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- Article name:** Клиническая эффективность Скэнar-терапии
- Key words:** SCENAR, experience reports, therapeutic effects
- Summary:** Large amount of clinical data (test group – 1128 patients, control group – 844 patients) that proved the effectiveness of SCENAR-therapy methods and techniques for treating various pathological conditions is presented. The therapeutic effect showed itself as reduced treatment time, increased remission, reduced drug doses, ill-defined symptoms of exacerbations, decreased complications, rapid pain relief and other positive changes.

The Effectiveness of SCENAR-therapy

A disease basically has the dyscrasia of substances, energy and information (Sarkisov D.S., Palcev M.A., Hitrov N.K., 1999). This definition is a substantiation of energetic impacts on homeostasis normalization. The researches of last ten years show that the biological effect of impulse impacts (pulse current of low and high frequency, impulse electric and magnetic fields) includes the most different phenomena, which connect with the realization of impact of effecting factor on morphologic and functional tissue condition, its intracellular metabolism, the pressure of regulatory processes and other mechanisms, which can be used for optimization of vital activity and life support of the body and correction of functional disorders.

The impulse effect in modern physiotherapy is confined, mostly, by using of local effects such as: analgetic action, optimization of peripheral hemodynamics, improvement of trophism of tissues. On the one hand, it's connected with the adaptation effect of the body to the influence, and on the other hand, with the threat of development of local and common complications and side effects when energy impulse increases by inadequate adaptation possibilities of tissues.

The possibilities of electropulse influence by using of proper signal shape, and by using of peak frequency parameters of impulse, are implemented in SCENAR neuroadaptive stimulator developed by RITM OKB ZAO. At the same time the repeated change of device operating mode allows to analyze the condition of adaptive abilities of system and the body as a whole. The technique developed with the help of these principles leads to stable therapeutic effect for various diseases.

High amplitude electric signal, generated by SCENAR, stimulates nerve fibers very well, but nevertheless it doesn't have damaging action because of its short term.

The combining of individually-dosed mode and subjective dosed mode during either one session or the whole course of treatment is possible subject to the character and evidence of pathologic manifestation.

MATERIALS AND METHODS

SCENAR electric impulse stimulation is given daily (2-3 times a day for acute cases) for 10 days. The course of treatment can be prolonged up to 15-20 procedures.

This method is carried out in term of out-patient or inpatient treatment in clinics of various profiles; they are therapeutic, surgery, neurologic and pediatric one.

The patient seats or lies in comfortable position and the clothes shall be put off.

The skin areas to be influenced are:

1. The projection of pathologic focus or pathologically changed system,
2. The peripheral zones, containing biologically active meridians, which are responsible for functional condition of that organ or system,
3. The zones, situated symmetrically to pathologic focus or pathologically changed system,
4. The zones of algesia,
5. The areas of skin, which differ from others by characteristics (including scars, pigment spots, wounds, erosions, etc),
6. The areas of increased tension of muscles in zones, connected with pathologic focus and also outside of them.

The totality of zones 1-6 composes the picture of SCENAR-influence.

The effectiveness of the method was estimated by the data of special research investigation and clinical test of the method, carried out in educational and clinical basis of I.M. Sechenov MMA (the faculty of diseases of nervous system, facultative surgery, traumatology, clinical hospitals № 7, 67, I.M.Botkin hospital in Moscow). 1972 patients were investigated, among them 1128 patients were in test group and 844 patients were in control group. The truth of result was determined by Student's criteria. The certain data were at $P < 0,05$.

RESULTS AND DISCUSSION

The research results represent, that the influence on the organism by impulse electric current of SCENAR device promote the evident positive dynamics of some acute and chronic pathologic processes of the patients with therapeutic, surgery and neurologic profile.

Therapeutic effect of the individually oriented electric impulse influence is formed at the expense of mobilization adaptive mechanisms of the organism and declares itself in the form of anti-inflammatory, analgesic, anti-edema, absorbable, antispasmodic and hypotensive effect and also the improvement of microcirculation and trophism of tissues.

The local reflex mechanisms and generalized reaction of the organism on the influence of external factor take part in the realization of impact.

I. Local effects of impulse current appears by the activation of processes of blood microcirculation and trophism of tissues improvement not only in the zone of local influence (refractory moderate hyperemia), but also in the internals connected with certain zone of skin (by the concept of skin- visceral reflex). By rheovasographic data is confirmed the influence on regional hemodynamics (the increasing of vessels pulse volume, decreasing of vascular tone and improvement of venous drainage), permitting to judge about the microcirculation system condition, showed the positive influence of SCENAR-impact on the degree of vessels pulse volume and the degree of blood oxygenation (for 71% of healthy people). After clinical research we've got data about the normalization and prevention of microcirculatory- circulatory hypoxia of the patients with erosive- ulcerous defect of stomach mucous and duodenum under the SCENAR-device influence on stomach projection area and zones reflex connected with it. On the REG evidence was determined the optimizing impact on central hemodynamics under SCENAR-influence on cutaneous covering of front temporal- parietal region. The improvement of microcirculation forms morphofunctional basis of antiphlogistic, dropsical, absorbable and hypotensive effects of the method.

