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Pogledi/ Views

MADU MAGNETOTHERAPY*

MADU MAGNETOTERAPIJA*

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Key words
MADU magnetotherapy, quantum-informational medicine, gap junction channels magneto-reflexology, ferrous foreign bodies displacements, bone and cartilage regeneration, periferal vasscular regeneration, reduced pain and swelling, improved tissue oxygenation and nourishment.

Ključne reči
MADU magnetoterapija, kvantno-informaciona medicina, magneto-refleksologija pukotinastih spojnih kanala, izmeštanje gvoždevitih stranih tela, regeneracija kosti i hrskavice, regeneracija perifernih krvnih sudova, smanjenje bola i otoka, poboljšana oksigenacija i ishranjivanje tkiva.

Apstrakt

The Earth magnetism belongs to one of four natural central forces that have made significant contribution to survival and health preservation of all the life. The subtle influence of permanent magnetic field increases and improves metabolic processes and thus stimulates regenerative processes. The ancient knowledge (as reflexology, acupuncture...) is very effectively used as the basis of opening gap junction channels – prainformative network in the organisms. The knowledge accumulated throught centuries of human history is explained and scientificaly approved in 1980s. The substitutional therapy of MADU new medical technology is based on application of two inventions acclaimed as patents and registered as medical devices. The MADU therapy is aknowledged as new health technology in 2007 by Ministry of Health, Republic of Serbia (No. 022-04-19/2006-07), and it includes the application of Trap for shell fragments (first patent) for displacement and evacuation of foreign ferrous remaining fragments, as well as MADU strip (second patent) with wide application field. The confirmed effects, based on experience in medical practice up to now, are: (i) Faster and more complete development of callus in bone fracture; (ii) Delivery of medicaments with ferromagnetic and paramagnetic properties; (iii) Non-invasive displacement and evacuation of ferrous foreign bodies; (iv) Preventive and curative of vein's system disorders; (v) Immobilization of thrombus for its faster rechanellization; (vi) More lavish oxygen delivery by blood into the areas of reduced micro-circulation; (vii) Reduced swelling in the area under the influence of directed deep magnetic field; (viii) Improved viscosity in the arterial and vein blood vessels; and (ix) Faster and improved regeneration of various tissues, especially cartilage. This was more thoroughly studied and presented in the PhD study about magnetic fields, including MADU (D. Djordjević, MD PhD, 2007/2008). The positive results are obtained in treating disorders of osteoarticular system (ISCD-10, M 00-M 99), as well as in treating disorders of peripheral vasscular system (ISCD-10, I 70-I 99). Both of these groups of common diseases, the most sucessfully treated, have huge social-economic and medical relevancy. Also, processes of cartilage regeneration, angioneogenesis and neuroneogenesis are of great significance for the mankind. The MADU therapy could be applied as additional therapy together with contemporary medical procedures. Having in mind the experience gathered through application of MADU and its effects on local and global level, indicational field is getting more and more wider while contraindications and precautions are narrowing down. Thus, this type of magnetotherapy belongs to the future.

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1. INTRODUCTION

Quantum-informational medicine (QIM) is a medical discipline promoting non-invasive diagnostics and therapy based on biophysical drivers of positive, healing changes in the body which take place at a quantum, i.e. energy level. The human organism does not function solely on the basis of biological and biochemical cellular reactions, but humans are also electromagnetic beings.

The efficiency of magnetic therapy is supposed beneficial because the Earth is rapidly loosing natural magnetic field (important also as a magnetic shield for extraterestial charged particles) for last 100 years, and all beings are „hungry" for the natural magnetic field. The Earth magnetism belongs to one of four natural central forces that have made significant contribution on the survival and on the health preservation of all the life on Earth.

Traditional Medicine of various cultures deals with the preservation and balancing of energy of living beings. The preservation of energy level of every living being is followed by saving the physical level and every kind of energy therapy is close to our understanding of preventive medicine. The documents of traditional medicine and the application of subtle energies available today, some of which are older than 4000 years, confirm use of acupuncture, chromotherapy, sonotherapy, aromatherapy, bioenergetic therapy [1], magnetic therapy and others [2].

