

Model of external regulation of bone remodeling from workers of various industries

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Relevance

The problem of osteopenic syndrome is currently attracting close attention of doctors of various specialties. Osteoporosis (OP) occupies a leading place in the structure of morbidity and mortality. According to literary sources, in our country alone, OP suffers 10% of the population, which is 14 million people. At the same time, 2 million compression fractures of the spine are recorded annually in women and 1 million in men, with a high mortality rate. According to the results of an audit conducted by the International Fund for OP (IOF), 34 million people (24% of the population) are currently in the group of potential risk for osteoporotic fractures in the Russian Federation. According to the Russian Association of OP, by 2020 this disease is projected to grow to 68 million people, and by 2050 - up to 56% of the population over the age of 50 [2]. The growth of patients with AP all over the world,

Bone is a dynamic structure and during a person's life it can change its mineral pool several times due to the processes of bone tissue remodeling. Its renewal cycle lasts about 100-200 days with a frequency of once every 2-3 years. However, due to a number of unfavorable factors, including production factors, in men over the age of 40, after each such cycle, there is a loss of bone mass of 0.5–2% per year, especially when it does not reach genetically determined density at a young age.

This is facilitated, first of all, by the "stress of the body" in the form of radiation, toxic, mental, physical, physiological stress. Paradoxically, it is a fact that, on the one hand, active sports activities contribute to increased bone mineralization, on the other hand, excessive physical activity in certain industries contributes to intensive bone remineralization. It should be said that physical overstrain of the musculoskeletal system associated with a number of labor operations is accompanied by local microtraumatization, causing destructive processes not only in the tendon-ligamentous apparatus and muscles, but also in bone tissue.

Despite advances in medical technology, OP is diagnosed, as a rule, in the later stages, when the loss of bone mineral density reaches more than 30%. Currently, doctors have a wide arsenal of drugs for the treatment of OP, but their long-term use is limited both by the toxicity of most of them and by a number of side effects. The above data demonstrates the importance of timely

holding preventive activities with aim of reducing level morbidity for this nosology in our country and prevention of complications in the form of fractures.

The lack of sufficiently accessible and effective means of therapy for OP forced us to test the complex preparations "Triturus-regeneracia" and "Triturus metamorphosis". It is known that these drugs can initiate regeneration programs, providing the body with a kind of algorithm for their implementation within the framework of its constitutional features in chronic degenerative processes by acting on deep genetic mechanisms as a nosodiluetic miasm.

The purpose of this study was to create an effective model of external regulation of osteoblast function in osteoporosis using bioresonance technologies.

Materials and methods

The work was carried out within 1 year. The object of the study was 39 men - workers of various industries, aged 35–45 years with established osteopenic syndrome by the method of dual energy X-ray absorptiometry (DXA), among whom 24 were diagnosed with OP. Three clinical groups were formed: the 1st consisted of 12 men, whose average age was 46.7 years; 2nd - out of 12 employees, average age - 39.8 years; 3rd - 15 men, average age - 37.2 years.

In all groups, an integrated approach was used with the correction of the acid-base balance by optimizing nutrition, with the exclusion, if possible, of acidifying products (coffee, black tea, cola drinks, confectionery). Due to heavy physical labor and persistent eating habits, workers could not completely exclude meat and dairy products from the diet, and other workers, therefore, they were assigned a subsidy of a baking soda solution before bedtime for 0.5 years.

Most of the workers studied were tested psychovegetative and toxic loads, vitamin and microelement deficiency of varying degrees of severity, in connection with which the treatment included Bach essences, drainage preparations Lymphomyosot "Heel" and complexones Phytos 2, 3 "Omeo Tossicologici Italia" and microelements and vitamins 2-3 courses throughout the year.

In the 1st and 3rd clinical groups, the regeneration preparations "Triturus-regeneracia" from the drug selector "IMEDIS-BRT-PC" were used, recorded on homeopathic crumbs, with the selection of the integral potency for a particular patient. In the 2nd group, preparations "Triturus metamorphosis" recorded on sugar crumbs were used from a selector with an individual selection of potency.

In addition, in the 1st and 2nd groups, the drug "testosterone" was used, recorded in the 1st container of the drug selector. Considering the younger age of the men, no such appointment was provided for in the 3rd group.

The treatment regimen consisted of 3 cycles: 1 month - taking complex drugs by clinical groups; again after 0.5 years and after another 6 months. In this case, the drug "testosterone" recorded from the selector was used regularly for

years in the 1st and 2nd groups.

results

The assessment of the selected agents was determined by the test result by filtering through the indicators of efficacy and tolerance. The results of the effectiveness of the therapy were assessed using the HL morphological scale with tracking the dynamics of the development of recovery processes in the bone tissue, as well as by densitometry (DEXA) method 1, 6, 12 months after the start of therapy.

The increase in bone density, as shown by calculations (DEXA), were as follows. In the 1st group: after 1 month of therapy, the mineral density increased by 14%, after 6 months - by 49%, after 12 months - by 87%; in the 2nd group: after 1 month - by 10%, after 6 months - by 44%, after 12 months - by 80%; in the 3rd group: after 1 month - by 8%, after 6 months - by 27%, after 12 months - by 44%. Accordingly, in individuals with osteopenia, the timing of bone mineralization was shorter than in individuals with AP. Due to the remoteness of most of the patients, treatment was monitored remotely; it is possible that these indicators were influenced by the patient's personal discipline and his life habits.

The developed technique of bioresonance restoration of the functional activity of osteoblasts made it possible to prevent further degenerative processes in the bone tissue and restore bone density in osteopenia within 1-3 months, and osteoporosis in 1-1.3 years. It should be noted that pharmaceutical treatment does not provide such a rapid targeting of bone density gain, even in osteopenia.

Output

Thus, the peculiarities of the therapeutic approach to the functional regulation of the activity of osteoblasts depends on the methods of combination therapy and, without proper hormonal regulation, delays the processes of osteosynthesis by almost 2 times at any age. The results of therapy are also directly dependent on the individual habits of the patient, the degree of his discipline in adhering to the timing of taking medications.

Literature

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Kudasheva, A.R. Model of external regulation of bone tissue remodeling in workers of various industries / A.R. Kudasheva // XXIII International Conference "Theoretical and Clinical Aspects of the Application of Bioresonance and Multiresonance Therapy". - M.: IMEDIS, 2017. -- S. 80-83.

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