
Bio-Cor device – basic principles

Bio-Cor device is using combination of binaural beats music and Extremely High Frequency (EHF) therapy based on individual low frequency of a person measured with Bio-Well device.

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EHF therapy

EHF therapy is using action on the living organism of [electromagnetic radiation](#) of millimeter range (1–10 mm) high frequency (30–300 GHz) of low intensity, and medical practice using effects of the above mentioned action at treatment of different [ailments](#).

Electromagnetic waves of millimeter range are of low penetrative capacity in [biological tissue](#) (0,2-0,8 mm), they are practically fully absorbed by surface layers of the [skin](#) ([water molecules](#), hydrated [albumens](#), molecules of [collagen](#), cells of [connective tissue](#)), without any thermal action. Thus, EHF waves don't act directly on [internal organs](#) of the patient.

Theoretical and experimental basis of EHF therapy was developed in the second half of the 1980s by [Academician Nikolay Devyatkov](#) the leading soviet scientist in the field of high-frequency applications and by [professor](#) Mikhail Golant and their colleagues. They carried out voluminous work dedicated to the study of the effect of [tissue regeneration](#) of living organisms due to the EHF radiation of low intensity. This effect was studied on animals and at clinical studies in a number of USSR medical institutions on patients with different ailments. Accelerated [healing](#) of damaged tissues was stated, as well as subjective sensations of patients.

Authorised agencies of the USSR Ministry of health approved methods used in EHF therapy in [clinical practice](#) and issued positive opinion as for serial production and medical application of EHF therapy apparatus. Nikolay Deviatkov (head of the project), Mikhail Golant, Oleg Betsky and other scholars were awarded Russian Federation State 2000 Prize for “Development and implementation of apparatuses for treatment and functional diagnostics using low intensity electromagnetic millimeter range oscillations”.

Explanation of mechanism of EHF action on the organism

Founders of EHF therapy (Academician [Nikolay Devyatkov](#) and colleagues) explained “high efficiency” of action of 5, 6 or 7,1 mm range waves on the human organism by the fact that exactly on these discrete “resonance” frequencies takes place coordinated management of cells and organs of the organism. EHF signals are generated by [cell membranes](#), these signals accelerate different biochemical reactions, change [enzymatic activity](#), reinforce or weaken intercellular connections. Radiation at these frequencies allow to normalize guiding connections of cells and organs of the organism damaged by disease or ageing. They recognized at the same time that such interpretation is no more than [hypothesis](#). Presently the idea is widely spread that the main mechanism of EHF therapy is action of EHF waves on biologically active points of the skin which is in its essence a variant of [reflexology](#).

Basic data of clinical experiments

Clinical effects, developed along with EHF therapy, can be conditionally divided into general biological, organ non-specific and organ specific categories . Dependence of general biological effects from parameters of EHF radiation, which depends on the [carrier frequency](#), power and radiation dosage was revealed. Organ-specific effects to a larger degree depend on the zone of action and low-frequency modulation of EHF range. It is revealed, that EHF range has hemostimulating, [antioxidant](#) and adapting effects along with cytostatic damage of organs (Kareva N.P., 2007). Increase in proliferating activity of dermal [fibroblasts](#) and improvement in tissular blood flow at radiation of EHF range in patients with dystrophic pathology of articulations (Polyakov A.G., 2004) is described. Trophic influence of EMI EHF range on the structures of [hip joint](#) was discovered, as well as improvement of reparatory processes, decrease of [autointoxication](#), correction of disrupted parameters of hemostasis in rats with combined damage (total radiation at dose of 5 Gy and inflicted cut skin wound) (Kapustina N.B. 2002). Normalizing influence on [bioelectric](#) activity of the brain (decrease of dysfunction signs at [diencephalic](#) level), decrease of manifestation of [asthenia](#) and painful symptoms, optimizing action on reactivity of VNS ([vegetative nervous system](#)) at [exercise tolerance tests](#) (active orthostatic test) were stated (Mashanskaya A.V., 2007).

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Binaural beats music

Binaural audio is a form of music therapy that works on the principle that rhythmic sounds with carefully selected patterns and frequencies synchronize with natural brain rhythms and, by doing so, will actually enhance or suppress a brainwave pattern. This allows a person to selectively bring the mind into specific mental states by stimulating different brainwaves. To listen to a binaural beat, you would use headphones to pipe sound to each ear. Each tone will be at a slightly different frequency, resulting in the "beat" you perceive. The difference in Hertz (Hz) between the sounds determines the effect on brainwaves. Brainwave [entrainment](#) may be achieved when [audio signals](#) are introduced to the brain causing a response directly related to the frequency of the signal introduced, called *binaural beats*. Two tones close in frequency generate a [beat frequency](#) at the difference of the frequencies, which is generally [subsonic](#). For example, a 495 Hz tone and 505 Hz tone will produce a subsonic 10 Hz beat, roughly in the middle of the alpha range. This effect is achieved without either ear hearing the pulse when headphones are used. Instead, the brain produces the pulse by combining the two tones. Each ear hears only a steady tone.

Studies have shown that binaural audio can help with: stress, pain, migraines, endocrine disorders (such as PMS) and behavioral or psychological issues. Other therapeutic suggestions include:

- Resting and Sleep Support: One of the easiest introductions to binaural audio is to play it while you rest, using alpha waves for a nap or delta (or theta) waves for deeper rest. If you missed a night's sleep, taking a nap listening to theta waves (4 to 7 Hz) could help you feel more rested.
- To accelerate healing in the body, try listening to theta waves in 20 to 30 minute sessions throughout the day.
- Meditation: Meditation is made easy with binaural audio. Try listening in the 5 to 8 Hz range (alpha wave).

There are no risks to binaural music, but it is recommended that your attention be undivided whilst listening and that you avoid operating machinery (or driving) while using this powerful healing tool.

REVIEW of Extremely High Frequency EHF-therapy approved by the Russian Health Ministry

- [1. Andrology and Gynecology](#)
- [2. Dermatology](#)
- [3. Cardiology](#)
- [4. Neurology](#)
- [5. Postoperative Therapy](#)
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1. Andrology and gynecology

1. 1. EHF-therapy is used in the treatment of uterine myoma in combination with fibrocystic breast disease. (Tomsk Scientific Research Institute of balneology and physiotherapy Health Ministry, Cancer Research Institute, RAMS)

The methodical recommendations are presented as results of conservative treatment of patients suffering from uterine cancer in combination with fibrocystic breast disease with the use of EHF-therapy.

The application of the suggested method of treatment allows in most cases to reduce the size of myoma uteri amended, to reduce the severity of the symptoms that accompany the course of the disease (bleeding, pain, menstrual irregularities), to achieve improvements in the state of the mammary glands (reduction or disappearance of painful sensations, engorgement and palpatory changes in gland issue) with fibrocystic disease.

METHOD DESCRIPTION

The method of treatment of uterine fibroids in combination with fibrocystic breast disease is in the impact of electromagnetic waves of millimeter wave frequency 7.1 mm, power density 0,5-1.5 mW/cm², which is done on reflexogenic zone of the cervix, the arches and the upper third of the vagina lasting 20-25 minutes since the 5-7 - day of the menstrual cycle in the morning (from 9-12 o'clock), on a course of 10-12 procedures.

INDICATIONS

1. Uterine fibroid size corresponding to 11-12 weeks of pregnancy, with intermuscular location of nodes with a diameter up to 5 cm in premenopausal women of reproductive age and in the absence menomstroragy.
2. Myoma of the uterus (see paragraph 1) in combination with fibrocystic disease of breast of diffuse character.

RESULTS

Under observation 30 women suffering from uterine myoma and mastopathy aged 28-53 years (average age 43) were examined before and after the treatment including: history, gynecological examination, ultrasonography of pelvic organs, vaginal smear microscopy) secretion of immunological parameters of blood (T-and B-cells, immunoglobulin A, G, M NBT test and CEC), histological examination of endometrial aspirates, mammography (women older than 40 years) or ultrasonography of breast (women under 40) consultation with a mammologist .

Before treatment in 28 surveyed cases (94.2%) uterine size consistent with 6-7 weeks of pregnancy, in 2 cases to 9-10 weeks. With 23 women the duration of the disease is set to 5 years, with 1 / 3 of women - 6-12 years. All women had menstrual function preserved, but half of them had a heavy and prolonged menstruation, every tenth woman pointed to a one-time or repeated bleeding.

Screening for the presence of endometrial pathology revealed 37% of patients with glandular or glandular-cystic hyperplasia of the endometrium, 63% of the endometrium corresponded to the menstrual cycle.

