

**BASIC WELLNESS FEATURES AND SOME RELATED ACTIONS,
PROPENSIVE INCLUDING FOR ACTIVE AND HEALTHY AGEING**

**ASPECTE BAZALE LEGATE DE WELLNESS □I AC□IUNI PROPENSIVE
INCLUSIV PENTRU PROMOVAREA ÎMBĂTRÂNIRII ACTIVE □I SĂNĂTOASE**

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Abstract

The current global financial crisis inevitably alters the quality of life (QoL) of many individuals, mainly (but not exclusively) concerning its fourth – after Guelfi – dimension: the economic one (a deeply intricate component). Under these conditions, we can only hope that the holistic and idealistic definition of health, adopted by the World Health Organization (WHO) almost 70 years ago, will keep its topicality and applicability – as before the recession – at least in the more developed countries/ economies.

This work presents a synthetic overview on some basic issues regarding health and related QoL, focusing on their connections with the specialties of Physical & Rehabilitation Medicine and respectively, Gerontology & Geriatrics: the presence/ absence of risk factors, (especially) the ones associated to the "civilization pathology", wellness, the current thinking/ paradigm (integrating the medical and social models) of the WHO on human functioning, (di)stress – including its relationship to premature/ pathologic ageing – and the active prophylactic (relaxing, fitness/"mise en forme"/ anti-stress, maintaining/ re-performing of the work capacity, rejuvenation/ anti-ageing/ gero-prophylaxis) balneo-climatic courses. The construct and content of this work are framed within the very actual, leading specific concepts and outcome measurement indicators of the European Union, regarding the major global challenge represented by the accelerated demographic ageing process [and consequent endeavors, such as the European Innovation Partnership on Active and Healthy Ageing (EIP-AHA), and also a most recent project/ surveys – for doctors and for 60+ older adult patients – of the main author and some colleagues – endorsed by the Comité Permanent/ Standing Committee of the European Doctors (CPME) – regarding "Health Literacy on Functional Decline and Frailty Related to Ageing"] and respectively, the Healthy Life Years (HLY) and disability-adjusted life years (DALY) – synthetic health state (macro-)indicators.

Considering all above, this work documents/ ratiocinate and advocates for Romania's huge capabilities of health tourism – its balneo-geriatric, consistent dimension – too.

STATE OF ART OF BALNEOTHERAPY/THERMALISME IN ROMANIA

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Romania owns almost 30% of natural therapeutic resources consisting in: climate (relief, hydrology and vegetation), including salt mines and caves microclimate; mineral/thermal waters (for bathing and drinking cure); mud/peat and gases.

Objective. Main objective of this paper work is to presents the main actors involved in health resort medicine and medical balneal tourism and their problems to solve.

Methods. Study of laws and other public documents of Ministry of Health and Ministry of Regional Development and Tourism.

Results. Key actors in the medical field are: The Ministry of Health, National Health Insurance House, National House of Pensions and Other Social Insurance Rights.

Key actors in tourism activity: Ministry of Regional Development and Tourism, Romanian Organization of Spa Owners, National Association of Tourism Agencies and Trade Unions.

Conclusions. Actors performing in medical balneal tourism need to work together for a common future. In the medical field is needed more elasticity to offer both medical and wellness programs and more cooperation to develop the master plan made by tourism actors. The tourism actors must be involved into the opening up of balneal/thermal patrimony because research in balneology and balneal medicine means high costs for discovery, characterize and maintaining in exploitation the resource. The economic and political leaders will help this collaboration and cooperation if the actors make themselves heard in this „polyphony” of balneal medical tourism.

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THE IMPORTANCE OF NUTRITION IN HEALTH PROGRAMS

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Company: Exclusive About SPA SRL (www.Desprespa.ro)

We usually choose to spend our holiday in a health resort with the purpose of, let's say, reaching the ideal weight for our health, alleviating joint or back pain or for prevention purposes etc. No matter the reason, a health program or spa treatment cannot be complete unless we include the healthy nutrition component. Even if we want to accept it or not, we are what we eat and food enhances or destroys our health.

This presentation will focus on the role of nutrition in health treatments, what ingredients or cooking techniques are suitable for a health program and how to integrate this aspect in the spa packages that we promote.

THERAPEUTIC EFFECTS OF MINERAL WATERS IN RENAL DISEASES

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ABSTRACT

Balneotherapy is a treatment method that uses natural therapeutic factors with studied and recognized curative properties, based on chemical, mechanical and thermal effects on the body. Hippocrates (460-370 BC) described in his work the symptoms of kidney and bladder stones, and recommended the use of mineral waters for their treatment. The treatment of bladder stones with mineral waters has a history of more than 100 years in Romania. Balneotherapy in renal diseases can be indicated for prophylactic purposes in persons with conditions favoring the development of urinary lithiasis or infections, persons with a history of 1-2 renal colics or urinary infections, as well as for therapeutic purposes in patients with kidney or urethral stones with permeable urinary tract, chronic non-tuberculous urinary infections, chronic glomerulonephritis, chronic pyelonephritis, gout, hyperuricemia.

The objectives of balneotherapy are to eliminate the existing urinary sand and calculi, to reduce lithogenic potential, to stimulate urethral motility, to change the acid-base reaction of urine.

The natural therapeutic factors used for the internal spa treatment of renal diseases are: hypotonic oligomineral waters (acratopepic, diuretic), hypotonic sulfur, calcium, magnesium, chloride oligomineral waters, hypotonic carbonated mineral waters, hypotonic alkaline mineral waters, and sedative bioclimate. Diuresis treatment involves the ingestion of 35-40 ml/kg in 24 hours, in 5-6 doses, of which one in the evening. The total ingested amount reaches 2000-3000 ml/24 hours.

Due to their extremely diverse chemical components, mineral waters influence the biological activity of cells, hormones and enzymes, inducing osmotic action, ion balance and volemic changes, in the sense of a normalization. Unlike drug therapy, which is sometimes accompanied by side effects, crenotherapy, if administered correctly, causes side effects only very rarely. Mineral waters used as an internal treatment are not active in single doses, their effect becomes apparent after administration for 20-30 days.

Used as an internal treatment, mineral waters first influence digestive system functions, and after they are absorbed, they influence water-electrolyte metabolism and the urinary system by acting on the renal parenchyma, the renal tract, urine composition.

The mineral springs indicated for each patient should be designated by the specialist, depending on the specific disease, its stage, the therapeutic or prophylactic goal, the associated diseases.

The recommended spa resorts are the following: Olanesti, Calimanesti, Caciulata, Slanic Moldova, Baile Tusnad, Buzias, Borsec.

THERAPEUTIC EFFECT OF MINERAL WATER WITH DIFFERENT CONCENTRATIONS OF HUMIC ACIDS IN EXPERIMENTAL HEPATITIS INDUCED BY ACETAMINOPHEN

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In our previous experimental studies it was found that the course application of native hydro-chloride-sodium, low-mineralized ($M\ 1.9\ \text{g/dm}^3$) mineral water with a high content of humic acids ($278.2\ \text{mg/dm}^3$) adversely affected functions of liver in rats with experimental hepatitis and didn't promote neither an improvement of structural and functional organization of liver, nor reducing the depth of cells ultrastructure damage caused by pathological processes. Considering the literature data about the effects of similar waters onto organism, it can be assumed that the adverse effect of mentioned mineral water on some functions of liver appeared due to a sufficiently high content of humic acids.

In connection with this a pilot study with a double dilution (potable and mineral waters) of investigated water (while maintaining of the initial total mineralization) to reduce the concentration of humic acids to standard values (about 20, 40 and $100\ \text{mg/dm}^3$) was conducted.

Methods of research. The experiments were conducted on 180 males white rats with modeled hepatitis. Animals were kept in standard conditions in the vivarium. Experimental hepatitis was induced by acetaminophen-containing suspension administered via gavage, in the morning on an empty stomach at a dose of 1000 mg of paracetamol per 1 kg of animal body weight for 2 consecutive days. The animals were divided into 4 groups: first group - the control animals at the 21th day of experimental hepatitis; 2 group - animals with experimental hepatitis which received drinking mineral water with concentration of humic acids about $20\ \text{mg/dm}^3$; 3 group - animals with experimental hepatitis which received drinking mineral water with concentration of humic acids about $40\ \text{mg/dm}^3$; 3 group - animals with experimental hepatitis which received drinking mineral water with concentration of humic acids about $100\ \text{mg/dm}^3$.

Mineral water was given to rats of experimental groups (with help of intragastral gavage) on daily basis in volume of 2 ml within 21 days. The dosage of daily applied mineral water appropriates to 1,5-2% of animal body weight. Comprehensive assesment of functional and morphological state of liver as well as basal metabolism was performed after course duration.

We evaluated: 1) antitoxic function of the liver - the duration of narcotic sleep induced by intravenous administration of thiopental sodium at dose 40 mg / kg body weight; 2) the biochemical blood assessment (alanine aminotransferase, aspartate aminotransferase, alkaline phosphatase, gammaglutamiltransferaza, lactate dehydrogenase, total bilirubin, α -amylase, total protein, albumin, glucose) was performed with help of biochemical analyzer «Biosystems A-25» (Spain); 3) the main indicators of metabolism (oxygen consumption - $V\ O_2$, ml / h; emission of carbon dioxide - $V\ CO_2$ ml / h) were performed by a system of metabolism monitoring MM-100 (U.S.A) using the indirect calorimetry principle. Intensity of heat production (in kcal| hour) was calculated on the basis of analysis of oxygen consumption and emission of CO_2 ; 4) the value of body mass index (the ratio of liver weight in milligrams to body weight in grams); 5) light microscopy; 6) histochemical study of activity of succinate dehydrogenase (SDH) and lactate dehydrogenase (LDH).

