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Comisiei Permanente de Speleoterapie a UIS
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cu sprijinul: Primaria Oraşului Slanic Moldova

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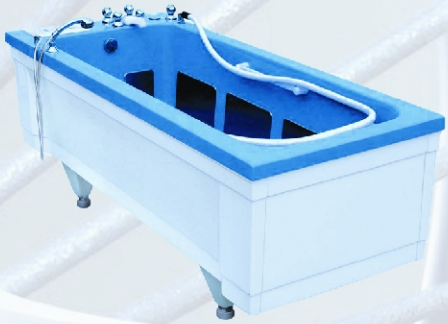

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INSTITUTUL NATIONAL DE RECUPERARE, MEDICINA FIZICA SI BALNEOCLIMATOLOGIE
A 11-a Conferinta Nationala de Balneologie, Medicina Fizica si Recuperare Medicala
29 Mai – 1 Iunie 2013, Slanic Moldova, Bacau
Participare internationala
Program stiintific / Scientific Program

Miercuri / Wednesday 29.05.2013

16.00 – 20.00 Inscrierea participantilor / Registration

Joi / Thursday 30.05.2013

9.00 – 9.30 Deschiderea oficiala / Opening

9.30 - 11.00 Masa rotunda / Round Table – **Perspectivele balneologiei in Romania in contextul dezvoltarii turismului medical din Romania. / The Perspectives of Balneology in Romania in the Context of the Development of Medical Tourism in Romania.**

1. **Potentialul balnear al Romaniei / Romania's Balneary Potential - Horia Lazarescu**

Participa: reprezentanti ai Ministerului Sanatatii, Ministerului Economiei, Institutului National de Recuperare, Medicina Fizica si Balneologie, Asociatiei Oraselor Balneare, Organizatiei Patronatului de Turism Balnear din Romania.

Participants: representatives of The Ministry of Health, The Ministry of Economy, National Institute of Rehabilitation, Physical Medicine and Balneology, The Association of Balneary Cities, The Organization of Balneary Tourism Patronage from Romania.

11.00 – 11.30 Pauza cafea / Coffee Break

11.30 – 13.30 Maratonul statiunilor balneare / The Marathon of Balneary Resorts

Moderatori / Chairs: Horia Lazarescu, Olga Surdu, Delia Cinteza

- Strategia INRMFB in promovarea turismului balnear / INRMFB Strategy for Promoting Balneary Tourism – *Horia Lazarescu*
- Apele termale ale Regiunii Transcarpatice din Ucraina: scurta prezentare / Thermal Waters of Trans-Carpathian Region in Ukraine: Short Overview - *I.S. Lemko, M.O. Haysak, B.M. Fekeshazi, A.G. Mankovich*
- Namolul de Techirghiol -trecut, prezent si viitor / Techirghiol Mud – Past, Present and Future - *Liliana Stanciu, Elena-Valentina Ionescu, Mihaela Minea, Sibel Demirgian, Traian-Virgiliu Surdu*
- Monitorizarea calitatii apelor balneare din statiuni si centrele de tratament din tara 2011 – 2012 / Monitoring the Quality of Spa Water of Spas Resorts and Treatment Centers Across the Country 2011 – 2012 - *Ioan Domahidi, Andra Neamțu, Tünde Fekete*
- Particularități de dezvoltare pentru reabilitarea balneara în Regiunea de Nord-Est a României / Development Particularities for Balneary Rehabilitation in North-Eastern Romania - *Ioan Sorin Stratulat*
- Scoala medicala de la Iasi si premisele balneologiei romanesti / Iasi Medical School and Romanian Balneology Prerequisites – *Adriana Nica, N Marcu, Roxana Miclaus*
- Slanic Moldova – orasul si izvoarele de sanatate / Slanic Moldova – The City and the Health Mineral Springs - *Adriana Sarah Nica, Roxana Miclaus*
- Potentialul balneoclimateric al statiunii Slanic Moldova / The Balneoclimatic Potential of Slanic Moldova Resort - *Iulia Bunescu, Liviu Enache*
- Diversitatea compozitiei chimice si particularitatile microbiologice ale surselor minerale din statiunea Slanic Moldova / The Diversity of Chemical Composition and the Microbiological Particularities of the Mineral Sources from Slanic Moldova Health Resort - *Gheorghe Gheorghievici, Madalina Cosmoiu, Liana Gheorghievici, Iulia Pompei, Iosif Tanase*
- Evaluarea caracteristicilor clinice la pacientii cu sindrom de durere regionala cronica de tip I sub actiunea namolului sapropelic din lacul Techirghiol / The Assessement of Clinical Features in Patients with Chronic Regional Pain Syndrome Type I under the Action of Sapropelic Mud from Techirghiol Lake - *Sibel Demirgian, Olga Surdu, Viorica Marin, Liliana Stanciu, Mihaela Minea, Daniela Profir*
- Studiu epidemiologic privind categoriile de patologii la pacientii internati in statiunea Pucioasa / Epidemiological Study on Pathology Categories in Patients Hospitalised at Pucioasa Resort –*Adriana Nica, Lili Miron*
- Cercetarea stiintifica balneara in Romania / Balnear Research in Romania – *Delia Cinteza*