Of the 30 patients with myoma 56% had fibrocystic mastopathy, 44% - premenstrual syndrome, stress or involutive changes.

After treatment the patients reduction in the size of the uterus was marked from an average of 7 weeks to 5-6 weeks. According to ultrasound the uterine size amounted to 76.0 +1.7 in length before treatment and 67.5+ 1.6 mm after ($P < 0,05$), the average diameter of myoma nodes decreased from 23,8 to 18,9 mm 1.37 +1.15 mm respectively ($P < 0,05$).

The total number of lymphocytes increased from 27,6% to 35,9 2.38 +4.75% after treatment ($P < 0,05$), the number of T-suppressors was reduced from 10,6 + 1.6 to 9,3 +1,8, also the content of CEC decreased from 175.0 +18.0 OE to 137.2+ 3.8 OE ($P < 0,05$) respectively.

Control of endometrial aspirates were collected from all patients with endometrial pathology in 2-2,5 months after treatment. In 7 (63,6%) patients there was no endometrial hyperplasia and endometrium corresponded to the menstrual cycle with 4 (36,4%), the pattern remained unchanged (in the future they received hormone therapy to conventional circuits).

Also improvement was noted in the mammary glands, reduction or disappearance of pain, engorgement, and palpation of the breast tissue changes in 80% of patients.

The effectiveness of treatment as measured by the direct results was the significant improvement - 23%, improved 70%, without effect - 7%.

1.2. Combining methods of physio-balneotherapy in the treatment of uterine myoma. (Tomsk Scientific Research Institute of balneology and physiotherapy Health Ministry).

A set of conservative treatment for women with uterine myoma, including the appointment of radon baths with physio- factors (EHF and the magnetic field) are represented in the description. Application of complex allows in many cases to stabilize the size or slow tumor growth, to decrease expressivity of symptoms accompanying the disease (bleeding, pain, menstrual disorders, etc.).

The toolkit is designed for physicians, physical therapists, health resort.

METHOD DESCRIPTION

The complex treatment of women with uterine myoma, including the consistent application in the interval of 30-60 min of the EHF - THERAPY (wavelength 7.1 mm, power density 10 mW/cm² of biologically active zones (RP6 - san-yin-jiao and VC 18 - yu-tanX radon baths (indoor radon concentrations 3 kBq / l, t-36, 5 OS, 10-15min) and the alternating magnetic field (in the lower abdomen magnetic induction of 35 mT, 20 - 25 minutes) daily.

INDICATIONS

1. Myoma of the uterus up to 12 weeks of pregnancy with intermuscular or under-peritoneal location of the tumor sites, regardless of patients age.
2. Myoma of the uterus in combination with chronic inflammatory pelvic diseases, in the absence of sacular inflammatory formations with purulency, frequent exacerbations and progressive course of inflammation.
3. Myoma uteri with menstrual cycle malfunction (menorrhagia, metrorrhagia) during the absence of bleeding.
4. The combination of uterine fibroids with climacteric syndrome.
5. Preparing for the upcoming conservative myomectomy.

RESULTS

In treatment there were 200 women with uterine myoma (dimensions respectively from 4 to 12 weeks of pregnancy, the statute of limitations to identify the disease from 2 months to 10 years). Gynaecological examination before treatment revealed an increase in the uterus up to 5-6 weeks in 40%, 7-9 weeks in -20%, 10-12 weeks -20% of cases. Pain on palpation of appendages is with 38%, increase in the size of one or both ovaries in 25%, limiting the mobility of the uterus and adnexa in 42% of women.

All patients felt themselves quite comfortable during the treatment. 80% of women complained have significantly decreased or relived from abdominal or lower back pain, decreased excess menstrual blood loss and decreased duration of menses, menstrual cycle became regular (40%) reduction in the size of the uterus observed in 24% of cases, the vast majority (20%) were women with fibroids the size of up to 6 weeks, the timing of the disease up to 2 years. Pain during gynecological examination met in 10%, appendages increased in size of are soft at 12%, limiting the mobility of uterus and its appendages in 15% of cases.

Results of the rheographic pelvic exam showed an improvement of regional hemodynamics. The quantity of presistolitic waves manifestations polycrotism increased amplitude (4.26 0.3 ohms).

When echoscopy was made on pelvic, decrease in the size of the uterus in 20%, normalization of the size and structure of the ovaries in 12% of patients was observed.

We traced the fertility function in 20 women suffering from infertility. Within 1 year the pregnancy occurred in 4 patients.

Thus, the complex conservative treatment of uterine fibroids improves regional blood circulation, reduces tumor size, supports normalization of menstrual cycle, reduces the amount of blood loss during menstruation.

The effectiveness of treatment by immediate results evaluated as follows: "significant improvement" - 20%, an improvement of -46%. "No change" -34%

1.3. Integrated physiological balneotherapy menopausal disorders in men. (Tomsk Scientific Research Institute of balneology and physiotherapy Health Ministry).

METHOD DESCRIPTION

Method of complex physio-balneotherapy in men andropauze, including EHF-therapy in the mode of bio-resonance, the use of radon baths, electric stimulation, electric stimulation of the prostate, manual massage of reflex zones, exercise therapy, rational psychotherapy.

INDICATIONS

1. Climacteric disorders in men (andropauza) in combination with chronic prostatitis in remission.
2. Climacteric disorders in men (andropauza) combined with benign prostatic hyperplasia 1 stage.

RESULTS

Under the supervision of andrological clinic of the Tomsk Research Institute of balneology and physiotherapy 92 patients aged from 48 to 68 years with clinical manifestations of andropausal disorders received treatment.

About half of the patients suffered from benign prostatic hyperplasia 1 stage with the volume of the gland did not exceed 45 cm and the concentration of prostate-specific antigen in serum 4,0 ng / ml.

Within 2-3 weeks after the start of treatment, patients noted increased efficiency, improved mood and memory, increased muscle tone and normalized sleep. More than half of patients reported increased libido, strengthening and restoration of spontaneous and adequate erections, normalization of orgasm. Since this group of patients accounted for the bulk of men in older age groups, as the accompanying diseases they have identified coronary heart disease, hypertension and other diseases of the circulatory system appropriate for the pathology of subjective and objective symptoms. This recovery of erectile function caused a favorable psycho-emotional background, and possibly prevention of heart attack and hypertensive crisis.

As a result of treatment with the complex reduction of pain and dysuric syndrome, improvement of sexual function, which was characterized by increased libido, erections adequate and normalization of time coitus was observed. With finger prostate examination a decrease of pain from the swelling, normalization of its tone was noted. In analyzes of prostatic secretion normalization of leukocytes and increase of lecithin grains was observed.

The index of climacteric disorders before treatment was 12,5.1,0 and after treatment 8,9.0,55.

The suggested complex of physio-balneotherapy in men andropauze allows to normalize erectile function, as well as eliminate the psychopathological, vasomotor and physical disorders, the index of climacteric disorders has decreased in 1,4 times, and the immediate effectiveness of treatment was 76%. Pathological physio-balneoreactions were not observed. The complex allows to restore sexual health and ultimately improve the quality of life of men in older age groups.

1.4. Restoration of sexual and reproductive health in men suffering from excretory-toxic infertility on the stage of resort treatment. (Tomsk Scientific Research Institute of balneology and physiotherapy Health Ministry).

In this manual address to physicians the issue of diagnosis, classification, and treatment of male infertility is reflected. Psycho-physiological condition of patients and its dynamics under the influence of complex physio-balneotherapy, including short-wave therapy on the stage of rehabilitation is estimated.

This manual is intended for doctors physiotherapists, health resort practitioners.

METHOD DESCRIPTION

The method of evaluating psychophysiological adaptation of men with secretory-toxic infertility at the stage of rehabilitation on the scale of reactive personality anxiety Charles D. Spielberger, L. Hanin (1976) at the beginning, middle and end of the course of physio-balneotherapy followed by a rational psychotherapy. The comprehensive treatment and rehabilitation program for patients with impaired reproductive function, which provides an assessment of reactive anxiety and the

subsequent correction, contributes to a higher level of adaptation of patients to treatment and daily life.

INDICATIONS

Secretory-toxic infertility; asymptomatic bakteriospermiya.
 Chronic prostatitis in remission, complicated with reproductive and copulative violations.
 Chronic prostatitis at the stage of moderate deterioration.
 Congestive prostatitis (Posner).
 Atony of prostate.
 Neurovegetative prostate.

RESULTS

The proposed method was applied in 30 patients with secretory-toxic infertility, aged between 23-42, suffer from this disease from 1 to 8 years.