Statistical analysis of experimental data was performed with help of programm Statistica 6,0. The results were presented as the arithmetic mean and standard error - $M \pm m$, the reliability of the results was assessed by Student's t-test, the differences were considered as significant at the significance level of $p < 0,05$.

Results. The greatest therapeutic efficacy in experimental hepatitis (hepatoprotective properties) was achieved by course application (within 21 days) of mineral water with humic acid content about $20\ \text{g/dm}^3$ in comparison with the mineral waters with concentrations of

humic acids 40 and 100 mg/dm³. This conclusion was confirmed in: 1) normalization of hepatic enzymes activity (AST, ALT, ALP, LDH), increasing proteinsynthetic function (increasing of total protein and albumin), indicating about improvement of the functional state of the liver; 2) the reduction of the liver weight index, wich was assumed by us as an avidence of some anti-inflammatory effect of studied water in acetaminophen-induced hepatitis; 3) basal metabolism increasing – normalizing-stimulating or homeostatic effect – wich apparently denotes a more rapid flow of regenerative processes in animals; 4) the significant reduction of narcotic sleep duration indicating about improvement of liver antitoxic function possibly through the stimulation of humic acids monooxygenase system of hepatocyte endoplasmic reticulum; 5) reduction in the severity of degenerative and inflammatory changes in the liver parenchyma so far as a most pronounced partial improvement of histomorphological picture of the liver was observed by course application of mineral water with humic acid content about 20 g /dm³; 6) activation metabolic processes and restoring energy generatrix functions of hepatocytes, which was confirmed by histochemical studies of the activity of redox enzymes: activation of aerobic oxidation of glucose through a significant increase of SDH activity which is an enzyme of the Krebs cycle, on the background of some change of intensity glycolytic processes – decrease of LDH.

Therapeutic action of mineral water was apparently due to both its unique physico-chemical properties, and to the presence of optimized content of biologically active humic acids providing general-stimulating effect on the metabolism and reactivity.

SPA SEEN AS AN EXTENSION OF A HEALTH RESORT - A NECESSARY CONDITION FOR INTEGRATING ROMANIA IN THE LIST OF GLOBAL WELLNESS TOURISM DESTINATIONS

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Nowadays, when stress and lifestyle factors cause an alarming rise of chronic diseases, we need tourism to turn its attention to restoring human health. Wellness tourism meets the need of cultivating one's health, being one of the tourism branches that faces the fastest growth, combining both health therapies with therapies for prevention, mental balance and even educational components.

In this presentation you will learn what wellness tourism is all about, the differences between wellness and medical tourism, as well as the areas where the two branches intersect, how a wellness tourist profile looks like and the reasons for integrating spa therapies in addition to health treatment as a major necessity for the encouragement and development of wellness tourism in Romania. You will also find out about the international trends regarding wellness tourism for 2015-2016.

THE BALNEARY TREATMENT COURSE – A BREATH OF LIFE

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Key words: environment, team, general remodeling, optimize

Motto:

The patient heals because he is starting his life over, with a new intact energy load.

Mircea Eliade. The Sacred and the Profane: The Nature of Religion, 1927

Introduction. The balneary treatment course is complex and it is modulated by the state of knowledge, socio-economic context, historic time-frame, environmental factors etc.

Aim. Material and method.

1. Analyzing the natural and relational universe in which the course is taking place: patient, family, environment, medical team, the auxiliary, the national and local decisional powers, the National House of Health Insurance, economists, law experts, the educators, religion, the use of informatics systems, the media etc. The geo-climatic frame, the natural and artificial factors, the accommodation and meals, the group interaction, etc.
2. Emphasizing the consequences of the balneary course.
3. The educational/formative elements of the balneotherapy.
4. The thorough study and the application of the personal concept of general remodeling, 5 years after first presenting it.
5. A longitudinal study of group therapy in the spirit of evidence-based medicine.

Results.

1. Ideally, for the patient: rehabilitation, informing, beneficial lifestyle changes etc. General remodeling of the patient represents the result of any successful medical act.
2. The effects produced by the patients on the environment and on the rehabilitation team: remodeling of the doctor, of the health crew etc.
3. Intrusions and distortions in the rehabilitation process.
4. Interactions and ways to improve the balneary treatment course.

Conclusions.

1. The balneary course represents an active, fruitful part of the life of every person involved and does not remain only a static souvenir in the memory box.
2. The natural and social environments are influenced by the balneary activity as well.
3. Efficient actions to optimize the balneotherapy in Romania are required.

WICH SALT MINE DO YOU RECOMMEND FOR SPELEOTHERAPY?

Interdisciplinary project proposal.

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Key words: natural and therapeutic factors, salt mine

Introduction. I am a 50-year old patient with chronic respiratory disease. I live in a city and lead a sedentary lifestyle, working in a high-responsibility profession.

Aim. I want to benefit from speleotherapy in a salt mine.

Material and method. I have talked with the pneumologist, but he has told me that there aren't studies and he was unable to recommend me a salt-mine. I am kindly asking the experts at the Congress to answer – or, if they are unable to presently identify the “ideal” salt mine, I propose a large-scale collaboration to achieve this.

Criteria:

- Easy access to the destination by car or public transport.
- Accommodation in a natural – picturesque – location.
- To receive fresh, healthy meals.
- To enjoy quiet time, of relaxation.
- Possibility to meet with the other treatment course participants for hiking, visiting, music-listening / recitals, dancing etc.
- To access the salt mine without having to breathe-in large amounts of exhaust gases.

- To be able to enjoy the pure and salt-saturated air of the salt mine
- Constant removing of the isolating superficial layer grime on top of the salt surfaces.
- The walls should be the salt mine's natural walls, not concrete walls covered with planks or other such structures.
- The existence of natural methods to purify and refresh the air, proportional with the number of visitors.
- No active mining in therapeutic-oriented salt mines.
- Kinesiotherapy, *Tai Chi*, pleasant games/sports, quiet places and/or auditorium etc.
- Being free to spend my time at my own leisure, while at the same time knowing that it is a safe, controlled and well-studied environment, and that the therapeutic trials had positive results.
- To be able to exit without stress or overcrowding/bottlenecking. Knowing that there are several ways to exit the salt mines.
- To be a pleasant experience, with therapeutic consequences – not a sort of “bitter pill”.
- To make me want to come back again.

Conclusions.

What would be your recommendation?

When and how will the existing ones be put to good use?

This is an invitation to collaborate. Thank you!

BALNEOTHERAPY IN THE BOGHIȘ RESORT

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The Băile Boghiș resort in Sălaj county is situated in the Barcău depression, at 15 km distance from Șimleu Silvaniei, in a sedative-indifferent climate of hills, at an altitude of 300 m, without excessive temperatures, with a mean annual rainfall of 650 mm.

The first evidence of the climate and thermal mineral waters of the resort dates back to the 18th century. The Nușfalău-Boghiș thermal mineral water reservoir is confined to deep permeable aquiferous layers that correspond to the altered zone of crystalline basement and sedimentary formations of Miocene and Pliocene age.

It is an all-season spa and climatic resort; the bicarbonate, sodium, sulfur, iodine hypotonic hyperthermal mineral springs (with a total mineralization of 1016.2-1432.8 mg/l) come from hydrogeological wells, producing over 1900 m³/day waters with a temperature of 40-42°C. The spa has 2 outdoor pools (in summer time), bathtubs (in the process of being rehabilitated) and an indoor pool.

The peat mud from Stoboru (Cuzăplac commune) is another therapeutic factor used in the resort.

Therapeutic indications are related to the following disorders: osteoarticular system diseases, abarticular and degenerative rheumatic disease, posttraumatic, peripheral neurological, gynecological, endocrine, nutrition and metabolic disorders, treated by external use (pool or bathtubs), while cooled water is used for crenotherapy.

A specific feature is that thermal water, which has a temperature of 40-42°C, can be used without being successively cooled or heated in pools or bathtubs, which allows to maintain its initial qualities.

This paper includes early and recent data on a resort that is progressing from a local level to the national circuit, having an important extension potential.

REHABILITATION OF ELDERLY PATIENTS WITH CARDIOVASCULAR DISEASE

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Abstract

Comprehensive cardiovascular rehabilitation is the most effective way for the reduction of cardiovascular risk and for the long-term monitoring of patients with cardiovascular disease, of subjects with multiple coronary risk factors such as the elderly. More than 80% of rehabilitation is in fact secondary prevention, which increases the efficiency of medical activity.

According to the WHO definition, secondary prevention refers to finding new effective methods to obtain a positive course of the disease and ensuring optimal conditions for patients, with a view to their integration in normal life.

The rehabilitation of elderly patients with cardiac disease alters the concepts and the approach of these patients; the aim is more than prolonging life, improving the quality of life and maintaining social independence.

