SCENAR AND SUPPURATIVE DISEASES

Background. The problem topicality is determined by the fact that most suppurative diseases such as peritonitis, purulent pancreatitis, complicated appendicitis, sepsis are life threatening conditions. They are the main reason for urgent hospitalization to surgical hospitals. Even for elective operations postoperative infections develop in 6.5% cases in Russia, and in 2.2% to 4% cases – in the USA. So, for example, Russia spends about 100 million roubles yearly only for irrational antibiotic therapy in the postoperative period after appendectomy (A.V.Bedenkov, 2003).

Over the last 30 years, the mankind faced with 40 absolutely new pathogens. The antibacterial therapies became less effective and the number of resistant microfloras increased, and thereupon the rate of suppurative septic diseases and complications grew up.

Acute appendicitis is the main reason for peritonitis as in 50% of cases peritonitis develops due to the acute appendicitis. Peritonitis is a peritoneal inflammation that is accompanied not only by local changes in the peritoneum, but also general severe reaction of the body to the septic intoxication. Lethal outcome due to peritonitis reaches 20-30%. There are some basic factors that influence the clinical course. They are the macroorganism reactivity, pathogen virulence, and the nature of affection. While the two latter factors are within the competence of antibiotic therapy and surgery, the influence of SCENAR therapy on the macroorganism reactivity in case of peritonitis has never been studied before.

Research objectives were 1) to find out whether SCENAR-therapy could actuate endogenous anti-bacterial protective mechanisms of the body and 2) evaluate the clinical effectiveness, safety and possible actions of SCENAR-therapy.

Materials and methods. We examined 2 groups of patients that had surgeries for purulent appendicular peritonitis. The first group, the control one, included 15 patients that were given a standard therapy. The second group included 16 patients that were additionally given SCENAR-therapy in their complex therapy. The patients in this group had the same severity and prevalence of the disease as those in the first group. The treatment was as follows: electrodes – spaced; each procedure included 10 minute stimulation of skin zones on palms and feet; the course of SCENAR-therapy included 5 daily procedures.

The photomaterials of more than 70 patients with various wounds in burn patients, bedsores in spinal patients, septic wounds after SCENAR-treatment have been analyzed, and the following regularities have been established: 1) the processes became more acute and pus discharged 2) recovery or clinical improvement.

Findings.

Intensive SCENAR-therapy caused significant decrease in temperature, especially in the morning, as compared to the data in the control group. Normal temperature was registered as early as on the 2nd day, and their evening temperature became normal by the fifth day. Blood characteristics testified reliable gradual decrease of the stab neutrophil shift and relative increase of segmental leukocytes. Clear dynamics as the lymphocyte increase and monocyte decrease was observed.

The content of middle-weight molecules (MWM) is one of the characteristics showing endogenous intoxication. When treated with a SCENAR, the MWM content behavior clearly tended to decrease, in contrast to that in the control group. On the second day of SCENAR-treatment circulating immune complexes (CIC) increased a little, and by the fifth day they reliably decreased.

These indirect signs of decreased intoxication syndrome are, in our opinion, due to controlled increase of neutrophil respiratory burst. This manifested itself as a reliable increase of myeloperoxidase activity (MPA) by 86% of the initial one, on the 2nd day of SCENAR-treatment. On the contrary, in the control group MPA decreased to 92%, the decrease was also registered by the 5th day of standard therapy (93%). In the control group the leukocytic cell chemiluminescence that shows the respiratory burst,
significantly decreased to 59% of the initial one on the 2nd day. In the group that was given SCENAR-therapy the leukocytic cell chemiluminescence increased on the 2nd day and became 110%.

As a result of increased MPA, hypohaloid concentration increased, particularly that of the hypochloric acid which is an important component of the microbicidal potential of polymorphonuclear leukocytes. MPA is well-soluble in the lipid phase of membranes and is mainly concentrated on the phase interface when being released during degranulation and is involved in creating the microbicidal potential of the body’s mucosas.

So, using noninvasive SCENAR-treatment of patients with appendicular peritonitis in complex therapy stops intoxication symptoms faster and promotes normalization of paraclinical characteristics. The body temperature faster becomes normal. MPA increases which indicates of controlled increase of the neutrophil bactericidal function as soon as on the 2nd day of treatment.