.

LOW-LEVEL LASER THERAPY IN PATIENTS WITH PNEUMONIA

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We compared the effectiveness of complex treatment including transcutaneous low-level laser radiation of chest by He-Ne laser /66 patients/, AsGa laser/68 patients/, magnet-laser therapy/66 patients/ and decimeter-wave therapy /62 patients/. We used individual laser radiation dosing method according to V.M. Lisienko and R.I Mintz / 1987/. All three types of laser therapy have beneficial influence on inflammation process in patients with pneumonia, having positive effects on laboratory and rentge-nological symptoms. After such treatment patients recover two times faster, especially after infrared laser radiation or its combination with magnettherapy. Structural optical serum properties evaluation with the help of polarization microscopy and refractometry methods showed that there are many liquid crystals of different types in the beginning of pneumonia. There is feedback between serum refraction index and severity of pneumonia, existence of complications. After treatment serum refraction index average values returned to normal in all four groups of patients. Laser therapy improves immune status of patients. Magnet-lasertherapy and infra-red laser radiation are the most effective, including cases of lingering disease. Individual laser radiation dosage stimulates phagocytosis. According to the above-mentioned complex treatment of pneumonia can include low-level laser radiation.

Vopr Kurortol Fizioter Lech Fiz Kult. 1995 May-Jun;(3):12-4.

[An evaluation of the effect of magnetic-laser therapy on external respiratory function in complicated forms of acute pneumonia in children]

[Article in Russian]

[Gaidashev EA](#), [Lebedev KN](#), [Khristoforov VN](#), [Biriukov VV](#), [Gatkin EIa](#).

The authors studied the effects of magnetic laser therapy (MLT) on external respiration, blood transport of gas and clinical course of acute destructive pneumonia in children aged 1-12 years. It was established that energy of infrared laser combined with magnetic field reduces the severity of acute respiratory insufficiency, treatment course, prevents destructive complications in children with infiltrative acute destructive pneumonia.

Sov Med. 1989;(7):22-6.

[Intravenous laser therapy in multimodal treatment of acute pneumonia]

[Article in Russian]

[Korochkin IM](#), [Platonova TK](#), [Kapustina GM](#), [Belov AM](#), [Alekseeva OG](#).

Such therapy has been administered to 70 patients with acute pneumonias. 25 patients on traditional therapy have made up the reference group. The effects of laser therapy on the

clinical picture, status of the coagulation system cellular and plasma factors, fibrinolysis, and on the blood stream at the site of the pneumonic involvement have been examined in the patients with acute pneumonias in single tests and after a course of treatment.

Intravenous laser therapy has had a favourable effect on the clinical course of acute pneumonias, accelerating the terms of pneumonia resolution and promoting an earlier and more complete restoration of the blood stream and normalization of the hemostasis, in contrast to routine therapy.