There are several types of rehabilitation: institutional, outpatient or inpatient rehabilitation, and rehabilitation performed at home. The team involved in such a process should carry out a multidisciplinary activity and include a program coordinator (cardiologist, geriatrician, internist) experienced in cardiovascular rehabilitation, a kinesiologist, a nutritionist, a psychologist and a psychotherapist.

The development of a plan for the rehabilitation of the elderly after a major cardiovascular event should take into account the particularities of geriatric rehabilitation in general, and the presence of limiting factors when biological age and chronological age do not overlap. The objectives of the rehabilitation program will be established depending on the individual's possibilities. Rehabilitation in acute onset cardiovascular disease will be curative, patients attempting to resume their previous lifestyle. In the case of elderly patients with known cardiovascular disease, with many acute episodes/decompensations, rehabilitation will be beneficial, conservative, improving health status through the control of the acute episode, preventing additional deterioration, and allowing subjects to return to their environment, to their daily activities. For functionally dependent patients, the initiated rehabilitation program can stop/slow the deterioration process, preventing the development of the immobilization syndrome which, once established, worsens the patient's prognosis.

In the case of elderly patients, as well as in adults with cardiovascular disease, the rehabilitation program should be initiated as early as possible. The first stage is important and includes clinico-biological evaluation, with the assessment of cardiac performance, exercise capacity, cardiovascular risk stratification, and the determination of the level of monitoring. After the stage of evaluation, rehabilitation continues with the optimization of diet, the management of lipid profile, of arterial hypertension, smoking cessation, weight control, the management of diabetes mellitus or glycoregulation disorders if present, psychosocial management (an important component in elderly patients), the encouragement of the practice of a physical activity, with physical exercise training.

The practice of physical exercise adapted to the patient has many cardiac and non-cardiac benefits. The improvement of vascular diameter and the facilitation of collateral formation, the improvement of microcirculation, the favorable effects on microrheology through a reduction of blood viscosity and platelet aggregation are beneficial for myocardial perfusion. Among the non-cardiac effects of physical training in elderly persons, the following should be mentioned: increase (preservation) of muscle mass and strength, reduction of adiposity, maintenance or improvement of joint flexibility, preservation of lung capacity, increase of brain activity, of resistance to depression, and preservation of bone mass. In elderly with cardiovascular disease and associated diabetes, physical exercise regulates (increases) insulin sensitivity and helps in achieving glycemic control. The majority of the programs use intensities of 50-80% VO₂ max, 30-60 minute sessions, with a frequency of 3-4 times per

week. Endurance exercises are little used in elderly with cardiovascular disease and type 2 diabetes mellitus because of the high risk of hypoglycemia.

The rehabilitation of elderly with cardiovascular disease was little approached until a decade ago. The increase of exercise capacity in these patients is small but extremely important, having a beneficial role in secondary prevention, the amelioration of function and the improvement of the quality of life. The increase in the number of surgeries in elderly patients in whom this treatment method is recommended is another argument in favor of rehabilitation in this age category. The prescription of low-intensity but long-duration rehabilitation programs (6-12 weeks) may provide additional benefits to the initiated drug therapy. The risks of physical training – sudden death, occurrence of arrhythmias, pump failure, ischemic risk, extracardiac risks – should be discussed by the rehabilitation team with patients and their families. Also, adopting motivational strategies by encouraging group activities, with the support of the life partner, encouraging daily progress, focusing on the patient's preferences and including music in the training sessions could also play a beneficial role in rehabilitation.

GEROVITAL – PROPHYLAXIS OF AGING AND GERIATRIC TREATMENT

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Abstract

In 1905, Alfred Einhom discovered procaine, which was experimentally used for the first time by Prof. Dr. Ana Aslan in the treatment of age-related rheumatic diseases and dystrophic disorders. She created the concept of "prophylaxis of aging" and put it into practice by founding 144 aging prevention centers and 76 geriatric care centers in Romania.

Between 1949-1956, based on procaine, Dr. Ana Aslan developed Gerovital H3, which was recognized as an original Romanian "biotrophic" drug and was homologated in 1957 by the Ministry of Health, based on clinical studies performed in a group of 7600 patients. According to the results communicated by Prof. Dr. Aslan, Gerovital H3 is both an anti-aging drug, the primary and secondary metabolites of procaine being involved in cell metabolism, and a geriatric drug, due to its action on mechanisms common to chronic degenerative diseases that are frequent in the elderly. Gerovital H3 has proved to be superior to procaine in terms of tolerance and effectiveness: its pH is more acid (3.3 vs. 4.5-5.0), which makes the molecule more stable; benzoic acid forms a complex with procaine, protecting against the action of acetylcholinesterase, and potassium ions facilitate the penetration of procaine into the cell. The prophylactic action of Gerovital, its effects of preventing/slowing the processes of aging are due to its general antioxidant and eutrophic action, to the neutralization of free radicals, the stabilization of the cell membrane, with an improvement of blood circulation and a tissue regeneration effect. As an adjuvant treatment, Gerovital can be used in various chronic disorders such as systemic atherosclerosis with its consequences, chronic degenerative rheumatism, depressive syndrome (mild depression), Parkinson's syndrome. Also, the beneficial role of Gerovital H3 through an improvement of lipoprotein lipase activity and a decrease of platelet aggregation has been demonstrated. Its use as an adjuvant in the treatment of chronic degenerative rheumatism has led to pain control in approximately 92% of patients and to an increase of joint mobility in 50% of these. Another beneficial role of Gerovital H3 has been proved in the treatment of depressive states by the reversible inhibition of MAO. In patients with Parkinson's syndrome receiving adjuvant treatment with Gerovital, a reduction of stiffness and hypokinesia has been demonstrated, as well as mood regulation through an increase of dopaminergic system activity and a diminution of cholinergic activity in the brain. Before using Gerovital H3, the patient's sensitivity to

procaine hydrochloride should be tested by the subcutaneous administration of 1 ml injectable Gerovital solution, the presence of any allergic reaction contraindicating treatment. In the absence of sensitization to the tested substance, Gerovital H3 can be administered, using either of the two pharmaceutical forms: injectable solution (1 vial of 5 ml contains 100 mg procaine hydrochloride), or pills (a box of 25 pills – 1 pill contains 100 mg procaine). Depending on the prophylaxis of aging phenomena or on the use of Gerovital as adjuvant therapy in various degenerative disorders, its way of administration is different.

In 1960, Ana Aslan experimented a new eutrophic product – Aslavital – which, in addition to procaine, contains an activating and antiatherogenic factor that is used for the prevention and treatment of predominantly cerebral and cardiovascular aging processes. This is indicated in generalized or predominantly cerebral, coronary, peripheral atherosclerosis, in the prevention and fighting of thromboembolic accidents and posthemorrhagic sequelae. Aslavital pills contain procaine hydrochloride 100 mg, benzoic acid 6 mg, pyridoxine hydrochloride 30 mg, while vials of 5 ml solution contain procaine hydrochloride 100 mg, benzoic acid 6 mg and glutamic acid 64 mg. Similarly to Gerovital, Aslavital is used as a eutrophic, regenerative factor, with a biocatalytic cell action. In the pathology of the elderly, it is administered for its antiatherogenic, energizing, antidepressive action, with a coronary and peripheral spasmolytic and vasodilator effect.

Due to its demonstrated antioxidant and eutrophic action, the procaine-based prophylactic and curative medication developed by Prof. Dr. Ana Aslan, Gerovital H3-Aslavital, has been maintained in medical practice over the last 50 years.

IMPORTANCE OF REHABILITATION TREATMENT IN HEMOPHILIC ARTHROPATHY – A CASE REPORT

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Hemophilia is a chronic X-linked inherited disease, whose clinical and functional consequences in the absence of coagulation factor replacement therapy can be extremely severe. Repeated bleeding in joints and muscles leads to major functional deficiencies, with an impact on the activities of daily living, as well as on the quality of life. Joint bleeding most frequently occurs in the knee, elbow, ankle and more rarely, in the hip, shoulder or fist joint. The objectives of rehabilitation treatment for muscle imbalances occurring in hemophilic patients are: maintenance of the joints in neutral positions, control and coordination of movements, restoration of muscle extensibility. The aim is to control pain, joint movement disorders, as well as to restore optimal function by restoring muscle balance, and consequently, to decrease muscle tension in these patients. Like other rare chronic diseases, hemophilia requires an active, conscious and consistent participation of patients and their families in the complex and responsible medical treatment performed by a medical team including various specialists: hematologists, orthopedists, anesthesiologists, pediatricians, family physicians, medical rehabilitation specialists, physiokinesitherapists, psychologists, ergotherapists. Rehabilitation is a complex process, involving high individual and social costs both from an economic and a psycho-emotional point of view. Rehabilitation treatment is essential for maintaining the joint range of motion and muscle tone. The objectives of rehabilitation treatment are the improvement of joint status, pain symptoms and locomotor performance, as well as the increase of exercise capacity. Massage, kinesitherapy, hydrokinesitherapy, electrotherapy, ergotherapy procedures are used. Balneotherapy as an external treatment includes hydrotherapy with a beneficial effect in locomotor disorders. Particularity of the case: a 59-year-old hemophilic patient with disease onset in childhood, having a severe form, but with slow evolution in time.

BALNEOTHERAPY IN BAILE TUSNAD

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Baile Tusnad (Tusnad Springs) is one of the most beautiful mountain health resort in Harghita county, Romania, also known as the „Pearl of Harghita”. It is a resort of national interest, and it is located on the western side of the volcanic mountain Ciomad, in the valley of the Olt river, at 650 m above sea level, surrounded by hundreds of square kilometers of forest.