ÌADU Magnetic Therapy is based on application of permanent (non-oscillatory) unipolary (of the same pole) îriented magnetic field which has the same quality as the Earth's magnetic field.

The substitional therapy of MADU new medical technology is based on the application of two inventions acclaimed as patents and registered as medical devices [3,4]. The MADU therapy is aknowledged as the new health technology in 2007 by The Ministry of Health, Republic of Serbia (No. 022-04-19/2006-07) [5] and it includes the application of Trap for shell fragments (awarded WIPO UN 1996 Woman World Inventor of the Year) for displacement and evacuation of foreign ferrous remaining fragments [3] (initially used to treat wounded people with foreign ferrous fragments in the body and to displace and evacuate shell fragments, and nowadays it is very useful for treating various injuries obtained at work, in sport, traffic accidents, households, even iatrogenic injuries with accidentally remained metal ferrous foreign bodies in human organism [6-18]). The second medical device (second patent) is MADU strip with the wide application field [4] (with wide medical indication areas due to basic principles and mechanisms realized on local and global levels in the organism [19-25]). WIPO UN PCT research (2000) qualifies MADU STRIP as: Novelty (N), Inventive step (IS) and Industrial applicability (IA).

The confirmed indications, based on the expirience in the medical practice up till now, are: Faster and more complete development of callus in bone fracture; Delivery of medicaments with ferromagnetic and paramagnetic properties; Non-invasive displacement and evacuation of ferrous foreign bodies; Preventive and curative with vein deformations; Immobilization of thrombus for its faster rechanelisation; More lavish oxygen delivery by blood into the areas of reduced micro-circulation; Reduced swelling in the area under the influence of directed deep magnetic field; Improved viscosity in the arterial and vein blood vessels; Faster and improved regeneration of various tissues, especially cartilage.

The subtle influence of the permanent magnetic field provides the quantum-energetic level which increases and improves the biological processes in the organism [26] and as the final result it generates and stimulates regenerative processes. Out of them, processes of cartilage regeneration [27-32], angioneogenesis [33-44], and neuroneogenesis [45-47] are of great significance for the mankind.

The ancient knowledge (as reflexology, acupuncture, ...) is very effectively used as the base of opening gap junction channels – prainformative network in the organisms [47-49]. The knowledge accumulated throught the centuries [47,50-54] of the human history is explained and scientificaly approved in 1980s. It was more thoroughly studied and presented at the PhD study about magnetic fields, including MADU [55].

The positive results are obtained in treating disorders of the peripheral vascular system (ISCD-10, I 70-I 99) [33-44] as well as of osteoarticular system (ISCD-10, M 00-M 99) [56-60]. Both of these groups of common diseases, the most successfully treated, have huge social-economic and medical relevancy.

In all these cases, the MADU therapy could be applied as the additional therapy together with the contemporary medical procedures. Having in mind the experience gathered up to now, through the application of MADU and its effects on the local and global level [19-25], the indicational field is getting more and more wider while the contraindications and the precautions are narrowing down. Thus, this type of magnetotherapy belongs to the future.

2. METHOD

MAgnetic Deep Unipolar oriented field MADU Method is new healing technology, clinically examined and registered, ecologically *clear*, environmentally *friendly*, non-invasive, painless, applicable in clinical, outpatient and field conditions. It opens new possibili-

ties: shortened time of healing of soft and hard tissue and smaller scars; faster and more efficient rehabilitation process; achieving efficient medical protection and better quality of life with both young and old; increase of fitness level of sportsmen.

MADU (MAgnetic Deep Unipolar oriented field) methods include the application of two patented and acclaimed medical devices: Trap for shell fragments & MADU strips. Both devices have magnetic induction 10 to 15 times weaker (measured by Portable Proton Magneto-meter Model G-856A, EG&G Geometrics, USA, precision 50 nT) than the approved levels prescribed by the WHO UN [61]. The both applications are used as a new medical treatment which belongs to non-invasive, ecologically clear and environmentally friendly, subtle methods.

The magnetic devices retain the contact with the body for a period ranging from 24 hours to 2 or more years according to the patients' needs, determined on the basis of their clinical data. The MADU strips are applied on reflexogenic (acupuncture) zones and reflexogenic (acupuncture) points and oriented with the North pole faced towards the skin, for treating various disorders and diseases [50].