2. DERMATOLOGY

2.1. The use of EHF therapy in complex treatment of various forms of psoriasis. (Tomsk Scientific Research Institute of balneology and physiotherapy Health Ministry, Siberian State Medical University).

In the methodical recommendations the results of complex treatment of psoriatic disease (cutaneous and articular forms) with the inclusion of EHF-therapy are presented. This method helped to improve the efficiency of treatment and shorten the period of exacerbation.

Guidelines are intended for dermatologists, rheumatologists, physiotherapists, health resort therapists and can be used in physical therapy offices, medical and spa health facilities and specialized clinical hospitals and clinics.

INDICATIONS

Psoriasis vulgaris, progressive and stationary phase of the disease, psoriasis arthropica, high and average degree of inflammatory activity.

RESULTS

Clinical observation was performed in the clinic of skin and venereal diseases SSMU for 162 patients with psoriasis. Upon completion of the course of EHF-therapy anti-inflammatory, analgesic, regenerative effect, absorption of available infiltrations was observed.

Treatment efficacy was assessed using the index of PASI. A positive therapeutic effect was considered in the case of reducing performance index PASI of 50% or more of the original value. Effectiveness of therapy was 91%.

The table shows the duration of clinical effect of EHF-therapy in combination with traditional treatment. There is reduction of the number of early (during the first 6 months after treatment), recidivation at 23,3%.

Table 1. Terms of psoriasis treatment

Terms of exacerbation of psoriasis in an advanced stage after combined therapy with the use of EHF-radiation and without the complex treatment of EHF-therapy.	Complex treatment with EHF-therapy		Traditional treatment	
	exacerbation	%	exacerbation	%
Within 6 months	3	10	7	33.3
From 6 months up to 1 year	13	43.3	10	47.7
From 1 year to 2 years	14	46.7	4	19.0
Total	30	100	21	100

3. CARDIOLOGY

3.1. EHF-therapy in the preparatory period of surgical treatment of coronary heart disease. (Tomsk Scientific Research Institute of balneology and physiotherapy Health Ministry).

METHOD DESCRIPTION

A method of treating patients with coronary heart disease (CHD) in the preparatory period to the operation of aorto-coronary bypass surgery, including the effects of electromagnetic radiation of EHF.

INDICATIONS

CHD, stable angina I - IV FC, NC 0-N B stage, arrhythmias (ventricular arrhythmias 1-4a graduation by B. Lown, M. Wolf; and supraventricular premature beats) and conductivity.

Coronary heart disease, progressive angina.

Coronary heart disease with concomitant diseases (hypertension I-II., chronic bronchitis, osteochondrosis of the various divisions of the spine).

RESULTS

Conducted observations on 80 patients with ischemic heart disease with stable angina FC III-IV and progressive angina (classification VKNTS Academy of Medical Sciences), chronic heart failure I-II, rhythm disturbances in the form of ventricular arrhythmias 1-4a graduation by W. Lown, M. Wolf and supraventricular beats, with concomitant diseases (hypertension I-II, chronic bronchitis, osteochondrosis of the various divisions of the spine). All patients were men, average age was 53.2 years. The whole observation period is divided into preoperative (10-15 days) and perioperative (intraoperative and postoperative, 7 days).

In carrying out short-wave therapy on a background basis of drug therapy (long-acting nitrates, calcium antagonists, blockers, antiarrhythmic drugs) in the preoperative period (inpatient treatment in 7-10 days) the following effects were observed: reducing the average number of angina attacks per day at 31, 5% and reduction in the average amount of nitroglycerine in a day by 43,6% compared to baseline, a decrease in the average number of episodes of pain of myocardial ischemia (PMI) to 27,2% and "dumb" (BAT) to 21,2%, total duration of BIM. to 34,0%, BAT. by 21,4%. With patients from a control group receiving only basic medical therapy, the number of angina attacks and nitroglycerine decreased by 14.2 and 20.1%, respectively, the number of episodes of PMI and BAT decreased by 18,4 and 16,2% respectively.

Antiarrhythmic effect of EHF-therapy was shown to reduce the average number of VPBs per night on 30,7%, supraventricular. 26% relative to baseline data, these rates with patients of the control group decreased by 23,2 and 17,1% respectively. Hypertension effect of EHF-therapy was established in the treatment, a decrease in BP variability manifested as in the daytime and at night and also sedation. The course of preoperative short-wave therapy anticipated the state of readiness of the myocardium to arrhythmias, which usually occur under the influence of reperfusion stress, which was confirmed by an independent restoration of sinus rhythm in 46% of patients, decrease of frequency of arrhythmias in the perioperative period by 33% compared with the control group. Process improvement in myocardial metabolism demonstrated as lack of perioperative myocardial infarction. Study of remote results showed that within 12 months after surgery, angina significantly more likely (14%) occurred in patients with CHD, which did not receive emitting short-wave therapy in the preoperative period. Myocardial infarction and heart failure was progressively observed only in patients of control group.

Thus, a tailor-made course of short-wave therapy to stabilize the clinical condition of patients with CHD in the preoperative period, which contributed to the success of CABG surgery with minimal complications and a better prognosis of late postoperative period.

3.2. Electromagnetic radiation of millimeter range in the rehabilitation of patients with coronary heart disease. (Tomsk Scientific Research Institute of balneology and physiotherapy Health Ministry).

The methodical recommendations are presented as the results of treatment of patients with coronary heart disease (CHD), with the inclusion of electromagnetic therapy millimeter (mm-therapy) has antianginal, antiarrhythmic and anesthetic and sedative effects. Proposed of MM-Differentiated application of mm-therapy treatment depending on the wavelength of -5,6 or 7,1 mm was made.

Guidelines are intended for doctors - cardiologists, physical therapists, cardiological spa rehabilitators, cardiologic hospitals and polyclinic networks.

METHOD DESCRIPTION

Dosing range for the treatment for coronary heart disease, including drug therapy and the impact of electromagnetic waves of length 5.6 mm and 7.1 mm in the patient's skin (with the power flux density of 5-10 mW/cm²), characterized by additionally appointed conifers bath 10-12 in a course through the day, and the impact of electromagnetic waves produced at the left paravertebral area C

46 0 44 0-D for 15-20 minutes a day with a total of 10-12 procedures per treatment. The method is used differentially: for high blood pressure is the impact of electromagnetic waves with a length of 7.1 mm, and with normal blood pressure - 5.6 mm.

INDICATIONS FOR MM-THERAPY USAGE WITH A WAVELENGTH OF 5.6 MM

Assigned to patients with normal or low blood pressure

CHD, stable angina of FC I-IV, NC 0IIA stage,

CHD, stable angina of FC I-IV, the NK 0-IIAst, in combination with cerebral atherosclerosis

Coronary heart disease in the convalescence period, stable angina, I-III FC, NC 0-IIA stage

CHD, stable angina of FC I-III, ventricular premature beats (I-III grades B. Lown), M. Wolf, NK 0-IIA st.

INDICATIONS FOR USE MM-THERAPY WITH A WAVELENGTH OF 7,1 MM

Assigned to patients with high blood pressure

CHD, stable angina of FC I-IV, the NK 0-IIA stage, in combination with hypertension I-II stage.

CHD, stable angina of FC I-III, NC 0-IIA art. in combination with cerebral atherosclerosis.

Coronary heart disease in the convalescence period, stable angina of FC I-III, NC 0-IIA stage in combination with hypertension I-II stage.

CHD, stable angina of FC I-III, arrhythmias (ventricular premature beats (I-III grades B. Lown, M. Wolf) and conductivity, NC _ .0-IIA st. In combination with hypertension I-II.

RESULTS

Clinical studies were conducted in the cardiology department of the Tomsk Research Institute of balneology and physiotherapy. 75 patients with coronary heart disease (CHD), stable angina, I-IV functional class (FC) with heart failure 0-IIA stage. 39% of them suffered a myocardial infarction (prescription one or two months) were under observation.

In cases of MM-therapy the following effects were observed: antianginal - at a wavelength of 5.6 mm reduction in angina attacks occurred to 1,5 times, at a wavelength of 7.1 mm. - to 2,5 times; anesthetic - the disappearance of false angina and their intensity reduction in MM therapy, with a wavelength of 5.6 mm in 85% of patients, and at a wavelength of 7.1 mm - in 87%; antiischemic, antiarrhythmic - according to the daily ECG to 1.5 times decreased number of episodes of silent myocardial ischemia in 1,7-2,0 times reduces the number of extrasystoles per day.

In patients with cerebral nature of the complaints reduction in both groups, 90% of patients were found. All patients had positive dynamics to the end of treatment according to the electroencephalogram: smoothing interhemispheric asymmetry in the amplitude. Data analysis rheography cerebrovascular showed that the effect of MM-therapy with a wavelength of 5.6 mm causes a favorable change in the basin of the middle cerebral and basilar artery.

