

Gallstones

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[The use of laser radiation for correcting cholesterol metabolic disorders in gallstones]

[Article in Russian]

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The authors have demonstrated in the experiment that under the influence of irradiation of the liver by means of a semiconductor laser with a wavelength of 890 nm, pronounced activation of its microsomal system occurs. The data obtained have become a basis for the development and introduction in the clinic in 96 patients of a technique of laser correction of hypercholesterolemia. A good therapeutic effect has been noted in all the patients.

THE USAGE OF INFRA-RED LASER IN THE TREATMENT OF CHOLELITHIASIS

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A series of repeated ultrasonography of gall-bladder in a group of tested patients suffering from cholelithiasis which had undergone different types of physiotherapy revealed a change in bile's echogenic characteristics, the correlation of this index with bile's litho-genesis. The change in bile's density under the influence of intermittent infrared laser (IRL) was studied on these patients. The 1st group (45 patients) took 10 daily procedures of irradiation on the skin projection of the gall-bladder. The treatment was carried out with matrix radiator ML01K of the apparatus "Mustang-021" ("Technics", Russia), 0,89 urn wavelength, frequency 1500-3000 Hz, pulse power 50 W. The 2-nd group (47 persons) took 150-200 ml of mineral water "Essentuky-4" (MW) 30 min before meal 3 times a day. All tested patients were subjected to the ultrasonography prior to the treatment's beginning and in 24 hours after the treatment. The obtained result demonstrated a high level in the decrease of bile's density of the tested patients after the influence of IRL ($p < 0,05$). The 3rd group (32 persons) united patients (suffering from the same disease) which had took MW and had undergone IRL according to the described methods. Laser influence was applied in 15 min after 2 ND dose of MW. The quantity of compatible procedures was 10. When the treatment of the 3rd group had been completed, ultrasonography revealed a more high level in the decrease of bile's density ($p < 0,05$). In all groups patients' clinical symptoms quickly improved. 11 patients from the 1st and the 3rd groups (8,4 %) suffered from transitory pain in the area of cholecyst during the treatment (between 5-8 courses). The pain disappeared independently, (the treatment hadn't been delayed) and we explained this additional effect as sand passing and the movement of biliary concretum. Under the conditions of

balneotherapy, it's worth while the patients suffering from cholelithiasis will be treated by IRL according to our methods (MW+IRL) for normalization of gall-bladder function, decrease of bile's lithogenesis and display of cho-langenitis.