The resort is well known for its balneary treatments from as early as the mid 19th century. In the 1960[’] the resort received the „national interest” title as a recognition for the quality of the medical services from here. At the same time, big investment had been undertaken in the medical infrastructure now belonging to TUSNAD SA. The partner has a balneological treatment center, licence for extracting the mineral waters from the perimeter, and the medical know how accumulated for over 150 years of medical tradition.

The main profile of the Balneary Treatment Center, belonging to TUSNAD SA, is the heart and circulatory system diseases. For prevention and treatment purposes the natural therapeutical factors are used, such as the mineral water springs, containing CO₂ which has a vasohypotonic effect (also used internally for its relaxing effect over the nervous system); mofette- CO₂ gas emanations, one of the very few in Europe, the highly ionized climate with a sedative effect.

The Balneary Treatment Center also provides physiotherapeutical procedures, massages, hydrothermotherapy, hidrophysiotherapy, subaquatic showers, electrotherapy. Besides the rehabilitation treatments the facility offers geriatric treatment. In 2015 the company is implementing a new ultrasound examination service, in collaboration with UMF Cluj Napoca. The Treatment center helps patients suffering with heart and circulatory system diseases, Parkinson disease, renal, digestive, endocrine disorders and reumatism.

MEDICAL REHABILITATION IN NEUROPATHIC PAIN

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Neuropathic pain is a complex problem, because it has an extensive history, an unclear etiology and a poor response to standard physical therapy agents. All this, along with pathology per se, affects the quality of life from all points of view, leading to severe disabilities. For this reason, there is currently no treatment that guarantees the prevention or the complete healing of neuropathic pain. Multimodal management is essential in the treatment of neuropathic pain. This is why it is important to follow certain steps that include the determination of the cause, differential diagnosis, the elimination of risk factors and the reduction of pain. Physical therapy and rehabilitation techniques are important options that should be considered when pharmacotherapy is no longer sufficient.

BALNEOTHERAPY IN GONARTHROSIS

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Abstract

Arthrosis includes degenerative joint disorders that affect articular cartilage in the first place, followed by changes of all components of the joint. The disease is detected in a proportion of 33% by X-ray in patients aged over 60 years. Gonarthrosis ranks first among chronic diseases from the point of view of patient disability.

This article is a review of guides and articles regarding arthrosis, balneotherapy, and balneotherapy in gonarthrosis. These were accessed on the Pubmed site in the period March-April 2015.

The components of balneotherapy to which the selected articles refer include mud packs, mineral waters, crenotherapy, etc. These are compared or associated with other methods used in the rehabilitation specialty area for the treatment of gonarthrosis: kinesitherapy, intra-articular infiltrations, hydrothermotherapy, galvanic currents, laser, low-frequency electromagnetic fields, etc.

The conclusions of the articles referring to the changes induced by these therapies on clinical evolution or certain serum parameters (biomarkers of oxidative stress, inflammation and cartilage destruction, vitamin D and other serum metabolites) were recorded.

All these data helped define the role of balneotherapy as part of the rehabilitation program for the treatment of gonarthrosis, through the benefits specific to it or common to other procedures such as hydrothermotherapy.

Conclusion: Balneotherapy has beneficial effects on patients with gonarthrosis, both clinically and by influencing certain serum parameters. Further studies are needed to quantify these effects using arthrosis/gonarthrosis specific markers, to establish a hierarchy of balneotherapy methods based on their effects on gonarthrosis, as well as to refine indications depending on the stage of the disease.

USING PULSED SHORT WAVE (DIAPULSE) COMPLEMENTARY TO PERIODONTITIS TREATMENT

PhD student physician: Alexandru Bogdan-Cătălin

PhD student physiotherapist: Toşa Edith-Éva

Department For Hygiene, Iuliu Hațieganu University Of Medicine And Pharmacy

Clinical case presentation

Introduction:

Given the biotrophic impacts of the pulsed short waves, we have decided to introduce them complementary to the prescribed periodontitis treatments to obtain optimal therapy outcomes.

Aims:

⇒ fast healing of the affected bone, ligament and mucosa, reducing the pain and the postoperative edema, reducing tooth mobility.

These goals were necessary to achieve the fastest possible oral rehabilitation.

Materials and methods applied:

We considered the case of a 50-year-old female patient with edentulism:

1. on the maxilla: T-L-L partial denture, made approximately 10 years before,
2. on the mandible: total edentulism, denture made approximately 3 years before.

Considering the periodontitis, the patient had 2nd grade tooth mobility (in mesiodistal and vestibulo-oral direction, higher than 1 mm “DUMITRIU”), the initial periodontal probing indicated approximately 4 mm deep periodontal pockets, bleeding during periodontal probing

(grade II bleeding, moderate inflammation, edema, hyperaemia), as well as chronic and chronically aggravated lateral and apical periodontitis.

The treatment protocol for the maxilla included:

1. Scaling
2. Therapy with antibiotics to stop acute inflammation
3. Removal of the fixed partial denture
4. Removal of the units which could have been irreversible sources for the disease
5. Performing the required root canal treatments
6. Closed field curettage
7. Apical resection, where required
8. A total number of 10 physiotherapy sessions carried out using pulsed short waves (Diapulse) of the required value and intensity
9. Finishing the prosthetic treatment only one month after the surgery.

Outcomes

After completing 10 sessions using pulsed short waves, complementary to the basic treatment, we achieved faster and easier postoperative recovery, which involved precocious recovery of both mucous and osteoligamentar tissues.

The most visible effects have been the following:

1. Decrease of tooth mobility (to 1st grade) after using pulsed short wave therapy (Diapulse);
2. Less bleeding during periodontal probing
3. Decrease of the depth registered at periodontal probing.

Discussion:

The results have been obtained during a periodontitis treatment, which has been carried out in compliance with the prescribed protocol, without bone grafting or other bioremediation methods (except Diapulse pulsed short waves).

INFLUENCE OF NATURAL FACTORS ON BRONCHIAL ASTHMA

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Abstract

Bronchial asthma is an increasingly frequent disease in patients who seek the assistance of medical rehabilitation specialists, and requires the entire drug spectrum: glucocorticoids, short-acting and long-acting β 2-agonists, theophylline, antileukotrienes to keep the disease under control.

We present the case of a 68-year-old male patient who was diagnosed in 2010 with bronchial asthma on an atopic background. Drug treatment with glucocorticoids and β 2-agonists was initiated, which was continued for about 18 months. In parallel, the patient underwent repeated 10-day treatments of salt therapy, and consumed goat milk, fir bud syrup, and quail eggs. Given that bronchial asthma episodes no longer occurred, the patient stopped the drug treatment and continued to use only natural factors.

The particularity of this case is given by the fact that although drug treatment was initially required to improve respiratory symptoms, over the following 3 years (from 2012 to the present), under the influence of natural factors alone, the patient no longer had bronchial asthma episodes.

EFFECTS OF NATURAL THERAPEUTIC FACTORS IN BĂILE TUSNAD ON THE REHABILITATION OF POST-STROKE PATIENTS

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2. Clinical Rehabilitation Hospital Cluj-Napoca

3. Tusnad Spa Complex S.A.

Abstract

Introduction. Stroke is one of the main causes of morbidity and mortality worldwide. According to the World Health Organization, in 2001 there were 5.5 million deaths from stroke, while about 15 million people survive a cerebrovascular accident every year. Prospective studies show that both the incidence and prevalence of this disease increase year after year, and WHO experts estimate that stroke will become the main cause of mortality by 2030. Balneotherapy is a treatment method that uses natural therapeutic factors with studied and recognized curative properties, based on chemical, mechanical and thermal effects on the body. The beneficial effects of carbonated mineral waters in Băile Tușnad are well known; these are recommended for the treatment of a number of diseases such as cardiovascular, digestive, nervous system, gynecological and rheumatoid diseases. **Aim.** This study aimed to evaluate the effectiveness of natural therapeutic factors in Băile Tușnad in order to continue the neurorehabilitation treatment of post-stroke patients in a spa and climatic resort for cardiovascular diseases in Romania.

Material and method. The study included 30 patients with a history of ischemic or hemorrhagic stroke, transient ischemic attack, with a mean age of 69 years, at the Tușnad Spa Complex S.A. treatment facility, in the period April-December 2014. The study was a prospective longitudinal analysis. Hemiparesis was the most frequent clinical sign, followed by coordination, balance and walking disorders. The patients underwent rehabilitation treatment consisting of carbonated mineral baths for 15 minutes, aerotherapy for 30 minutes, massotherapy, electrotherapy daily, for 16 days. Each patient was clinically monitored before and after treatment, using the TINETTI Balance Scale, the 10-m walking test, the Motor Assessment Scale, the BARTHEL Index, the Quality of Life Scale. **Results.** At the end of treatment, a statistically significant improvement in the walking speed and the walking distance was found ($p < 0.05$). Statistically significant results ($p < 0.05$) were also obtained when evaluating balance. **Conclusions.** Natural therapeutic factors, i.e. carbonated mineral baths and aerotherapy, indicated for the rehabilitation treatment of post-stroke patients, influenced clinical and functional parameters, determining a significant improvement of the independence and the quality of life of these patients. It is extremely important to continue rehabilitation treatment, unless contraindicated, in spa and climatic resorts, under the supervision of qualified medical experts, in a pleasant environment, close to nature.

