

COMPREHENSIVE TREATMENT OF PYELONEPHRITIS USING INTRAVENOUS LASER THERAPY

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In spite of the significant prevalence of chronic pyelonephritis, a life-time diagnosis has been established in only 15 – 30% of patients. This is related to the asymptomatic and unclear clinical expression of the disease. In a significant number of patients, chronic pyelonephritis develops due to the presence of factors, which disrupt the passage of urine in the upper urinary tracts (Kidney stones and ureterolithiasis, constriction/narrowing of the upper urinary tracts, chronic urine retention in the urinary bladder etc.). In a third (1/3) of chronic pyelonephritic patients, the disease develops as a sub-acute non-specific inflammation of the parenchyma of the kidneys as well as the pelvicalyceal system (renal collecting system), and as a rule, starting from childhood age. In most cases of such patients, the disease is detected many years later after it started.

The Aim of this investigation was to assess the effectiveness of intravenous laser blood irradiation (ILBR) during the treatment of chronic pyelonephritis.

Materials and Methods (Procedures): 156 patients were observed with a verified diagnosis of chronic pyelonephritis, which were then divided in to two groups according to the treatment administered. The first group of patients (68 patients) were treated using the standard scheme of antibiotic therapy, corrections to which were made according to the results of the bacteriological investigations as well as their corresponding symptomatic therapy (spasmolytics, anti-hypertensive drugs, diuretics, anti-aggregants, vitaminotherapy and phytotherapy.). The above-mentioned medications as well as an ILBR treatment course using a laser ablation wavelength of 632.8nm with an end optical fibre capacity of 1.5mV were included to the treatment scheme of the second group of patients (88 patients). 10 procedures (manipulations) of 15 minutes each was administered to each patient.

Results of the Investigation: The clinical symptoms in both groups at the start of the treatment was characterized by dull aching pain in the lumbar region, edema, headache, weakness, loss of appetite, nausea, fatigue, periodic chilly sensations or increased body temperature (fever) up till sub-febrile ranges, dysuria and polyuria.

During the course of treatment in the first group, a gradual regression of symptoms during the first two weeks was observed, which was accompanied by a slow decrease in leucocyturia towards the 7th – 14th day. In 54% of the patients, the need to prolong the combined antibiotic treatment course up to 2–3 weeks was observed. In 21% of patients, controlled clinical urine analysis after 3 weeks confirmed the presence of slightly significantly expressed leucocyturia in the absence of clinical symptoms. On the 3rd – 5th day after the treatment course of ILBR was started 86% (76 patients) of patients in the second group experienced signs of an acute exacerbation of clinical symptoms: appearance or increased pain in the lumbar region, appearance of (unilateral or bilateral) irradiation along the ureters, increased systolic as well as diastolic arterial pressure by 10–20mmHg. In addition to that, the appearance of edema in 60% of patients of the second group significantly decreased already as from the second day of treatment. An increase in leucocytouria was observed on the 3rd – 5th procedure (manipulation) in 45% of patients of this group and was normalized by the 10th day of treatment in 76% of patients. A controlled leucocytouria carried 3 weeks after the start of the treatment showed the presence of a remission in laboratory analysis in 91% of patients with stable normalization of arterial pressure, disappearance of edema as well as asthenic and pain syndromes.

Conclusions: Modern etiotropic and symptomatic treatment of chronic pyelonephritis does not completely resolve the problem of the resistance of micro-flora to the administered treatment. The use of intravenous lasers helps to normalize intrarenal hemodynamics, intravascular rheology, glomerular filtration rate as well as improves the passage of urine which helps increase the effectiveness of antibiotic treatment as well as significantly improves the prognosis of the present disease