The application of MADU medical devices includes pre-treatment, prior to placing MADU, which includes local and global effects [19-25] in organism resulting in the dipole resettlement, anti-inflammatory, anti-swelling effects and increasing oxygenation which manifests in the stimulation of biochemical processes [62] in the body that stimulate the regenerative processes.

This magnetic field is created by magnetic MADU strips which consist of unipolar magnets embedded in an elastic strip. The strengh of magnetic field created by MADU strips is about 90 mT, which is within limits approved by WHO (less than 2 T) [61]. Magnetic field created by those strips penetrates human body up to 55 cm with distribution presented in Fig. 1.

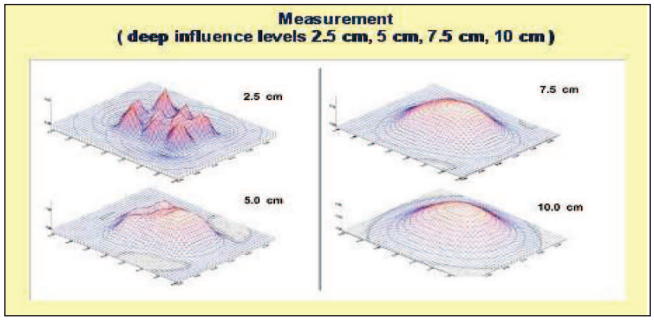

Figure 1. MADU magnetic field at various depths.

Those strips are placed on the surfface of the skin above the diseased organ in order to achieve desired effect. The period of application of those strips, in case of joint disorders, was between six month and a year with most of our patients.

The MADU new medical method provides the conditions for the beginning of regenerative processes in various tissues under the influence of biophysical mechanisms of permanent oriented unipolar magnetic field MADU. The method provides: for metabolic conditions which will reduce acidity [62] of the area treated provide ingraduation Ca2+ ions in bones [62]; promotes dialogue and research among experienced professionals and then to jointly improve the treatment; enhances regenerative processes; and reduces pain. The most important achievement is the cartilage regenerative process [27-32,63].

Figure 2. Noninvasive displacement of ferrous foreign bodies from human organism (left and right).

The curved flexible magnetic trap is primarily used for noninvasive displacement of ferrous foreign particles from human organism, Fig. 2. The application of the trap consists of placing the trap on patient's skin in cases of new or healed wound, when foreign body is located in an inoperable position or when causes health troubles by its presence. The trap is also stimulating at least one of the adjacent acupuncture points [6-18,64-69] in the area of application, to achieve antidolorous and spasmolytic effects. By force of its magnetic field and

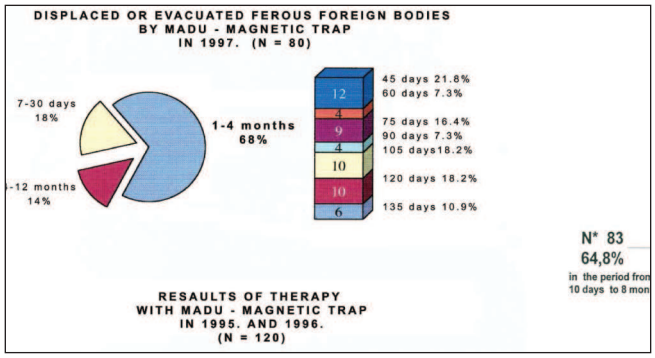

Figure 3. Statistics of noninvasive displacement of ferrous foreign bodies (left) and shell fragments (right).

Figure 4. Presentation of case studies of patients suffering from arterial disease of the extremities, treated by MADU therapy (left and right), who would otherwise be candidates for surgery.

gravitation the trap is gradually displacing ferrous foreign bodies along the anatomic structure (muscles, muscle sheaths, nerves, blood vessels and bones) until it reaches under skin or into that part of organism which is accessible for surgery but nearest possible to magnetic trap. Usually the time from setting the trap and achievement of result is from 5 to 40 days. The statistics of noninvasive displacement of ferrous foreign bodies and shellfragments is presented in Fig. 3.