After treatment, the threshold power at veloergometry increased by 26% in patients with MM-therapy with a wavelength of 5.6 mm and 31% - in the appointment of MM-therapy with a wavelength of 7.1 mm.

About half the patients noted drowsiness or falling asleep to the procedure of MM-therapy, sometimes note a feeling of "lightness." By the end of treatment patients decreased the tone of parasympathetic nervous system, with the majority of patients complaints of neurotic character diminished by the end of treatment.

Using a new method of MM-therapy expands the indications for the use of this physical factor. Treatment of patients with CHD is possible, including after myocardial infarction, stable angina FC III-IV, heart failure 0-IIA stage with cardiac arrhythmias, and conduction of arterial hypertension I -II and cerebral atherosclerosis.

4. NEUROLOGY

4.1. The use of EHF therapy in the complex rehabilitation of patients with exogenous-organic brain damage. (Tomsk Institute of Mental Health, Tomsk Regional Psychiatric Hospital, Tomsk Research Institute of balneology and physiotherapy MH RF)

DESCRIPTION METHOD

Complexes of rehabilitation of patients with exogenous-organic brain asthenic (F06.6), anxiety (F06.3), affective (F06.4), post-komma disorders, depending on the main symptom of targets: astenoagripic, astheno-depressive, worried depression and others with the inclusion of individualized EHF-therapy.

INDICATIONS

1. The organic asthenic disorder.
2. Postkommotion syndrome.
3. Asthenic conditions regardless of etiology with adynamic-cephalgic, dissomnic, vegetative manifestations. The degree of cerebro-organic disorders may be different depending on the duration of the disease and varies from mild frustration expressed by the attention and memory in the preservation of intelligence and critical abilities to increased mental fatigability, anesthetic degradation processes, reduced mental productivity.
4. Organic affective disorder with depressive-hypochondriacal, anxious-depressive, hypochondriacal, distimic, astheno-depressive syndromes, depressive with hysterical inclusions.
5. Patients with a diagnosis of organic anxiety disorder with anxiety-phobic, anxious-hypochondriacal, cardiofobic, phobic with disorders.

RESULTS

Clinical observations were conducted for 133 patients with exogenous-organic brain damage (traumatic, vascular, infectious-toxic and complex genesis). The main group included 84 people with EHF-therapy. The control group included 40 patients who were only on the medication.

In patients with organic asthenic disorder headache and dizziness, fluctuation of blood pressure was measured immediately after the session. By the 5-6 procedure (controlled on the 10-12 day) blood pressure stabilized with more than 75% of patients, headache was less intense and fast passing. Asthenic manifestations disappeared gradually. By the 5-7 session emotional lability, hyperesthesia disappeared, night sleep was restored with the first procedures already. Some patients fall asleep during the session. Patients from the main group in comparison with the control group had less tranquilizers and antihypertensive medications.

Analysis of the dynamics of the initial value of the sum of points on a scale of MADRS showed that in the main group in patients with organic affective disorder improvement score was significantly more pronounced ($P < 0.05$) than in the controls. By the 10th session the reduction score also was more significantly ($P < 0.001$) pronounced in the main group. Depressive feelings became labile, mood equalized after improvement of general condition, headaches disappeared. The patient shows faith in treatment, hypochondriac mood was corrected easier. The doses of antidepressants and tranquilizers, as compared with the control group were reduced without further degradation of patient's condition.

Dynamics of the total score on anxiety in patients with organic anxiety disorder showed that a significant decrease on the Hamilton scale was noted at the 5th session in both groups, but the 10th detected a statistically significant difference ($P < 0.05$) between the groups. Thus, the interictal period has been more favorable on the background of EHF-therapy: anxious waiting decreased, phobic feelings deactualize - fear of heart attack, stroke, re-attack, fear of death. Frequency of adverse reactions from taking psycho-farmakopreparations in the form of lethargy, drowsiness, impaired concentration reduced and slowed down. The main group patients did not need to build doses compared with the control one. It should be emphasized that the decrease in intensity and regression of serebro-stenic, cephalgic violations against the background of EHF-therapy reduced the anxiety, agitation in patients, delaying phobic and anxious feelings.

In the study of the strain index the dependence of efficiency of treatment to the initial value was determined. A significant effect of EHF-therapy is provided in case of high initial level of tension index, as well as anxiety. Conducted neuropsychological study on the background of EHF-therapy in patients with exogenous-organic brain revealed facilitation of memorization and improvement in attention during the research.

Thus, the research has shown that the majority of patients with exogenous-organic brain damage in the complex treatment with EHF-therapy show significant improvement in clinical condition. As a result, rapid decrease in severity of serebrai-stenic affective, cephalgic vazovegetative syndromes. In addition, the use of EHF-therapy reduces the necessary dose of psychotropic drugs, which, in turn, reduces the frequency of side effects.

4.2. Millimeter waves in the treatment of patients with neurological manifestations of osteochondrosis. (Tomsk Institute of balneology and physiotherapy MH RF)

METHOD DESCRIPTION

The impact of millimeter waves to obtain analgesic and trophic effects, and the impact on functional activity of the affected nerves and innervated muscles.

INDICATIONS

1. Radicular syndromes of spinal osteochondrosis with symptoms of irritation and
2. Compression against the background of significant pain syndrome and without it.
3. Reflex syndromes of spinal osteochondrosis with musculo-tonic and vegetative-vascular manifestations in acute, subacute stages and stage of incomplete remission.
4. Chronic myeloid, radiculopathy.
5. Condition after discectomy in the early (less than 1 month) and late postoperative period, including the scarred adherent epiduritom.
6. Neurologic manifestations of spinal osteochondrosis with concomitant somatic pathology (osteoarthritis, hypertension, gastroduodenitis, peptic ulcer of the stomach and duodenum).

RESULTS

The observations were carried out on 156 patients with neurological manifestations of osteochondrosis, including postoperative discectomy (54 people) aged from 19 to 70. Radicular syndromes were found in 49% of cases, among reflex syndromes musculo-tonic and vegetative-vascular disorders were more prevalent. In 68% of cases along with neurological manifestations of osteochondrosis the presence of concomitant diseases (hypertension, coronary heart disease, osteoarthritis, chronic gastritis, peptic ulcer of the stomach and duodenum, chronic adnexitises) was noted.

A decrease in feelings of burning, numbness, cramps, pain, chill and sweating limbs was noted. The patients noted a decrease in stiffness in the joints of the spine and the limbs, muscular weakness. A course of EHF-radiation using a new method of caused regression of all the major symptoms of the disease. Pain significantly decreased in 98% of patients, disappeared in 56%. In the course of treatment not only the quantitative characteristics of pain, but also qualitative have changed: the pain lost its burning, cutting, radiating character, became tolerant, of aching, dull sensations character. In comparison groups the pain syndrome decreased in 70% of patients.

In assessing the dynamics of clinical manifestations in all groups there was marked regression of musculo-tonic, vegetative-vascular disorders, symptoms of tension, sensory and motor disorders. Measuring of the skin temperature in the zones of innervation of the affected root showed significant decrease in termo-asimmetry (before treatment 3,0-4,0., after treatment 0,6.0,1.). Under the influence of EHF-waves a significant positive trend of the amplitude (with 0,9.0,75 to 2,38.1,07 mV) and speed (with 42,5.5,66 to 53,5 5.06 m / s) for parameters of the functional state of nervous-muscular system in the electro-neuromiograficheskoy survey was recorded. Changes in rheovasography also indicates an improvement in regional hemodynamics under the influence of MM-waves.

In cases of related osteoarthritis decrease in pain, swelling of affected joints, decreased stiffness, increased volume of active pain-free movement has been a marked, gait was restored. In patients with concomitant gastroesophageal pathology, erosive gastritis and peptic ulcer at endoscopic controls not only the reduction of pain and dyspeptic syndromes was marked, but also reduction in the size of defects in mucosal.

4.3. EHF-therapy of patients with vertebrogenic neurodystrophic pseudo cardiodynia (middle scalenus syndrome). (Tomsk Institute of balneology and physiotherapy MH RF)

INDICATIONS

Middle scalenus syndrome with moderate, severe and pronounced pain manifestations with the debut of the disease as well as with the chronic recurrent course.

RESULTS

68 patients with the syndrome of middle scalenus got treatment. There was a positive dynamics of clinical symptom: reduced shoulder pain by 58%, pain zones of neuro-osteofibroz reduced at 71 - 74% (middle scalenus, the front-upper scapular pain point, the middle and lower portions of the anterior serratus muscle), a reduction in neurovascular disorders at 31 %, increase in the tilt and rotation of the head in a healthy side of 17 and 12% respectively, the development of sedative effect on the 4-day treatment.

