

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

[Article in Russian]

Amirov NB.

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

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.

Laser Therapy Of Elderly Patients With Pneumonia

[Article in Russian]

Lutai AV, Egorova LA, Shutemova EA.

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

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 proc-ess 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 refractome-try methods showed that there are many liquid crystals of different types in the begin-ning of pneumonia. There is feedback between serum refraction index and severity of pneumonia, existence of complications. After treatment serum refraction index aver-age values returned to normal in all four groups of patients. Laser therapy improves immune status of patients. Magnct-

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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.

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