II. The common influence of SCENAR-impact on the organism appears in activation of nonspecific mechanisms of immune protection and this is proved in following phenomena:

■ The forming of nonspecific adaptive response on the influence, moreover, there are stable predominance of antistress adaptive reaction (activation and training)- 70-82,6 % of healthy people (after the analysis of activity energy metabolism enzyme in lymphocytes, what testifies immunomodulatory influence);

■ Immune-corrective effect of SCENAR-therapy at derived functional defects of immune status of the patients with chronic disease of various duration: the suppression of immune factors, the increasing or decreasing of immunoglobulin, and also IG, A, M, G imbalance, the decreasing of T-lymphocytes (at the expense of the decreasing of suppressors), the decreasing of thymus's function and the increasing of leukocytic-T- cellular index. SCENAR-therapy promotes the

optimization of immunity with the increasing of T-active lymphocytes, normalization of immunoglobulin balance; the normalization of immunity and recovery of correlation of suppressors and healers, the increasing of B- lymphocytes and total immunoglobulin;

■ The effect of SCENAR-influence on common adaptive abilities of the organism appears in optimization of tonus correlation of sympathetic and parasympathetic departments of vegetative nervous system.

■ Using R.Foll's method in research, we see, that SCENAR-influence on healthy people promotes the decreasing of hypo- and hyperergization (what characterizes in proportion increased or decreased tonus of sympathetic system)

■ It also promotes the increasing of normotony (from 17,4% to 56,3% and from 40% to 70% of patients- it depends on the season). The results of clinical research represent that for the patients of neurologic profile with predominance of sympathetic or parasympathetic reactions in initial vegetative tonus, SCENAR-therapy produces positive dynamics according some factors, they are: blood minute volume, Kerdo's vegetative index; the results of gas motional, inocarotid and solar probes indicate the factors of vegetative reactivity; the optimization of vegetative level of physical activity in clinostatic and orthostatic tests.

The indicated influence mechanisms of impulse impact on the organism are realized during the SCENAR-therapy in form of positive dynamics of symptomatology of pathologic processes of different aetiology.

1. SCENAR-therapy promotes the decreasing of arterial pressure when there is a disease of cardiovascular system, the decreasing of metabolic defects when there is ischemic disease of heart, the reduction of pain syndrome at the expense of spasmolytic and analgesic action. The effect of therapy is expressed by the reducing time of treatment, by increasing the duration of remission and decreasing of drug doses.

2. As for patients with pathology of gastrointestinal tract, here SCENAR-therapy leads to complete disappearance or decreasing of subjective symptomatology (pain, gastric indigestion, often after 1st procedure), promotes the increasing of gastrointestinal tract motion activity, quick forming of scar during stomach ulcer of stomach and duodenum. The result of therapy appears by increasing of treatment effectiveness (near 92%, 72%-noticeable improvement), remission is longer, the symptomatology is feebly marked during exacerbation.

3. For broncho-pulmonary pathology (inflammatory and chronic diseases of lungs, bronchus's, including obstructive bronchitis, bronchial asthma) the using of SCENAR-impact brings on decreasing or elimination of inflammatory process, improving of bronchus's drain function, reducing of bronchospasmodic and obstructive components. Therapeutic effect appears through reducing time of treatment up to 4-5 days for acute processes, and up to 10-15 days (sometimes 5-7) for bronchial asthma. The remission duration increases, and seasonal exacerbation fails.

4. For kidneys' and urinary tracts' diseases, during the SCENAR-therapy we can notice the decreasing of inflammatory process, the reducing of pain syndrome, the improving of urinary tracts' drain function. The effect of SCENAR-therapy - is the reducing of treatment period, decreasing of complications and side effects after medicaments.

5. For diseases of support-motor apparatus, there are quick elimination of pain syndrome and dropsic of articular tissues, volume increasing of active and passive motions. The result is – the increasing of treatment effectiveness up to 67%, the extension of tolerance of physical activity within 4,5 times (according to treadmill's test), the increasing of the remission duration.

6. For the patients with surgery pathology of soft and bony tissues, and also the conditions, induced by trauma or operative intervention- the therapeutic action of the method appears through antiphlogistic, dropsical, analgesic and absorbable effect. In comparison with other methods here we see that the relief of pain syndrome is more rapid, including post-operative (during 2-3 days), the reduction of inflammatory process of various origins is also quicker (infection, mechanical damage, operation etc). The application of SCENAR-therapy reduces treatment time after surgery diseases and decreases the amount of complications of pathologic process.

7. For neurologic diseases the effect of SCENAR-influence is determined by its' analgetic action, great improving of peripheric circulation and trophism of tissues in zones of impact, the decreasing of statico-dinamic characteristics. We have certain results about the normalizing influence on functional condition of over segmental department of brain, which is expressed by improvement of central hemodynamics, e optimization of vegetative status and reducing of convulsive activity.

8. As for post-traumatic complications, the great reducing of symptomatology is marked. It's expressed by headache relief, the reducing of pain in area of backbone, the normalization of sleep, the decreasing of flash-back syndrome etc. The effectiveness of SCENAR-influence averages 89,7%, it's proved by statistic data and correlates with the results of psycho-diagnostic tests (СМИЛ, САН, Lusher's test).

CONCLUSIONS

SCENAR-influence provides optimizing impact on relation between central nervous system, immune and endocrine systems, what promotes the normalization of homeostatic factors. The mechanism of its influence is connected with activation of adaptively-compensatory processes with gradual increasing in the process of individually-oriented course impact of functional reserves either of the system on which the influence is directed, or non-specific defense in a whole. This mechanism determines high therapeutic effect of the method for various pathology and makes it long-term in practice of therapeutic, surgery, neurologic and pediatric patient care institutions.