There was a positive dynamics of paraclinical indicators: increased amplitude of the M-response serratus anterior of the affected side by 2,4 times, indicating an increase in systolic flow of the affected area and improvement in the functioning of the studied neuro-muscular system. Positive dynamics was observed from the indices of the conduction of biologically active points: the patient's affected side (Nv2, Nvlb, Aglc, Prl, Pr2): patients normalized the values for mezora and average daily deviations from 50 y.e. in the conduction.

Based on the evaluation criteria for patients with syndromes of spinal osteochondrosis "significant improvement" was noted in 28%, "improvement". 50%, "slight improvement". at 18%. Thus, the effectiveness of treatment of this method was 96%.

4.4. Anti-stress therapy with a background resonance radiation. (Center for Adaptation of Medicine Health Ministry (Orenburg), UAB Medical Technical Center Academy-Siberia (Novosibirsk))

DESCRIPTION

The method of background resonance radiation therapy for relieving pain, preventing and reducing violations of the cardiovascular system, digestive system, reducing the neuro-psychological overload is fulfilled by the use of the apparatus with the original source of removable low-level electromagnetic radiation of high frequency that allows the therapy on background levels of radiation exposure due to the resonant frequency of cell structures and to achieve effective therapeutic results in the application of micro-doses of exposure. The method helps to reduce the duration of treatment and significantly reduce the dose of drugs.

INDICATIONS

Pain, stress syndrome.

RESULTS

The study included 74 patients (46 men and 24 women) aged from 5 to 63 years. 1-st group consisted of patients who have had an accident and taking a course of adaptive therapy, as well as apparently healthy athletes who have stress simulated by special loads. The control group consisted of patients of the same categories receiving treatment in the "placebo".

The first group experienced a more rapid regression of the disease in patients who have had an accident, an average of 4-5 days.

According to the cardio-intervalometer stabilizing the sympathetic and parasympathetic autonomic nervous system at a normal level occurs much earlier in the first group of patients who suffered a traffic accident than patients of the second group (on average 2-3 days), as well as in athletes of the first group than in the second group of athletes (2 hours earlier). Performance parameters of representative points of R. Voll in patients of the first group who underwent a traffic accident, had normalized 3-4 days earlier than patients of the second group, and among the athletes of the first group in 30-40 minutes, while the athletes of the control group. In 2-3 hours. Studies have shown that the method of therapy of stress syndrome with background resonance radiation is effective,

safe, convenient and easy to use, is a complementary tool for drug therapy, significantly reduces the dose of consumption of medicines.

5 Postoperative therapy

5.1. EHF-therapy of post-resection disorders in patients with radical surgery for gastric cancer at a health resort stage of rehabilitation. (Tomsk Institute of balneology and physiotherapy Health Ministry, SSMU, Cancer Research Institute TSC RAMS)

INDICATIONS

1. Post-resection violations in c with the combination with pathology of the liver, pancreas and intestine.
2. Gastritis, anastomosis, esophagitis, erosive effects of mucosa.
3. Diseases of the operated stomach mild to moderate severity, especially of functional genesis, hypoglycemic and dumping syndrome mild to moderate severity, the syndrome of afferent mild to moderate severity, dyspeptic syndrome, asthenic syndrome.
4. Diseases of the operated stomach without signs of recurrence and metastasis in a period not earlier than one month after the radical operation.

RESULTS

The studies conducted in patients with radical surgery for gastric cancer at different postoperative time with the study of long-term results over a year and 5 years. Developed medical complex has improved the secretory and motor function of the operated stomach and remove the inflammation of the mucous membrane of the gastrointestinal tract, improve the functional state of pancreas and liver, restore water and electrolyte exchange and the sharing of trace elements, improve the initially lowered immunity. As a result of regenerative therapy the frequency of post-resection violations decreased, thereby improving the quality and length of life of cancer patients. The therapeutic effect lasted for 6-12 months, thereafter becoming weaker. Judging by the late results, it is necessary to repeat treatment complexes in 12 months to maintain a stable therapeutic effect.

5.2. Treatment of women after surgical interventions on the uterus and its appendages with the use of EHF-therapy. (Tomsk Institute of balneology and physiotherapy MH RF)

METHOD DESCRIPTION

The complex of rehabilitation was given to women who had undergone surgery on the uterine appendages (complex 1) and the operation of amputation of the uterus on the uterine fibroids (complex 2) and consisted of the impact of electromagnetic waves EHF.

Complex 1. EHF-therapy is conducted in the morning, after 1-1,5 hours after breakfast in the supine position on the couch. EHF-therapy can be performed:

1. in monotherapy.
2. in combination with applications of therapeutic mud $t = 38-39$ 5.to "pants zone" With or peat 40-42.C daily for 20 minutes, N10 (ovarian function is not changed or reduced, pronounced adhesions, pain).

Complex 2. EHF-therapy is conducted in the morning, after 1-1,5 hours after breakfast in the supine position on a couch or sitting in a comfortable position for the patient. EHF-therapy is conducted in combination with pine 37,5 C baths. C, for 10 minutes daily, # 10.

Indications for complex 1

Conditions after surgery for: ectopic pregnancy; salpingolizis, tuboplasty
In the period from 7 days to 6 months postoperatively (1 or 2nd stage of rehabilitation).

Indications for complex 2

Condition after amputation surgery of uterine fibroids about the conservation of appendages on one or both sides of women of childbearing age in the period from 2 months after surgery: the presence of vegetative-neurotic disorders mild to moderate severity and prevalence of phenomena hypersympathicotonia in the presence of complex psycho-emotional disorders moderate severity, characterized by the phenomena of psychological maladjustment, increased reactive anxiety and emotional lability, in the presence of concomitant dishormonal myocardopathy.

RESULTS

Complex 1, 120 patients after operations on the appendages of the uterus (about ectopic pregnancy, stomatoplastics, salpingolizis).

EHF-therapy after surgery on the uterine appendages was pathogenetically substantiated method, because as a result of studies anti-inflammatory, analgesic, anti-commissural effect was revealed, regional blood circulation and the menstrual cycle normalized. Rheography of pelvic revealed improved blood flow. Anacrotism (0,15 0,1 sec) and the decaying limb (0,61 0,3 sec) have a tendency to normalize, and policrotiya and presistolic waves occur in isolated cases.

Sonography of pelvic organs revealed the displacement of the uterus toward the operated appendages in 40% of women before treatment and 10% after treatment, indicating a decrease in cicatricial-adhesive changes. Increase of the ovaries size compared to the baseline decreased from 33,3 to 8,4% of cases.

The effectiveness of treatment immediately after the course was 86%, after 6 months 50%.

Complex 2 was received by 70 patients (28-42 years) after the amputation of uterine fibroids with the conservation of one or both ovaries.

Our studies showed that the rehabilitation of women with short-wave therapy helps to maintain the functional activity of the ovaries, prevents the development of adhesions in the abdominal cavity, eliminates the symptoms of dysfunction of the autonomic nervous system, normalizes psychoemotional status. These treatments can be used for 1-2 stages of rehabilitation.

Positive shifts have been identified in the functional activity of the hypothalamic-pituitary-ovarian system, reflected in higher levels of progesterone with $7,84 \pm 4,6$ to $15,36 \pm 4,8$ nmol / L ($P > 0,05$) and at the same time in the increase of phase II duration of the cycle from $9,5 \pm 0,96$ to $11,4 \pm 0,99$ days. After treatment, the level of increase of basal temperature relative to phase I of the menstrual cycle was 0.5. C. Moderate estrogenic insufficiency persisted in 34% of women and kariopicnotic index increased from 47 to 52%. FSH levels decreased from $13,06 \pm 0,53$ to $9,85 \pm 0,55$ IU / l before and after treatment, respectively, the ratio of LH / FSH was 0.7. The detected changes indicate a trend towards normalization of the remaining ovary and estrogen saturation of the organism under the influence of complex treatment, which is evidence of pathogenetic character of proposed method of rehabilitation.

Efficacy of treatment of EHF-therapy in combination with pine needle baths was 90% for immediate results. Conservation of the therapeutic effect within 12 months was 76%.

6. Internal Medicine

6.1. The use of EHF radiation in various diseases. (Tomsk Institute of balneology and physiotherapy Health Ministry, ZAO NPP "Biofactors")

METHOD DESCRIPTION

The impact of electromagnetic EHF radiation to optimize rehabilitation therapy for patients with acute and chronic somatic diseases.