IMPROVING THE QUALITY OF LIFE IN CLIMAX WITH KINETOTHERAPY AND NATURAL FACTORS IN VATRA DORNEI RESORT

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ABSTRACT

Introduction

Menopause is a physiological period of a woman's life accompanied by multiple symptoms that affect quality of life. Functional disorders caused by menopause may benefit from prophylactic treatment in Vatra Dornei resort to rebalance the body.

Material and Methods

The study was conducted between July 10, 2014 –September 15, 2014 on a group of 15 women, who received specific kinetic and resort treatment for 18 days, being individualized based on personal history. Evaluation of patients was done at beginning of the treatment the day 10th of July, and the last day of treatment the day 15th of September, recording pain score on VAS scale, the score for quality of life WHQ, and 10 parameters characteristic of menopause. The treatment with natural factors applied in Vatra Dornei resort consisted of the following procedures: mountain landscaped climbing paths, massage, kinetotherapy, general warm baths with peat mud, plants, carbonated mineral spring waters, electrotherapy, crenotherapy.

Results:

Age patients monitored ranged between 40 and 63 years with an average 50.67 (\pm 8.07). At the onset of this treatment pain average value was 3.93 (\pm 1.48) and at the final the average value of only 1.13 (\pm 0.74). After applying balneo-physio-kinetic treatment it was observed an improvement of the average of the 10 tested parameters.

At the beginning of the treatment WHQ index shows an impairment of quality of life on average 56%, after 10 days 31% and by the end of treatment only 14%.

Conclusions:

After the application of the treatment with natural balneo-kineto-therapeutical factors of Vatra-Dornei resort, there is a significant improvement in specific climax disorders.

Keywords: menopause, climax, natural factors, kinetotherapy, Vatra Dornei.

**EFFECTIVENESS OF NATURAL THERAPEUTIC FACTORS IN BĂILE
TUSNAD
FOR THE REHABILITATION OF PATIENTS WITH PARKINSON'S DISEASE**

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Abstract

Introduction. Primary Parkinson's disease is the result of a progressive diffuse neuronal degeneration of the central nervous system. It usually occurs after 50 years of age and clinically manifests by the association of at least two of the following three signs: rest tremor, stiffness, and bradykinesia/akinesia. It has a prevalence of about 150 per 100,000 inhabitants, which increases with age, so that after 65 years, the disease affects 3% of the population. It is the second cause of motor disability in elderly patients (after stroke), and at the same time, it is the second most frequent neurodegenerative disease, after Alzheimer's disease. Balneotherapy is a treatment method that uses natural therapeutic factors with studied and recognized curative properties, based on chemical, mechanical and thermal effects on the body. The beneficial effects of carbonated mineral waters in Baile Tusnad are well known; these are recommended for the treatment of various diseases such as cardiovascular, digestive, nervous system, gynecological and rheumatoid diseases. **Aim.** The aim of this study was to evaluate the clinical effectiveness of natural therapeutic factors in Baile Tusnad in order to continue the neurorehabilitation treatment of patients with Parkinson's disease in a spa and climatic resort. **Material and method.** The study included 17 patients with Parkinson's disease Hoehn and Yarh stages I-III, of which 5 women and 12 men, at the Tusnad Spa Complex S.A. treatment facility, in the period April-December 2014. The mean age was 69 years. The study was a prospective longitudinal analysis. The patients underwent rehabilitation treatment consisting of carbonated mineral baths for 15 minutes, aerotherapy for 30 minutes, massotherapy, electrotherapy daily, for 16 days. Each patient was clinically monitored before and after treatment, using the TINETTI balance and gait scale, the 10-m walking test, the Webster Scale, the Quality of Life Scale. **Results.** At the end of treatment, a statistically significant improvement in the walking speed and the walking distance was found ($p < 0.05$). Statistically significant results ($p < 0.05$) were also obtained when evaluating balance. **Conclusions.** Natural therapeutic factors, i.e. carbonated mineral baths and aerotherapy, indicated for the rehabilitation treatment of patients with Parkinson's disease, influenced clinical and functional parameters, determining a significant improvement of independence and the quality of life, which was also due to the intersocial relations established during the rehabilitation treatment in the Baile Tusnad resort.

STUDIUL TULBURĂRILOR MUSCULO-SCHELETALE UTILIZÂND ELECTROGONIOMETRIA ȘI ELECTROMIOGRAFIA

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REZUMAT

În cadrul acestei lucrări a fost măsurată și demonstrată acuratețea și fezabilitatea utilizării unui electrogoniometru în evaluarea articulației carpo-falangiene, în sindromul de tunel carpian, patologie foarte des întâlnită în zilele noastre. Pentru obținerea unor rezultate fezabile, am utilizat concomitant cu electrogoniometria articulației carpo-falangiene și ielectromiografia mușchilor raductorși flexor al policelui, în funcție de articulația carpo-falangiană solicitată, în timpul tastării unui text pe telefonul mobil sau la un computer personal.

Funcția mâinii este central în toate activitățile umane și a jucat un rol crucial în evoluția omenirii. Înafară de a fi un instrument extrem de flexibil, mâna are funcții importante în comunicare, limbajul corpului și atingere.

Mai ales degetul mare este important pentru buna funcționare a mâinii și rolul său este central în îndeplinirea sarcinilor simple de zi cu zi. Cu ajutorul degetului mare reușim să folosim calculatoare, telecomenzi, controlere de joc și telefoanele mobile, care au devenit o parte integrantă a vieții moderne.

În cadrul studiului, am folosit subiecți tineri, cu vârste între 21 și 23 de ani, categorie expusă la sindromul de tunel carpian, prin numărul mare de ore petrecut în fața computerului și datorită comunicării zilnice utilizând SMS-urile. Înregistrările au fost făcute pe 10 subiecți, pentru verificarea metodei, urmând ca numărul de subiecți să fie mărit și metoda de înregistrare perfecționată. Subiecții au fost așezat în poziție comodă, în șezut, la masa de lucru.

Pentru evaluarea tulburărilor musculo-scheletale am utilizat două tipuri de probe, pe fiecare subiect în parte: tastarea unui text alfanumeric cu ajutorul unui telefon inteligent, utilizând keypadul acestuia; tastarea aceluiași text pe un computer personal tip laptop.

Concluziile pe care le putem desprinde în urma electromiogramelor corelate cu rezultatele obținute în urma electrogoniometriei realizate sunt că oboseala care apare în cazul petrecerii unui timp îndelungat în fața calculatorului este o însumare de fenomene care relaționează:

- Oboseală musculară (dinamică și statică) – determinată de efortul muscular și de contractarea musculară fixă;
- Oboseală neurosenzorială – cauzată de tensiunea nervoasă a simțurilor (ochi, urechi);
- Oboseală psihică – determinată de factori de natură psihică.

Această lucrare poate fi de ajutor pentru proiectarea de noi studii sau de a interpreta studiile existente privind poziții comune ale degetului mare și ale indexului. Sistemele electrogoniometrice disponibile astăzi sunt destul de ușor de utilizat și oferă date corespunzătoare. Dar electrogoniometria are limitări și este important ca cei care pregătesc și efectuează măsurători cu electrogoniometre să înțeleagă aceste limitări. De exemplu, procedura de calibrare și normalizare a electrogoniometrului este de o importanță crucială și va afecta precizia de măsurare.

Anumite metodologii precum și schimbările fizice la electrogoniometrele de astăzi pot îmbunătăți precizia de măsurare. Electrogoniometria și Electromiografia dau diferite aspecte ale expunerii și, în general, nu se substituie reciproc.

How do we protect ourselves of MALPRACTICE? MEDICAL MALPRACTICE - ACTUALITY, PERSPECTIVES AND SIGNIFICANTLY JURISPRUDENCE

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Advocate, **Letitia Mihaela Morar**, *Phd- Cluj Bar Association, University of Babes Bolyai*

1. Medical liability – one version of the civil liability
2. Legal stipulations: Law no 95/2006 regarding reform in the field of health – Title XV dealing with medical liability; Order of the Minister of Health no 482/2007 – „Methodological Norms regarding the application of Title XV – medical liability of the medical staff as well as of the supplier of health, sanitary and pharmaceutical products” – concerning Law no 95/2006; Law no 46/2003 regarding patient rights; Order of the Minister of Health no 386/2004 concerning Law no 46/2003; Decision of the College of Doctors in Romania no 2/2012 regarding adopting the Statute and the Code of Medical Ethics
 - Definitions, notions, principles
 - Particularities of the medical liability – the importance of respecting the Protocols
 - Disciplinary liability- complementary form of the malpractice liability
 - Scenarios (confidentiality, discrimination, media access)
 - Case law analysis
3. Conclusion, questions, discussions

REHABILITATION “KEY POINTS” IN ZONE V FLEXOR TENDONS INJURIES

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Abstract

Rehabilitation of the patient with a tendon injury is a challenging process. The repaired tendon must be simultaneously protected from rupture and moved in a controlled fashion. While measures are necessary to protect the repaired structures, early controlled motion is required to enhance healing and function. Appropriate intervention at the correct phase of healing is based on an understanding of tendon and soft tissue healing and the factors that influence repair and function.