The advantages of trap for foreign ferrous bodies are: displacement is gradual with minimum injury to adjacent anatomical structures; foreign ferrous bodies are brought under the skin or other more convenient place for surgical removal; both antidolorous and spasmolytic effects are achieved at the same time; with unhealed wounds foreign body escapes by the same way it entered; application is effective in hospital, ambulatory and field conditions; along as the trap is effective person bearing the trap is capable to perform usual activities. Also, the trap and the procedure do not request special power supplies; the trap and the procedure do not imperil life and health of a patient; under the influence of magnetic trap wounds are healing faster and due to improved microcirculation the convalescence time is shorter.

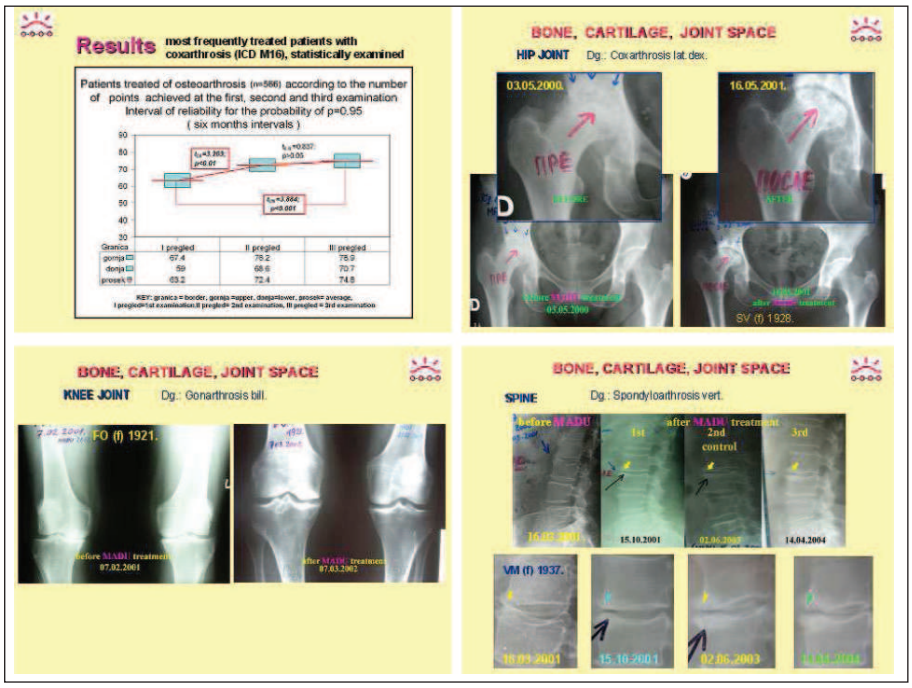

Figure 5. Presentation of case studies of patients suffering from coxarthrosis, gonarthrosis, and spondyloarthrosis.

3. RESULTS

We have so far treated with MADU method 72 patients who had arterial disease of the extremities [55,70], cf. Fig. 4, and who would otherwise be candidates for surgery: 21 (29.17%) of them had diabetic angiopathy with gangrene, 51 (70.83%) had arterial disease which affected one of the major arteries of lower extremities and gangrene or necrosis of tissue (due to atherosclerosis 47 (65.28%) patients, nicotin abuse 3 (4.17%) patients, or iatrogenic cause 1 (1.39%) patient). The treatment consisted of non-invasive application of MADU method and MADU strips over the area of insufficient vascularization during period which lasted on average 22 months. Improvement in regeneration of tissue has been noticed in 38 (74.51%) of 51 patients who had arterial disease of lower extremities due to atherosclerosis or nicotine abuse. Such favourable results were, however, observed with only 7 (30.00%) of 21 patients who had diabetic angiopathy with gangrene.

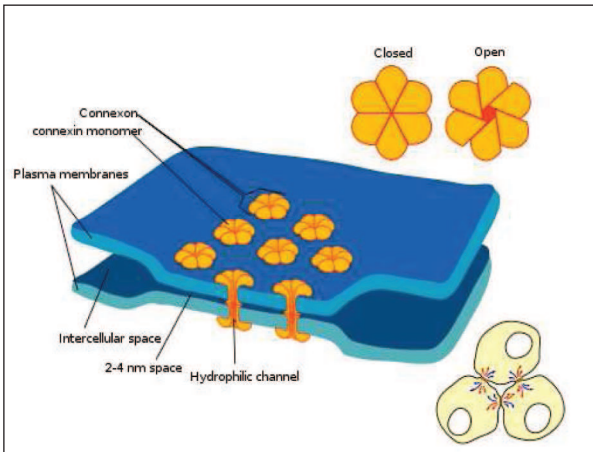

Figure 6. Gap junction channels, prainformative network modulated by magnetotherapy.