INDICATIONS

1. Peptic ulcer and 12 duodenal ulcer.
2. Chronic bronchitis, bronchial asthma.
3. Complications of diabetes mellitus type 1: micro-and macroangiopathies, steatosis, cataracts, nephropathy, cardiopathy.
4. Hypertensive heart disease.
5. CHD, angina I-II FC.
6. Liver disease (cirrhosis, steatosis, viral hepatitis).

As noted above, in the implementation of the therapeutic effect of EHF-therapy involving general biological or adaptive mechanisms. This explains the ever-expanding range of nosological forms and syndromes, at which the positive effect of EHF-therapy is achieved.

RESULTS

The given methodology was used by the authors in the past 5 years. Treatment efficacy was assessed by vegetative resonance test (ART), kineziolo-vironmental testing, as well as using software and hardware "NA-Psychotest", "Poly-Spectrum", "Biofeedback using the method of electro-diagnostic R. Voll" and other clinical and instrumental methods.

The following effectiveness of the treatment was noted: in gastric ulcer and 12 duodenal ulcer epithelization of the ulcer occurs in 98% of patients, duration of remission for more than 5 years - at 79%. With obstructive bronchitis and bronchial asthma relief of bronchospasm was noted in 87% of patients, duration of remission of up to 2 years in 68%. In hypertension, persistent BP reduction on the background of decreasing doses of antihypertensive drugs 82%, stabilization of the disease 89%, durability of the treatment effect of 1 year and more 75%. In CHD, angina FC I-II: reducing the frequency of anginal attacks 82%, reduction in daily dose of nitrate 94%. Liver diseases (cirrhosis, steatosis, viral hepatitis): normalization of biochemical liver function 82%, normalization of body structure (according to ultrasound and computed tomography) 58%, durability of the effect of 1 year or more 73%. With allergoses: effectiveness of treatment 84%, durability of the effect of 1 year or more 62%. In diabetes mellitus type 1 (micro-and macroangiopathies, steatosis, cataracts, nephropathy, cardiopathy) 13% of treated children have stopped (under the supervision of endocrinologists) insulin injections on a background of stable compensation of diabetes, confirmed by laboratory and clinical methods of examination in 89% of patients; regression of complications of diabetes, stabilization of diabetes - 96% cases was indicated, durability of the effect of 1 year or more 45%.

7. Physical rehabilitation

7.1. Restorative treatment with physiotherapeutic factors for patients with Lyme borreliosis. (Tomsk Institute of balneology and physiotherapy Health Ministry).

A method of rehabilitation of patients with tick-borne encephalitis (TBE) and ixodid tick-borne borreliosis (ITB) with a background resonance radiation (BRR) was presented in the manual for physicians (SSMU approved in 2003) This recording as BRR information-wave spectrum of radiation of autozooid made of physiological and pathological discharges of the patient. This method is applicable in the early stages of the encephalitis and ITB, which improves the effectiveness of treatment and avoid complications of encephalitis and ITB. The novelty of the research was confirmed with a patent.

INDICATIONS

1. Acute, subacute and chronic virus carrier antigen complex TBE;
2. Subacute and chronic ITB;

Material and technical completion of the method

1. Noise UHF-transmitter (crystal Gunn diode) device EHF-IR therapy "Stella-1". Russia, the State Register # 95/311-199, LLC "Spinor";
2. Complex homeopathic drugs by Biologische Haylmittel Heel.

TECHNOLOGY

The method is carried out in 2 stages:

At the 1st stage of the treatment the program is compiled with the selection of appropriate homeopathic remedies and record of their spectrum of electromagnetic radiation on the carrier DFI. Homeopathic remedies are selected individually for each patient using the method of electro-diagnostic R. Voll. The following homeopathic remedies are used: Terebrum compositum N, Discus compositum, Populus compositum SR, Echinacea compositum C Lymphomiozot, Spigelon. Writing on the DFI (which is a crystal of a Gunn diode) is carried out according to the instructions of apparatus "Stella-1".

Autozooid - a sample (feces, urine), which present antigens TBE and the ITB. Information from wave characteristics of autozooid are also recorded on BRR carrier.

Step 2: conduct therapeutic procedures through the application of BRR to the biologically active points (BAP) from top to bottom with the front surface of the body on the back (in men), with the back surface of the body on the front (in women), as follows: T-14 , J-14, V-13, V-14, V-15, V-18, V-19, V-20, V-21, V-22, V-23, V-25, V-27, V -28. Treatments are available daily, total exposure is about 30-40 minutes. Overwriting of the information is carried in 3 days, as further crystal Gunn diode is deactivated. Before each subsequent session previous record is removed by the inclusion of non-contact BRR.

Effectiveness of Method.

The study was performed in 30 patients aged 12-61: 15 people with mixed infection (encephalitis and ITB), 5 people with TBE with recurrent antigenemia of TBE virus, 10 people with ITB, a chronic course. The disease duration ranged from 2 months to 8 years. Treatment with BRR was carried out after application of the traditional schemes of pharmaceutical products, as well as monotherapy. All participants underwent the following studies of the blood tests: PCR on RNA of the TBE virus, ELISA of blood, NRIF(indirect immunofluorescence) for antibodies to the antigen of TBE virus and Borrelia, as well as functional studies of representative BAP according to the method of R. Foll. All patients recovered were control examinations after 1 month, 3 months, 6 and 9 months after treatment. Long term results - in 6 months. During the treatment all patients showed an increase of motor activity, decrease the intensity of headache and arthralgia, normalization of sleep. In 4 patients with mixed form of TBE and ITB rehabilitation was carried out in the acute period and during the first day there was an intensification of some symptoms of fever, headaches and joint pains, weakness. In the analysis of specific blood tests growth of specific antibodies was fixed in the blood reactions of ELISA and NRIF in response to increasing antigen TBE. When analyzing the results of rehabilitation it was revealed that the BRR-therapy improves the clinical-laboratory and functional parameters and allows to achieve the most complete remission in the treatment of neuro tick infection. This method of physical rehabilitation reduces the need high doses of pharmaceuticals, which shortens hospitalization and reduces maintenance costs of the patients by an average of 60%, preventing the development of chronic forms of tick-borne virus infection and virus carrier tick-borne infection.

8.Reduction of pain syndrome

8.1. Using the background resonance radiation therapy for relief of pain in neuro-vertebro-gene diseases. (Institute of traditional medicine of the Health Ministry (Moscow), Russian National Scientific Research and Experimental Institute of Medical Technology of Public Health Ministry (Moscow), Khabarovsk Regional Center of Mental Health, Tomsk Research Institute of balneology and physiotherapy of Public Health Ministry.)

The method of coping with pain syndrome in neuro-vertebro-gene diseases using removable noise emitters-applicators, capable of shaping the spectrum of biologically active analogue of the external radiation with the inclusion of EHF frequencies and implement an effective therapeutic effect on background levels of radiation in the autonomic mode is submitted in the recommendations. Using the method as monotherapy and in combined treatment it can provide a quick effect in relieving pain, reducing treatment time and significantly reduce the dose of drugs or completely eliminate their use. The novelty of the research is confirmed by the patent.

INDICATIONS

Vertebrogenic lesions at the cervical, thoracic and lumbosacral levels in the form of reflex and radicular syndromes involving pain.

Material and technical completion of the method

To implement the method noise emitter (crystal-applicator) device EHF-IR therapy "Stella-1" ("CEM °-TECH") with a large volume of information in memory, running at the background level of radiation in the autonomic mode.

TECHNOLOGY

1. Selection of homeopathic remedies used for relief of pain.
2. Preparation of the applicator is held by the apparatus EHF-IR therapy "Stella-1" according to the instructions to the apparatus.

To include the body self-radiation in the recipe, the emitter is out in contact and consistently placed on the identified by palpation painful biologically active points (BAP) or biologically active zone (BAZ), the patient and the operator briefly switch on apparatus for each contact, then the radiator is disconnected from the adapter and packed in a hood of a polymer material, thus obtained applicator is ready for use.

3. Treatment procedures. Medical procedure consists of two phases. First, the applicator is used in the mode of intermittent contact with the BAP or BAZ bases within 20-30 minutes.

Corporal BAT are recommended for applicators fixation:

- Pains in the neck above VII cervical vertebra: point VG15, V10, VB20; when the pain is localized at the level of VII cervical vertebra: points VG14, V11, IG15;
- Pains in the shoulder and chest. The main points of impact VG12, VG9, VG6, V14, V20, V44, V46;
- With pain in the lumbar spine and sacrum: VG4, V24.

Then the applicator is fixed band-aid on the same points or zones for 24 hours before the next procedure. Course of treatment is 7-10 sessions.