Lacerations to the volar wrist surface have the potential to be severely debilitating, mainly due to the superficial location and high density of tendons, nerves and arteries in that area.

Laceration of multiple flexor tendons in zone V presents a special problem in management. Deep forearm lacerations proximal to the transverse carpal ligament typically involve multiple structures, including tendons, median and ulnar nerves, and the ulnar and radial arteries.

Extensive volar wrist lacerations, also known as ‘**spaghetti wrist**’, ‘**suicide wrist**’ or ‘**full-house wrist syndrome**’ has been described extensively in the current literature, although there is no standard definition as to what constitutes a spaghetti wrist.

Despite their relatively frequent occurrence in the civilian population, few data are available in the literature to classify these injuries; thus, a uniform reporting, severity of disability and prognosis are not available.

Coordination between the surgeon and the therapist is essential. Tendon injuries can profoundly affect hand function and appropriate therapy and rehabilitation are essential to preserve function to the fullest extent possible.

**EFFECTS OF CARDIOVASCULAR REHABILITATION IN PATIENTS
ADMITTED TO THE “DR BENEDEK GEZA” HOSPITAL OF
REHABILITATION IN CARDIOVASCULAR DISEASES, COVASNA**

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Abstract

Background. Cardiovascular rehabilitation is an important objective of the treatment of cardiovascular patients in general, and ischemic heart disease patients in particular.

The aim of the study is to monitor the effects of long-term cardiovascular rehabilitation in patients readmitted to the “Dr Benedek Geza” Hospital of Rehabilitation in Cardiovascular Diseases Covasna.

Material and methods. The study included 92 patients with a mean age of 66.31±9 years, of which 63% women, who had two successive admissions to the “Dr Benedek Geza” Hospital of Rehabilitation in Cardiovascular Diseases, Covasna. At both admissions, all patients were evaluated for the presence of the main cardiovascular risk factors. All patients attended cardiovascular rehabilitation programs, including physical training, climatotherapy, CO₂ baths, mofette therapy, aerotherapy, electrotherapy .. We mention that cardioprotective therapy (aspirin, angiotensin enzyme converting inhibitors, beta-blockers and statins) did not undergo major changes from one admission to the other.

Results. More than half of the patients had the following risk factors: hypertension - 79.35%, dyslipidemia - 64.13%, overweight and obesity - 76.4%. The complex rehabilitation programs attended by the patients consisted of physical training - 33.7%, CO₂ baths - 85.9%, mofette therapy - 53.3%, aerotherapy - 96.7%, electrotherapy - 88%. A comparison of the main cardiovascular risk factors during both admissions showed no significant differences between these, except for LDL-cholesterol (3.15±1.26 vs 2.58±1.65 mmol/dl, p=0.004) and HDL-cholesterol (1.06±0.61 vs 1.194±0.41 mmol/dl, p=0.075)

In conclusion, in cardiovascular patients, obtaining improvements of cardiovascular risk factors requires long-term cardiovascular rehabilitation programs, in parallel to the application of measures for lifestyle change and for secondary drug prevention.

THE PHYSICAL THERAPY ROLE IN FUNCTIONAL REHABILITATION AFTER TOTAL SHOULDER ARTHROPLASTY

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Introduction: in the last decades, the incidence of hemiprosthetics and total shoulder arthroplasty has increased dramatically. The indications for total shoulder arthroplasty are: scapulo humeral arthritis, rheumatoid arthritis, secondary arthrosis after shoulder injuries, rotator cuff injury, aseptic osteonecrosis, severe fractures and tumors.

Objectives: this study wants to show the physical therapy efficiency in regaining the functional shoulder range of motion, especially flexion and abduction, using proprioceptive neuromuscular facilitation techniques. We followed a minimalist approach as far as the number of exercises is concerned and a maximal approach as far as the functional range of motion and muscle power are concerned (maximum efficiency/time unit).

Materials and methods: the study was conducted on an 28 years old female patient who has experienced total shoulder arthroplasty. This was due to an aggressive gigantic cell tumor at the proximal humerus bone. The patient followed five sessions of treatment at the Clinical Recovery Hospital from Cluj-Napoca, from 2013 to 2015. The complex treatment consisted of physical therapy, hydrotherapy, occupational therapy, laser therapy. Physical therapy was based on closed kinetic chain active flexion exercises, which were facilitated by a Swiss ball, pendulum exercises in order to facilitate the isometric and eccentric isotonic muscle contractions, isometric contractions for arm extensors, D2F Kabat diagonal with active assisted exercises followed by assisted resistive exercises and active active resistive exercises for upward shoulder blade movement.

Results: Following the physical therapy, the assessment clearly evidenced a spectacular evolution, reported to the time unit, through the evolution of the muscular force and range of motion. The flexion active range of motion and active abduction grew with 9% and passive abduction gained 8%, and flexion gained 16% after only 10 days of treatment.

Conclusions: The obtained promising results shows that an efficient approach which is very well structured may lead to maximum results in a brief period of time.

THE SIGNIFICANT RISKS FOR THE DEVELOPMENT OF OSTEOPOROSIS IN THE AERONAUTICAL PERSONNEL. PREVENTION AND TREATMENT

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Starting from the premise that astronauts lose 1% of their bone mass every week that they spend in the outer space, we have naturally come across an issue that questions similar problems in individuals who constantly fly. Industrial development and an increasing mobility of the population, both economically and in touristic areas have resulted in an exponential growth of the number of flights and people as well as the total number of flight hours for the aeronautical, military, and civil personnel.

The military and civil aeronautical personnel who undergo the yearly medical check at The National Institute for Aeronautics and Space Medicine "General Doctor Victor Anastasiu" in Bucharest was selected for this study according to the inclusion and exclusion criteria. They were also selected at random to be part of the study group, that eventually consisted of 51 aeronautical individuals. At the same time, the witness group was included in this research study and it consisted of 34 people sharing the same structure, but belonging to the non-aeronautical personnel.

The first study focused on a comparative analysis based on statistical methods between the two groups by evaluating 23 risk factors that contribute to the occurrence of osteoporosis: biological factors (age and sex); anthropometric factors (weight and height); lifestyle and nutrition (consumption of tobacco, alcohol, coffee, dairy products, sweets, meat and meat products, and medication that induce osteoporosis, physical activities, endocrine disorders and a family history of fractures or osteoporosis. We concluded that there are not significant differences between the aeronautical personnel and the non-aeronautical one, that could explain bone density and lab analysis modifications.

We also analysed the aeronautical personnel based on specific factors (the number of flight hours, years of service devoted to the aeronautical activity, and the aircraft type involved in this process). We later correlated this analysis with the frequency of osteoporosis in order to decide whether they were interdependent.

Both aeronautical and non-aeronautical research groups previously described underwent the osteodensitometry DXA test and lab analysis.

BMD measured by DXA method is significantly diminished in the aeronautical personnel, and the average T-score corresponds to a diagnosis of osteoporosis. The average T-score in the non-aeronautical personnel is normal.

The average values for total serum calcium remained normal in both groups, but they were below the lower limits of normal in the aeronautical personnel. Serum total alkaline phosphatase (the most commonly used marker of bone formation) was mildly decreased, but it remained within the normal range in the aeronautical personnel. The aeronautical personnel presented very low average osteocalcin levels (an osteoblast-specific marker) and these levels were well below the inferior limit of normal values. The mean PTH value (bone resorption stimulator) is higher in the aeronautical personnel than in the witness group and is above the upper limit of normal values.

The findings of this research lead to the conclusion that the aeronautical personnel is highly exposed to the risk of developing osteoporosis in comparison to the witness group. It has been proved that the length of service in the aeronautical activity determines a

proportional growth of the risk of developing osteoporosis. The longer the flight years in service and the longer the flight activity, the smaller the T-score DXA is. Consequently, the risk of fractures is considerably higher.

In order to do some research on the efficiency of the physiokinetic programme, all participants involved in the study practised it for 12 months, for at least 3 times per week. After this period, they repeated the lab tests and we compared these results with the initial ones.

All biochemical parameters having been considered, it has been observed that positive evolutions occurred after KT exercises, and these are statistically significant, both in subjects who are part of the study group and the ones who participate in the witness group: total serum calcium and ionic serum calcium were on the increase after the implementation of the KT programme ; glyceic values decreased for both groups, alkaline phosphatase increased after KT programme for both groups (mainly in the aeronautical personnel). The media of all these parameters were observed to be within normal limits.

Before kinetotherapy, the average value of osteocalcin in the aeronautical personnel is smaller than the lower limit of the normal interval, whereas after the KT programme it returns to normality. As far as the non-aeronautical personnel is concerned, the values of osteocalcin increase mildly after kinetotherapy and remain within normal limits both before and after this recovery programme. The average values of the PTH in the aeronautical personnel decrease after the KT programme, but they are above the higher limit of normality both before and after kinetotherapy. The average values of the PTH decrease in the non-aeronautical personnel, not so much as in the study group, remaining within normal limits.

In conclusion, if practised 2 or 3 times per week, KT exercises are efficient both for the prevention and the treatment of osteoporosis if they are aerobic, anti-gravitational, progressive, and adjusted to every individual, having a sub-maximum intensity.