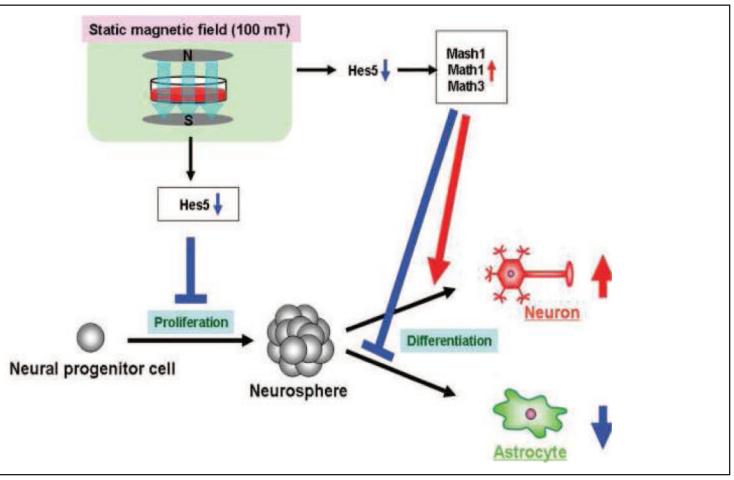

Figure 7. Prospects for neuroneogenesis by magnetotherapy might also be expected [46].

The therapeutic effect achieved with studied patients was relief of pain due to analgetic properties of magnetic field; in some treated patients analgesia appeared as early as the first day of therapy.

The obtained results point out that application of MADU method may lead to improvement of tissue regeneration, and this therapeutic procedure may help a certain number of patients who have other contraindications for surgical intervention.

The successful results (65.70%) were achieved in patients who had been MADU treated for degenerative diseases various joints, Fig. 5.

We have so far treated 1290 patients who suffered from degenerative joint disorders (648 had coxarthrosis and 642 had gonarthrosis) using this method. MADU magnetic strips were placed and fixed on the skin over diseased joints and therapeutic effects were being observed in six-month intervals. The assesment included both improvement in patients' symptoms (assesed by appropriate symptom scale) and radiography of diseased joints. Results achieved after one year of treatment were favorable. Overall, with 896 patients (69.46%) MADU treatment resulted not only in symptoms improving, but also in improved joint structure visible at joint radiographs with signs of regeneration of bone and cartilage [55,70] and enlargement of narrowed joint spaces.

Those effects were present both with patients who had coxarthrosis (452 of 648 patients, overall success rate 69.70%) and gonarthrosis (444 of 642 patients, success rate 69.16%). Condition of 238 patients (18.45%) remained unchanged, while with 156 (12.09%) disease progressed despite treatment. In the 5 years' control period, 12.50 % of patients treated against coxarthrosis got total hip prosthesis.

The successful results (65.70%) were achieved in patients who had been MADU treated for degenerative diseases of the spine as well as other joints.

4. DISCUSSION

MADU principles and mechanisms are as follows [20-25,62,70-74]:

- biophysical effects at the cellular level (the impact on water and its cluster structure; ferromagnetic and paramagnetic substances; openning of ions channels);
- biochemical effects (change of membrane potentials; improvement of modulation of the potential of the K/Na (potassium/natrium) pump; synchronization of endogen oscillations of Ca ions; enzymes activation, especially of metalloenzymes; ATP production improvement);
- bioelectric effects - bioconductivity increase (the cell's membrane is equivalent to electrical battery due to diffusible and other ions concentration).
- physiological effects - magnetized water is important for enhancing diffusion in cartilage tissue (in synovial liquid of joints, rich of proteoglicans responsible for high water intake, with hydrated cartilage tissue taking 1000 times the space of dehydrated cartilage tissue).