EFFECTIVENESS OF Method

The observations were performed for 50 patients (21 men and 29 women) aged from 27 to 83. The main group of patients consisted of 25 people. All patients had various spinal osteochondrosis. In 15 case patients have spinal osteochondrosis with radicular syndrome as the main disease, and the remaining 10 the diagnoses was associated with various other illnesses. The control group consisted of 25 patients with spinal osteochondrosis with radicular syndrome receiving EHF placebo. As a result of treatment in the study group, acute pain syndrome was stopped in 13 patients (52%), completely in 1-3 days, the remaining 12 people (48%) by this time had a decrease in pain or change in the localization, improved general health (increased motor activity, improve blood circulation in the limbs, loss of headache), but after 5-10 sessions (5-10 days) there was a complete disappearance of pain.

Effects of the applicator can be seen as:

1 - means for relief of acute vertebrae pain;

2 - as a tool for long-term treatment of this pathology, healing time is greatly reduced as a result of the impact of background radiation of the resonance frequencies with the inclusion of EHF.

3 - as adjuvant therapy, significantly reduces the dose of drugs.

The following practices are pending approval by the Health Ministry:

1. Treatment of eczema.
2. Removal of fetal hypoxia during pregnancy.
3. Treatment of chlamydial infections transmitted by airborne droplets.
4. Treatment of tuberculosis.
5. Docking withdrawal syndrome.
6. Complex treatment of patients with chronic opisthorchiasis.

In parallel, there are many so-called author's techniques that are developed by creative and experienced doctors, who know the method, but want to improve it. The number of such methods increases exponentially with the spread of the apparatus in the country. In this case the entire responsibility for the results of treatment is carried out by the authors themselves.

9. Different applications

1. EHF puncture in the rehabilitation of patients in Postoperative discectomy (N.F.Miryutova, A.M. Kozhemyakin, O.E.,Golosova, I.V. Velbik - NIIKiF, "Spinor" LLC, OKB, city of Tomsk).

We observed 38 patients after removal of intervertebral disc herniation, postoperative period ranged from two weeks to one year. In the early postoperative period EHF puncture was used as monotherapy, and carried out using the apparatus "Stella-1" (the new name "CEM °-TECH") in a neurosurgical hospital. In the late postoperative period patients received combined treatment: EHF therapy and skeletal traction(extension).

Biologically active points, selected on the basis of the Chinese and Korean reflexology were influenced with EHF radiation. The combination of points includes points of general validity, segmental, signaling, regional and local. The total exposure time for one procedure is 15-20 minutes. Dynamics of vertebro-neurological disorders, qualitative and quantitative characteristics of pain, paresthesia, expression of vegetative-vascular disorders was evaluated with all patients. Pain decreased in all patients, with regression of the quantitative characteristics of pain with 1-2 procedures in 60% of patients. Extinction of pain was accompanied by a decrease in other pathological disorders. By 5-6th procedure the qualitative characteristics of pain changed , muscular-tonic disorders (shear rate 50%) and vegetative-vascular manifestations regressed.

As a result of a course of treatment in 66% of patients a decrease in the morbidity of local algogennyh zones according to algometer was registered. In the presence of radicular syndromes, the degree of restoration of sensory and motor disorders depended on the severity and the duration of the process. In patients with initial high blood pressure hypotensive mild effect was recorded, pulse rate and respiration did not change significantly. Analyzing the response of peripheral blood, we have not revealed intense reactions and increased activation of adaptive mechanisms. Electrophysiological examination showed neuromotor apparatus and the vessels of the extremities response at the first procedure, which showed increased amplitude of the M-response during stimulation of peripheral nerves, decreased tone of the arterial vessels. As a result of a course of treatment the reliable dynamics of amplitude and velocity parameters of the functional state of neuromotor apparatus, as well as improving the processes of microcirculation in the extremities, was received.

Thus, EHF puncture stabilize the functional state of organs and systems, allows to transfer patients from the stage of de-and subcompensation to the stage of compensation, which allows to use this method of treatment at any stage of the disease, in the presence of comorbidity and in the early postoperative period. EHF therapy promotes connection to a rehabilitation program for other methods of physical therapy at an earlier date.

2. Application of MM-therapy in ambulatory practice of a urologist. (V.A .Dremuchev, urban clinic № 1, Schelkovo, Moscow region).

MM-therapy was used in the treatment of chronic pyelonephritis, urolithiasis, acute and chronic

cystitis, forms of cystalgia, chronic prostatitis, prostatic adenoma. All the patients before treatment, during and after it carried out a general analysis urine tests, complete blood test, ultrasound, selective R-examination, analysis of prostatic fluid.

In cases of kidney stone disease we used a combined hardware-treatment: MM-radiation + sound stimulator "Intrafon» (see table 2). This allowed us to restore or improve the urodynamics, cut short pyelonephritis, remove the pain symptom. Consequently, the health of patients improved, the number of days of disability decreased dramatically.

Table 2

Nosological entity	The number of patients	Method of treatment	The effect of treatment, %
Kidney stone disease	45	MM-radiation + sound stimulator	95
Chronic pyelonephritis	24	Monotherapy or combined therapy	95
Acute cystitis	11	Combined therapy	100
Chronic cystitis	12	Monotherapy	100
Cystalgia	13	Monotherapy	100
Chronic prostatitis	18	Monotherapy	86
Adenoma	7	Monotherapy	80

Treatment and prevention of exacerbation of chronic pyelonephritis is one of the greatest challenges of Urology. Unfortunately, the current lack of necessary medications (chemotherapy, immunostimulating) makes this task even more difficult. We treated patients with continuous recurrent course of illness (with the time of the disease up to 2 years), mostly mono-MM-therapy, in some cases uroseptic was added. Virtually all patients after treatment achieved improvements: no pain, decreased fatigue, nausea passed, decreased sweating, normalized blood pressure. Urinalysis stated the regress of inflammation in the blood - conversion of reaction from "training" to activation, significantly reduced the number of days of disability. As with urolithiasis, the mouthpiece of the device is placed on the skin projection of both kidneys.

Everyone knows the difficulties in the treatment of chronic inflammatory diseases of the urinary bladder - chronic cystitis and forms of cystalgia. The long dysuria is exhausting for patients and doctors. The use of conventional medicines often gives a temporary therapeutic effect not preventing relapse of the disease. We used mono-MM-therapy with irradiation of pubic and suprapubic areas. Typically, this method allows you to quickly cut the dysuric phenomenon, and repeated courses of treatment - to prevent recurrences. In the treatment of acute inflammations of the bladder It can take within 3 to 4 sessions to remove the pain symptom, normalize the urine, reduce the period of disability.

One of the most frequent diseases of men is chronic prostatitis. Typically, patients come to the doctor in quite poor condition. Chronic prostatitis reveals with pain syndrome, dysuric phenomena. Treatment of chronic prostatitis is difficult and not in every case it is possible to achieve a positive result. MM-therapy used in patients with disease duration of 5-10 years. As a result of treatment in the overwhelming number of patients withdrawn of pain syndrome and dysuria, improved sexual function was observed.

Adenoma of the prostate is the pain and misfortune of men elderly. The proliferation of paraurethral glands are usually complicated by compression of the urethra, which leads to the defeat of the bladder and upper urinary tract. After the mono-MM-therapy improvement of well-being was observed, reducing dysuric phenomena more than in half of patients. It should be noted that in some patients after the treatment the condition did not improve, although a month later there was a positive effect.

3.EVALUATING THE EFFECTIVENESS OF THE MILLIMETER WAVES EFFECTS WITH COMPLEX TREATMENT OF PATIENTS WITH DIABETES MELLITUS. (B.M. Popov, Department of Rehabilitation Clinics TMO-2, Ust-Ilim city)

We used the method of millimeter waves exposure of extremely high frequency in the complex treatment of patients with diabetes mellitus. The fact incorporated in the number of publications was taken into consideration that the MM-wave improves blood rheology, and normalize its microcirculation, stimulate the immune status of organism, helps cell regeneration. All this leads to an increase in insulin release by the cells of the pancreas, its transportation to the target-organs, reduction of the body's need for insulin, the normalization of hormones release, etc.

Treatment was carried out using commercially available devices "JAV-1" at wavelengths of 5.6 and 7.1 mm flux density of the incident power of 10 mW/cm², and the apparatus of "Electronics-EHF" at a wavelength of 4.9 mm, exposure conducted with unmodulated signal.