SILICONE IMPLANT ARTHROPLASTY OF THE PROXIMAL INTERPHALANGEAL JOINT (PIPJ) OF FINGER V OF THE RIGHT HAND – A THERAPEUTIC VARIANT IN POSTTRAUMATIC ARTHROSIS

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Abstract

INTRODUCTION: Arthrodesis was for a long time the only surgical method used in the arthrosis of the proximal interphalangeal joint (PIPJ), until Swanson used the first silicone implant. This is not a total endoprosthesis, but a spacer, which is currently preferred to other surgical methods for PIPJ reconstruction.

MATERIAL AND METHOD: A 41-year-old male patient with posttraumatic arthrosis of finger V of the right hand, following a metacarpal V fracture, osteosynthesized with a Kirschner pin and immobilized in an ABPD splint for 2 months.

Operative technique: The incision was performed on the dorsal side of the digital ray V, on the old scar, with deep dissection and excision of cicatricial and adherent tissue. After penetrating into the PIPJ and evaluating the arthrosic lesions, the head of the proximal phalanx and the base of the middle phalanx were resected, after which the bone channels were prepared and the joint silicone implant no. 0 was introduced. This was fixed with four slowly resorbable sutures (Maxon 2.0), which were passed through the 2 bone ends and crossed above the implant, with three knots to avoid its dislocation, until the complete healing of the extensor aponeurosis. Then, the reconstruction of the dorsal extensor aponeurosis of the digital ray V was initiated, in order to increase PIPJ stability. Reconstruction was performed by taking a central strip from the proximal aponeurosis end and by placing it over the existing defect.

After the introduction of a small drain into the implant chamber, hemostasis, lavage, skin suture and sterile dressing, immobilization with the ABPD splint in a neutral position was maintained for 3-4 weeks, with the passive mobilization of the finger at each dressing change.

RESULTS: Control X-ray showed the presence of the interarticular space in which the implant was positioned. After the drain was removed at 72 hours and the dressing was changed, passive rehabilitation was started. After the ABPD splint was removed at 4 weeks, active rehabilitation was initiated with the help of a kinesiotherapist. In 2 weeks up to the present time, the patient achieved a PIPJ flexion of 40-45 degrees.

CONCLUSIONS:

1. Silicone implant arthroplasty is an alternative to PIPJ arthrodesis.
2. Silicone implant is particularly indicated for the ulnar region (digital ray IV-V), which contributes through the maintenance of mobility to the performance of fine movements (prehension).
3. In Tg-Mures, such interventions are limited by the high implant costs and by the absence of a National Prosthetic Rehabilitation Program for this segment, approved by the Health Insurance House.

ROLE OF MEDICAL REHABILITATION TREATMENT IN POST-POLIO SYNDROME – A CASE REPORT

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Abstract

The term post-polio syndrome (PPS) was introduced in 1985 by Halstead. It is characterized by sudden or progressive muscle weakness, new muscular atrophy, muscle pain, fatigue, functional impotence, cold intolerance, after a period of at least 15 years from acute polio virus infection, a period of neurological and functional stability, in the absence of other medical explanation [1]. The reported prevalence of PPS is between 15% and 80% of all patients with previous polio virus infections [2, 3]. Poliomyelitis continues to be a public health problem, because the consequences of the disease last throughout life. In Europe, there are about 700,000 persons who survived the infection and are still alive. Non-randomized studies with kinesitherapy programs with a duration between 6 weeks and 7 months, involving isokinetic and isometric endurance muscle training, have demonstrated an increase of muscle strength in the case of patients with mild or moderate muscle weakness, and a reduction of muscle fatigue [7, 8, 9]. The differential diagnosis of PPS can be difficult because of the need to exclude both neurological and non-neurological conditions that aggravate the pre-existing motor deficit. Rehabilitation programs using therapeutic means: kinesitherapy, thermotherapy, hydrothermotherapy, occupational therapy represent the only way to limit functional deficit and to improve pain, playing an important role in the long-term management and care of patients. Long-term prognosis is unfavorable; the regular monitoring of patients and their inclusion in complex medical rehabilitation programs are important in order to ensure the autonomy and improve the quality of life of these patients. However, rehabilitation is a complex process, involving very high costs both at individual, psychoemotional level and at social level. It is also important for persons who had poliomyelitis to be monitored by a multidisciplinary team, including a medical rehabilitation specialist, a kinesitherapist, a neurologist, an ergotherapist, and an orthotic specialist. The development of centers specialized in the treatment of post-polio syndrome would be useful.

ROLE OF MOFETTE THERAPY IN CARDIOVASCULAR REHABILITATION - THE COVASNA MODEL

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Abstract

The mofettes used for therapeutic purposes in Romania, in the Hospital of Rehabilitation in Cardiovascular Diseases Covasna, are unique in the world. Here, carbon dioxide in the form of carbogaseous baths and particularly, mofettes plays an important role not only in primary prevention, but also in secondary prevention and the rehabilitation of cardiovascular diseases.

Aim. The aim of this study is to evidence the role of mofette therapy as part of residential rehabilitation programs carried out at the Hospital of Rehabilitation in Cardiovascular Diseases Covasna.

Material and methods. The study included 92 patients admitted to the Hospital of Rehabilitation in Cardiovascular Diseases Covasna, Romania. All patients were evaluated for the presence of the main cardiovascular risk factors. The mean age was 66.31±9.00 years, with age limits between 42-85 years. All patients attended complex cardiovascular rehabilitation programs. Of these, 49 patients also underwent mofette therapy.

Results. By analyzing the profile of patients undergoing mofette therapy, the following were found: 36.7% of the patients were overweight, 40.8% obese, 83.7% hypertensive, 69.4% dyslipidemic and 24.5% diabetic. There were differences between the group treated with mofette therapy and the group without mofette therapy regarding total cholesterol and LDL-cholesterol values, which were significantly higher in the group undergoing mofette therapy. Significantly fewer patients with old myocardial infarction and atrial fibrillation, respectively, were subjected to mofette rehabilitation procedures: 4.1% vs. 16.3%, $p=0.05$ and 2% vs. 20.9%, $p=0.004$, respectively. 6.1% of the patients had peripheral arterial disease.

In conclusion, mofette therapy combined with other classical procedures can play an important role in the rehabilitation of cardiovascular patients.

MEDICAL REHABILITATION IN STIFFMAN SYNDROME

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Stiffman syndrome is a rare and disabling neurological disorder, characterized by muscle stiffness and episodic spasms that affect axial and limb muscles. It has an impressive impact on the patient's social, professional and family life. **The Moersch-Woltman syndrome** is another eponymous term for this disorder. Stiffman syndrome is clinically characterized by fluctuating muscle stiffness with superimposed muscle spasms. The frequent presence of anti-GAD (glutamic acid decarboxylase) antibodies in the serum and CSF of patients with Stiffman syndrome evidences an autoimmune process. In addition, many patients with this disorder have other autoimmune diseases such as: insulin-dependent diabetes mellitus, thyroid disorders, pernicious anemia, vitiligo, cancer, and myasthenia gravis. Due to the rarity of the syndrome and to the lack of information, the diagnosis of SPS is frequently an exclusion diagnosis, and it may take months or years to confirm it. Prognosis is variable and there is no predictive factor for the severity and evolution of the disease. Muscle spasms may cause muscle tears, bone fractures and deglutition disorders. Drug treatment is symptomatic. Benzodiazepines represent the most frequent class of drugs used for the treatment of Stiffman syndrome. Patients with Stiffman syndrome may benefit from medical rehabilitation therapy because of the disability and the functional limitation subsequent to it. In addition to direct patient care, therapy sessions also include the patient's family members.

SWALLOWING DISORDERS IN CLINICAL PRACTICE: FUNCTIONAL ANATOMY, ASSESSMENT AND REHABILITATION STRATEGIES

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Swallowing is a complex process consisting in transporting food from mouth to the stomach; it involves voluntary and reflex activity of more than 30 nerves and muscles, requiring complex neuromuscular coordination and brainstem and cortical centers for control. Dysphagia is defined as a alteration in the swallowing process, which cause difficulty in transporting saliva and aliments from the mouth trough the pharynx and esophagus into the stomach . It is a frequent symptom, affecting especially old people, people with neurological diseases, cancers of head and neck or severe reflux . Dysphagia can result from a wide variety of functional or structural deficits of the oral cavity, pharynx, larynx or esophagus, which could e caused by neurological conditions. Dysphagia carries serious health risks: malnutrition, dehydration, increase risk of infections. Effective dysphagia management requires an interdisciplinary approach; the goal of rehabilitation is to identify and treat abnormalities of swallowing while maintaining safe and efficient nutrition.

Objectives of this lecture will be assessing methods of evaluation and treatment of swallowing disorders in neurological diseases.

THE SPECIFIC FEATURES OF FUNCTIONAL REHABILITATION BY PHYSIOTHERAPY ON CHILDREN AND ADULTS DIAGNOSED WITH POSTTRAUMATIC CONDITIONS OF THE KNEE

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Summary

The posttraumatic conditions of the knee represent a wide range of lesions of various degrees, which can be located in any anatomical structure of this joint, so the lesion, as an effect of the traumatic factor, influences the joint in a negative way, by affecting its stability, its mobility and its muscular strength. The presence of the pain is a very important factor of a lesion, so the first objective in the recovery of the posttraumatic sequels is pain relief, objective which is necessary in any recovery program. Through this study it is distinguished the analysis of the specific features of rehabilitation by physiotherapeutical means on children and adults diagnosed with posttraumatic lesions of the knee. The most frequent posttraumatic lesions for children are the subluxations of the patella, knee contusions, ligamentary lesions; for adults, there are sprains of the knee, meniscal injuries, luxations of the patella.