Therapeutic effects are as follows:

- reduced pain (analgesic, morphinemimetic effects);
- reduced inflammation (anti-inflammation and immunostimulative effects);
- reduced swelling (antiedematous effect, dipoles settlement);
- provided tissues oxygenation and nourishment (vasodilatation, spasmolytic effect, microcirculation improved, metabolism activated, acidity reduced).

The ancient knowledge (as reflexology, acupuncture, ...) is very effectively used as the base of opening of the gap junction channels – prainformative network in the organisms [47-49], Fig. 6.

Prospects for neuroneogenesis by magnetotherapy might also be expected, Fig. 7.

5. CONCLUSION

Our results allow us to conclude, that the treatment of degenerative rheumatic disorders with MADU is effective, resulting in improvement of conditions with majority of treated patients. Effects achieved with this form for treatment include subjective improvement, regeneration of bone in question, and regeneration of the affected cartilage.

This method is environment-friendly and non-invasive complementary medical procedure. No side effects which might be related to MADU therapy have been noticed.

Precautions should be applied in case of: pregnancy, "pacemaker" (because of the batteries), and malignant diseases. Mild increase in TA can appear with 3% of patients with hypertension during the first three days of application.

Apstrakt

Zemljin magnetizam pripada jedoj od četiri prirodne centralne sile koje su imale veliki uticaj na opstanak i održanje zdravlja živog sveta. Suptilni uticaji stalnog magnetnog polja povećavaju i poboljšavaju metaboličke procese i tako stimulišu regenerativne procese. Drevna znanja (poput refleksologije, akupunkture...) veoma efikasno se koriste kao osnova za otvaranje pukotinastih spojnih kanala ("gap junction channels") – prainformativnih mreža u organizmu. Znanje akumulirano tokom vekova ljudske istorije je objašnjeno i naučno potvrđeno tokom 1980-ih. Supstituciona terapija nove medicinske tehnologije MADU bazirana je na primeni dva otkrića, patentirana i registrovana kao medicinska sredstva. MADU terapija je prihvaćena kao nova zdravstvena tehnologija 2007. godine od Ministarstva zdravlja Republike Srbije (No. 022-04-19/2006-07), i uključuje primenu Klopke za gelere (prvi patent) za pomeranje i izmeštanje zaostalih stranih gvožđevitih fragmenata, kao i MADU traku (drugi patent) sa širokim poljem primene. Potvrđeni efekti, zasnovani na iskustvima u medicinskoj praksi, su: (i) Brži i kompletniji razvoj kalusa kod preloma kostiju; (ii) Ciljana dostava lekova sa feromagnetnim i paramagnetnim svojstvima; (iii) Neinvazivno pomeranje i izmeštanje gvožđevitih stranih tela; (iv) Preventiva i kurativa poremećaja venskog sistema; (v) Imobilizacija tromba za njegovo brže rekanalisanje; (vi) Obilnija dostava kiseonika krvlju u oblasti sa smanjenom mikro-cirkulacijom; (vii) Smanjenje otoka u oblastima pod uticajem duboko usmerenog magnetnog polja; (viii) Poboljšanje viskoziteta u arterijskim i venskim krvnim sudovima; i (ix) Brža i poboljšana regeneracija različitih tkiva, posebno hrskavice. To je detaljnije proučeno i prikazano u Doktorskoj disertaciji o magnetnim poljima, uključujući MADU (Doc. dr sc. med. D. Đorđević, 2007/2008). Pozitivni rezultati su dobijeni u tretiranju poremećaja osteoartikularnog sistema (ISCD-10, M 00-M 99), kao i u tretiranju poremećaja perifernog vaskularnog sistema (ISCD-10, I 70-I 99). Obe te grupe veoma raširenih bolesti, tretiranih sa velikom uspešnošću, od ogromnog su sociekonomskog i medicinskog značaja. Od velikog značaja su i procesi regeneracije hrskavice, angioneogeneze i neuroneogeneze. MADU terapija mogla bi se primeniti i kao dopunska terapija uz savremene medicinske procedure. Imajući u vidu nakupljena iskustva sa primenom MADU i njene efekte na lokalnom i opštem nivou, indikaciono polje postaje sve šire dok se kontraindikacije i mere opreza sužavaju. Otuda budućnost pripada ovom tipu magnetoterapije.

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