Impact on Zakhar'in-Ged area in the epigastric region was carried out with apparatus "JAV-1" at wavelengths of 5.6 and 7.1 mm (5 procedures, the duration of each - 30 min). Staff Electronics-EHF irradiated biologically active point Ha-gu at a wavelength of 4.9 mm (length of procedure 15 min) and locally in the presence of complications. When treating vascular angiopathy of lower limbs and venous ulcers using the following methods: tube mounted on the edge of the wound including healthy and effected tissue, in the absence of ulcers - the region of the major trunk vessels, with polyneuropathy - to the point of maximum tenderness on palpation, with encephalopathy - to the right shoulder joint. The total exposure time per session did not exceed 60 minutes. Usually 10 sessions were held and in the presence of complications of diabetes - up to 20 sessions.

Table 1
The distribution of patients with diabetes mellitus by age.

Number of patients with diabetes mellitus	Age in years				
	16-20	20-30	30-40	40-50	50-...
Type 1	8	12	11	8	3
Type 2	-	-	2	16	6

MM-therapy was carried out in a specially equipped room. All patients received appropriate drug therapy. Insulin therapy of patients with type 1 (insulin-dependent) diabetes was carried out with tablets of antidiabetic drugs: Maninil, Adebit. For patients with type II (insulin-independent) diabetes mellitus during the course of treatment dosage adjustment of hypoglycemic agents was carried out. In addition, patients were prescribed conventional symptomatic therapy, depending on the complications of the disease.

Table 2

Number of patients with diabetes mellitus	Age in years				
	до 1	1-5	5-10	10-20	20-...
Type 1	4	7	16	10	5
Type 2	-	3	11	6	4

Treatment received by 66 patients in total: 42 - Diabetes Mellitus Type I, 24 - diabetes type II. 40% of these patients received treatment while in hospital, the rest were in outpatient treatment of exemption from work. The patients received normal diet, excluding carbohydrates. The effectiveness of treatment was carried out according to clinical observation, laboratory studies in blood sugar and urine (glycosuria profile: sugar in a 4-urine sample from 8.00 to 12.00 h, from 12.00 to 18.00 h, from 18.00 to 22.00 h, from 22.00 to 8.00 h), blood sugar at 8.00, 11.00, 13.00 h and additionally for patients who are hospitalized, at 15.00 and 22.00 h). Research of glucose in urine and blood were carried out after the 3, 5 and 7-th procedures of MM-irradiation. In addition, patients with complications of diabetes were examined in relation to severity of symptoms, complications, neurologist, ophthalmologist, surgeon, psychiatrist at the beginning and at the end of the course. The patients receiving combined therapy, showed that the tolerability of MM-therapy is good. However, it should be noted that in 93% of patients after a 2-nd, less frequently after the third procedure indicated a slight deterioration with the appearance of weakness, drowsiness, headaches. The intensity of these symptoms are different for different groups of patients, depending on the patient's age and severity of diabetes. After 4 - 5-th procedures all these symptoms disappear. Almost all patients notice improvement in mood and appearance of vigor, decreased or completely disappear previously existing headaches, decreased level of sugar in the urine or blood. After 5 - 6-th procedures correction of insulin dose was carried out in all patients. The average insulin dose was reduced by 2-4 units, pills of hypoglycemic agents on 0,5 - 1 pill. By the end of treatment, insulin dose was reduced on average by 10 - 14 units., The number of pills at 1-2. The greatest decrease in insulin dose was noted in 8 patients (30-40 units). For 4 patients drugs were completely abolished and they are left to the diet. In 2 patients after 20 procedures unhealed trophic ulcers closed. In 6 patients whose treatment was carried out by combining the MM-therapy, acupuncture and the introduction of oxygen into the skin the symptoms of polyneuropathy has disappeared.

Almost all patients had a decrease in symptoms of complications of diabetes, which is confirmed by

doctors, who conducted the second consultation of patients. Good effect in diabetic ketoacidosis makes use of MM-therapy, conducted against the background of specific therapy. This leads to a more rapid improvement from the patient's ketoacidosis with fewer drugs and without complications.

Thus, we can conclude that MM-therapy, used in diabetes, has a positive effect in all patients, with significantly better clinical results obtained in a hospital. Combined MM-and drug therapy accelerates healing process, improves the results. This applies particularly to the processes of microcirculation.

Note. Treatment may be fulfilled with apparatus "CEM °-TECH", because its parameters covers both devices used in this method.

4. Efficacy of EHF-therapy and therapy background resonance radiation in ITC Ltd. 'Academy-Siberia' using the apparatus of EHF-therapy series "Stella" ("CEM °-TECH"). (Medical Ltd. - Technical Center Academy-Siberia, the chief physician - A.A. Sinitsky)

1. Peptic ulcer and 12 duodenal ulcer: epithelization of ulcerous scar in 96% of patients, duration of remission for over 5 years at 75%, the need for 2 or more courses of treatment - 10%.
2. Chronic bronchitis, bronchial asthma: relief of bronchial obstruction in 87% of patients, duration of remission for 2 years or more - 61%, the need for 2 courses of treatment and more - 58%.
3. Reducing complications of diabetes mellitus type I: micro-and macroangiopathies - 73%, neuropathy - 47%, steatosis - 89%, cataract - 76%, nephropathy - 52%, cardiomyopathy - 58%, stabilization of diabetes - 96%, durability of the effect of 1 year or more - 45%, the need for repeated courses - 93%.
4. Hypertensive heart disease: a persistent blood pressure reduction on the background of decreasing doses of antihypertensive drugs - 62%, stabilization of the disease - 82%, durability of the treatment effect one year or more - 56%, the need for repeated courses of treatment - 87%.
5. CHD, angina FC I-II: reducing the frequency of anginal - 82% reduction in doses of nitrates - 94%, durability of the effect of 1 year or more - 82%, the need for repeated courses of treatment - 75%.
6. Liver disease (cirrhosis, steatosis, viral hepatitis): normalization of biochemical liver function tests - 82%, normalization of the structure of organ (by ultrasound and tomography) - 48%, durability of the effect of 1 year or more - 73%, the need for repeated courses of treatment - 87 %.
7. Diseases of female genital sphere: the effectiveness of treatment 83%, durability of the effect of 1 year or more - 64%, the need for repeated courses of treatment - 62%.
8. Diseases of male genital: the effectiveness of treatment 72%, durability of the effect of 1 year or more - 68%, the need for repeated courses of treatment - 52%.
9. Diseases of the musculoskeletal system: the effectiveness of treatment 86%, durability of the effect of 1 year or more - 62%, the need for repeated courses of treatment - 52%.
10. Allergies: the effectiveness of treatment - 64%, durability of the effect of 1 year or more - 52%, the need for repeated courses of treatment - 93%.

5. Diagnosis and therapy of chakra violations with electromagnetic waves EHF (Y. K Agapov. *, I.D Agapova, * S.D.Votoropin - Center for Traditional Medicine (Tomsk), Tomsk State University)

There has been a lot of information in the ancient Vedic and other esoteric sources on functions and work of the chakras. But it is much less in modern scientific and medical literature and little experimental work using modern equipment.

36 people, including 18 women, 12 men and 6 children took part in the observation. In 31 of them chakralnaya pathology of the first two methods of testing was identified . After the comparative analysis, we reached the following conclusions: the lesions in chakras correspond to imbalances in branches of meridians, and by the very pronounced imbalances of the branches of the meridians we can be judge on the chakra with the most pronounced pathology. With several imbalances, the most pronounced corresponds to meridian of pathology (core) and, accordingly, to chakra with the greatest violations.

Most frequent correspondence was the following: Chakra 1- organs of the reproductive system, small and large intestines, kidneys. Chakra 2 - spleen and pancreas, organs of chakra 1. Chakra 3 - stomach, pancreas, gallbladder, kidneys. Chakra 4 - heart, lungs, liver, immune system. Chakra 5 - heart, respiratory system, thyroid gland. Pathology in 6 and 7th chakra was never tested. Changes to the meridian TR most frequently corresponded to pathology in 3,4,5th chakras.

Energo correction of chakra violations were performed by short-wave therapy with exposure to biologically active points of the corresponding front window of chakras (VC1 VC4 VC8 VC17 VC22 Yin-tang T21). Exposure time was determined by sensory perceptions and ranged from 5 to 40 minutes. Results were monitored "ROFES" - method of correction after the session and at the end of treatment.

EHF exposure was carried out using "Stella-1" (the new name "CEM-TECH"). Immediately after the session EHF - impact the disappearance of "craters" and reducing the imbalances, the branches of the meridians was recorded on rofogramme in all cases. This positive trend continued from several hours to 2-3 days and only after a course of treatment (5-10 sessions) became stable, which is clearly correlated with the subjective and objective improvement in patients.