The complex treatment included: electrotherapy with analgetic role (Träbert procedure- low frequency, and Interferential procedure- medium frequency) and kinesis therapy, having as objectives the improvement of flexum and of the deviations, the toning of the muscles, the improvement of the range of motion, and the correction of the gait.

Regarding children (<18 years old), the functional capacity of the knee, the muscular strength, the range of motion and the pain have decreased in a much shorter time than adults (30 to 55 years old). The appreciations have been made using VAS scale for the pain, the goniometer for the range of motion, and manual testing of muscular strength. Statistically important results have been noticed for pain and range of motion ($p < 0,05$) and statistically insignificant results for muscular strength.

STUDIES ON THE EFFICACY OF KINESIOTHERAPY IN TREATING LBP

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Introduction - LBP Management is complex and expensive, with socio-economic and medical implications. Prevalence of LBP in active population (25-64 years) is increasing. Approximately 80-90% of patients with LBP are diagnosed with “non-specific” lower lumbar pain, and 3% will require surgery.

The aim of the study was to highlight the importance of the recovery of patients with lower lumbar pain, versus drug treatment or electrotherapy.

Material and method - study included a number of patients aged between 25-80 years, divided into three groups: Group L1 received medication (NSAID, analgesic drugs, drugs for muscular relaxation, sedatives, vitamin B group), the L2 followed electrotherapeutic and massage, and the L3 group received complex medical treatment, electrotherapy, massage and kinesiotherapy. We used analytical assessment tools (joint and muscle balance) and synthetic tools (VAS –Visual Analogue Scale, Module- LBP and Quebec Scales, the Index for Evaluation of Quality of Life). The evaluation was performed at the beginning of the treatment and 10 days after.

Results - After applying the medication treatment (at home) or complex treatment (ambulatory), it was found that the L3 group obtained statistically significant results for pain, quality of life index and clinical functional status. Kinesiotherapy had as objectives: reducing pain and paravertebral muscles contracture, restoring mobility-sacral, increasing

force and resistance for lumbar spine, restoring functional activity and the prevention of recidivism. There were applied relaxation exercises using Kabat diagonals (final position), exercises to increase the mobility of the lumbar and sacral spine (Williams), increasing of muscular strength (isotonic exercises, isometric and izokinetic ones). It was aimed to obtain stretching of the muscles of the paravertebral lumbar spine, hamstrings and iliopsoas, but at the same time, abdominal and paravertebral toning. There was used the correction of posture, the education of the patient, the „school of the back”. For 18% it was necessary the use of lombo-sacral orthosis.

Conclusions - The complex treatment (medication, electrotherapy, massage therapy and kinesiotherapy) allows to reduce relapses of LBP in population and faster returning to work, reducing the periods of absenteeism. The treatment must be individualized according to the patient, the stage of the disease and the professional activity carried out.

Key words : low back pain, kinesiotherapy, drug treatment, medical rehabilitation

STUDY ON THE RELATIONSHIP BETWEEN PAIN, QUALITY OF LIFE AND DISABILITY IN PATIENTS WITH DEGENERATIVE CERVICAL SPINE

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Abstract Objective - The study aims to present the relationship between pain, disability and quality of life in patients with cervical spondylosis.

Material and Methods - The study was conducted in outpatient, between March and July 2014 using a sample of 126 patients (72 women and 54 men). The patients were divided into two lots: lot L1 followed medication (NSAID, analgesic drugs, drugs for muscular relaxation, sedatives), massage and kinesiotherapy, and lot L2 received electrotherapy (currents of low and medium frequency, ultrasound), massage and kinesiotherapy. Patient assessment has been done at the beginning and at the end of the treatment, after 10 days. For pain assessment it was used VAS scale, for the quality of life SF-36 scale and for disability it was used Index for the cervical inability (" neck disability "). Low and medium frequency currents are easily borne by patients and they were used for analgetic and muscular relaxation effectiveness. Ultrasound has been applied on the points of maximum intensity of the pain, the contracted muscles. The massage techniques comprised sedative role, strong analgesic and muscular relaxation role also. The program of kinesiotherapy included passive mobilization, low speed and amplitude of execution, mild cervical traction in the axis, assisted active exercises, simple active or with resistance exercises to correct the mobility disorders. It was aimed to make static positions for the disorder's correction and to restore normal cervical muscle toning through exercises, stretching techniques on the flexor muscles .

Results – after applying the treatment it was found that the results are statistically significant for the lot L2 track parameters: pain, quality of life and disability. . The complex treatment including electrotherapy, massage and kinesiotherapy reduces pain with positive impact on quality of life and disability. The patient can return faster to daily activities. The treatment should be individualized according to the patient and the stage of the disease.

Key words: pain, disability, quality of life, study

MONITORING TREATMENT RESPONSE IN PATIENTS WITH RHEUMATOID ARTHRITIS UNDERGOING COMBINED THERAPY WITH TNF ALPHA – BLOCKERS AND DMARDS

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Key words: rheumatoid arthritis, TNF alpha-blockers, DAS 28

Introduction: Rheumatoid arthritis (RA) is a chronic inflammatory disease with a progressive course, that affects symmetrically the synovium and different structures of the small joints. Biological treatment with TNF alpha-blockers (anti-TNF α) in association with remissive drugs improves the clinical course of disease and prevents joint destructions.

Objectives: evaluating treatment response in patients with rheumatoid arthritis undergoing combined therapy with TNFalpha- blockers and DMARDs, who had a suboptimal response in conventional therapy.

Patients and methods: 95 patients with rheumatoid arthritis undergoing biological therapies with Infliximab (IFX), Adalimumab (ADA) and Etanercept (ETA) were enrolled in a prospective study in the Rheumatology Department, Cluj-Napoca. Before initiating biological therapy and after 6 months of combined therapy, patients underwent clinical and paraclinical exams. These consisted of counting the number of tender joints (TJ28) and swollen joints (SJ28), global assessment disease activity using the visual analogue scale (VAS – patient and doctor) and biologic parameters (ESR, CRP, antiCCP antibodies and RF). DAS 28 score was used to quantify treatment response. If after 6 months of combined treatment, DAS 28 was below 3.2 or diminished with more than 1.2 compared to the initial value, the patient was considered responder.

Results: The majority of patients were women and the medium period of disease duration was 9.2 years (4.4-14.2 years). All the patients who were enrolled in the study were under combined treatment with IFX (58%), ETA (26%), ADA (16%). The medium value of DAS 28 at the beginning of the study was 5.67 (5.29-6.11), and the medium number of DMARD-s used simultaneously was 2.35. Methotrexate alone or in combination was used in 81% of the patients. According to DAS 28, 33 of the patients with rheumatoid arthritis (35%) were considered responders to TNF alpha blockers. A significant reduction of the DAS 28 was registered ($p=0.0001$), if the patients were considered as a group. After 6 months of biologic treatment, the majority of clinical and paraclinical parameters were statistically significant improved in all the subjects enrolled in the study ($p=0.0001$).

Conclusions: The majority of clinical and biologic parameters have significantly improved after 6 months of combined treatment. There were no significant differences between the biologic agents that were used.

MBT PHYSIOTHERAPY DEVICE APPLICATIONS IN RECOVERY OF THE POSTURAL CONTROL THROUGH KINETIC PROGRAMS IN PATIENTS AFTER CVA

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Key words: CVA or strokes, postural control, kinetotherapy.

Introduction

Reintegration and treatment of adults who have suffered a CVA, are some of the most important and challenging objectives of the recovery. It is well known that CVA is one of the most devastating traumas for the entire personality of the involved patient and also for his family. While the patient needs to live with dysfunctional sequelae for a long period of time or even permanently, the frequency of cardiovascular accidents (CVA or strokes) becomes an important public health issue.

The aim is that by designing and implementing the programs and the MBT kinetic methods to get an education / reeducation of the postural control and walking as fast and complex possible, respectively a status of functional independence or a process of full physical, mental and social well return to daily activities.

Material and Methods

40 subjects aged 45-60 years, diagnosed with CVA, being in the stage of the balance recovery, were randomized into 2 equal groups: one group on active treatment (with MBT device) and a control group (without MBT device). The groups were examined using the biomechanical and functional testing, and the parameters were registered: before (at the initial) applying the kinetic methods and after a month (at the final). Some parameters were measured such as unipodal and bipodal support, anteroposterior and lateral oscillations of CP, via barometrics-pedometrics –computerized impression of the feet, muscle strength evaluation test, the test GIF, PASS, MAS, etc ,.

Results:

The evaluation conducted through computerized methods (barometrics-pedometrics electronic platform) revealed data on static impressions of the feet (the status of static evaluation), the relationship between the plantar surface and the supporting surface.

Conclusions and Suggestions

Like other devices, the methods of assessment of the balance, through this testing electronic platform can provide important data regarding the evaluation of the postural balance.

A fact of particular importance in the treatment (recovery) after CVA is that the balance can be restored. The classical treatment (recovery) is a solution and the new technology can offer and such opportunities: finding of new methods and helpful equipment in recovering balance. The baro-podometrics platform and kinetic method of MBT device is a type of equipment that can assess and a possibility of training (retraining).