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**Article name: NEUROREGULATORS IN THE TREATMENT OF DISEASES OF ANIMALS**

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Nowadays electric neuroregulators are widely used for the medical purposes. Electric neuroregulators are the devices able to impact an alive organism with the electric signals of a certain form, duration and capacity. Among others they include SCENAR (a self-checking energy-neuro-adaptive regulator of a psychosomatic homeostasis) and DENAS (a two band electric – neuro - adaptive stimulator) [1]. The family of these devices is used both for diagnostics of pathologies, and for treatment of a wide spectrum of diseases.

Upon turning on the device its electronic blocks form impulses with the set amplitude and frequency of recurrence. The external electrodes get a signal consisting of a trapezoid impulse of a negative polarity followed by the forced/induced damped/decaying fluctuations the first half-cycle of which is positive. The form of such a signal is close to biosignals in muscular tissues and therefore it does not cause any negative consequences upon applying. The duration of the first half-cycle of fluctuations is a key parameter for an estimation of a body \_\_\_\_\_ conditions (norm-pathology), connected with a zone of treatment. It also indicates the moment of the treatment/impact discontinuing. With this purpose the forced/induced fluctuations are detected and are treated in a certain way by means of the block measuring the duration and speed of change in the first half-cycle fluctuations. Initially the first half-cycle of fluctuations is allocated from a full signal, then the duration of each first impulse of a series is measured and, finally, the changes in duration which occurred in unit time are evaluated. If the duration of a half-cycle does not change within 5-10 seconds of an impact/applying, that means the projected body is all right, and the device "makes a decision" to stop impact in this spot. And if the duration in the beginning of applying exceeds the duration in the other zones in 1.5-2 times the neuroregulator "comes to conclusion" that there is an inflammatory process in this particular body.

And finally, if the duration of the first half-cycle, on the contrary, appeared to be 1.5-2 times less, than in the other zones, that means that the body undergoes degenerate phenomena. The device can increase quantity of impulses in a series, if the speed of the changes of the first half-cycle duration in 5-10 seconds turned to be less than a set one. As soon as the organism quits reacting to the impact, SCENAR stops electro stimulation.

Inflammatory processes in a mammary gland (mastitis) are extremely diverse in their etiology, and depend on physiological condition of an animal and various external factors. Mastitis results in blood circulations and lymph kinesis disorders, low/poor permeability of capillary membranes and vessels, change biochemical processes in tissues. The day after a double 10-minute SCENAR treatment cows with an acute serous mastitis show the general condition and appetite improvement, the temperature normalization, no pain or swelling of affected lobes of an udder, the qualitative structure of milk improvement. Dairy/milk production/efficiency recovers up to 100 %. Clinical recovery of all sick animals is complete after 3-4 days. There are no relapses the following days.

In the case of the mastitis accompanied by a proventriculus atony, endometritis, the medical effect occurs on the fifth day without the further relapses. The treatment appears to be effective and for an acute catarrhal mastitis and other diseases associated with it, such as endometritis, gastroenteritis, atone, etc. Recovery is complete within three days with a full restoration of the dairy/milk production/efficiency. The use of the traditional methods doesn't lead to the medical effect.

The next day after SCENAR treatment cows with an acute purulent catarrhal mastitis show the general condition and appetite improvement, the temperature normalization, no pain of affected lobes/quarters of an udder, the quality of milk improvement. In the case of the hemorrhagic mastitis the complete recovery occurs on the third day without the further relapses. The clinical recovery after fibrinogen us mastitis takes 10 days, and dairy/milk production/efficiency recovers up to 97% and using traditional methods of treatment up to only 55 %. In case with chronic catarrhal and purulent catarrhal mastitis the animals' healing occurs on the 9<sup>th</sup> day. Dairy/milk production/efficiency recovers up to 95%.

The one-sided therapy on corresponding inflamed lobes for 10 minutes is sufficient under one-sided affection of parts of an udder. When a cow has both right and left lobes of an udder inflamed as well as mastitis with accompanying diseases, it is necessary to treat each lobe of an udder, sacral and lumbar sections in the morning and at night before milking for 3 minutes on each spot.

When using SCENAR to treat purulent- catarrhal endometritis the bioelectric potentials of muscles of a uterus recover fast, spasm of a cervix decreases. SCENAR therapy appears to be effective on acute and purulent- catarrhal endometritis after calving. Animals recover on the 4<sup>th</sup> day (the medicament us method gives effect only in a week). Triple SCENAR application throughout a day on the sympathetic innervations in animals rapidly improves the general condition, temperature returns to norm, inflammatory process in a uterus is blocked, and the motility is normal. In 1.5 hours strong discharge from a uterus begins, in 3 hours discharge becomes mucous/ slimy/ mucilaginous, and in 10-12 hours it stops Duringt rectal inspection the uterus moves to pelvic cavity, and is rigid. The strong inflammation of external genitals is removed in 2.5 hours.

During SCENAR therapy the phagocytic activity of leukocytes increases. On the second day of the treatment the phagocytic index of segment-nuclear neutrophils significantly increases in 3-5 times. An interesting fact to mention that a hyperactivity of leukocytes is high for 10-15 day. Using traditional methods of treatment allows to slightly increase a phagocytic index, and on the 5<sup>th</sup> day the activity decreases to an initial level slightly. Application of SCENAR therapy in many cases will allow to avoid surgical intervention and to significantly reduce the use of medicines to raise therapeutic and economic efficiency of treatment of mastitis and endometritis in productive cows and also to reduce antibiotics adaptation. Researchers found no side effects during SCENAR therapy.

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