13.30 – 15.00 Pauza pranz / Lunch

15.00 – 17.00 Factorii naturali terapeutici / Therapeutic Natural Factors
Moderatori / Chairs: I. Simionca, J. Chonka

- Speleoterapia in Romania, starea si posibilitatile utilizarii minelor de sare in scopuri medicale, in turismul "balnear" si "minier" / Speleotherapy in Romania, Status and Possibilities of Using of Some Salt Mines in Medical Purposes, "Balneoclimatic" and "Mining" Tourism. - *Iuri Simionca*
- Monitorizarea fizio-chimica si microbiologica a lacurilor de sare Solotvino / Physical, Chemical and Microbiological Monitoring of Solotvino Salt Lakes. – *Jaroslav Chonka, I. Lemko, M. Sichka, B. Buleza, V. Yarosh, I. Tzoma, I. Sharkan, A. Shevchuk*
- Influenta haloterapiei asupra unor parametrii biochimici si fiziologici la şobolani şi oameni / Halotherapy influence on some biochemical and physiological parameters of rats and humans – Mihai Hoteteu, Iuri Simionca, Constantin Munteanu, Rodica Rogojan, Liviu Enache
- Analiza demografica si epidemiologica asupra populatiei de pacienti internati in Sectia Sanatoriala Slanic Moldova in perioada ianuarie – mai 2013 / Demographical and Epidemiological Analysis of Patients Population Hospitalized in Slanic Moldova Sanatorium between January and May 2013 – *Dan Dumitrascu, Irina Petrusca, Simona Ioana Neagoe, Alexandru Cristea, Renee Popovici, Mihaela Galaon, Delia Cinteza, Horia Lazarescu, Codruta Paula Pentiuc*
- Amprentarea Metabolica in Balneoterapie / Metabolic Fingerprinting In Balneotherapy - *Constantin Munteanu, Diana Munteanu, Mihai Hoteteu, Marius Turnea, Delia Cinteza, Mariana Rotariu, Horia Lazarescu*
- Importanta si efectele terapeutice ale apelor minerale sulfuroase / Importance and Therapeutic Effects of Sulphureous Mineral Waters - *Madalina Cosmoiu, Ana Munteanu, Liana Gheorghievici, Iulia Pompei, Gheorghe Gheorghievici, Iosif Tanase*
- Efectul variatiei structurii fitoplanctonice asupra compozitiei chimice a namolului terapeutic format in ecosistemele saline pelogene / The Effect of the Phytoplankton Structure Variation over the Chemical Composition of the Therapeutic Mud Formed in the Saline Pelogenous Ecosystems - *Liana Gheorghievici, Madalina Cosmoiu, Gheorghe Gheorghievici, Iosif Tanase*
- Efectul terapeutic al „salonului de haloterapie cu mediu artificial de salina" asupra sobolanilor Wistar sensibilizati cu ovalbumina si a pacientilor cu astm si alte boli respiratorii cronice / The Therapeutic Effect of "Halotherapy Salon with Salt Mine Artificial Environment" at Ovalbumin-Sensitized Wistar Rats and Patients with Asthma and other Chronic Respiratory Diseases - *Iuri Simionca, Mihai Hoteteu, Ana Munteanu, Iuliana Rizea, Horia Lazarescu, Delia Cinteza, Dan Dumitrascu, Alexandru Iliuta, Gheorghe Stoian, Madalina Necula, Roxana Maxim, Rodica Rogojan, Irina Iliescu*
- „Salonul de haloterapie cu mediu salin artificial" al INRMFB si particularitatile factorilor haloterapeutici / The "Halotherapy Salon with Salt Mine Artificial Environment" from NIRPhMB and Particularities of Halotherapeutic Factors - *Iu.Simionca, N.Grudnicki, H.Lazarescu, M.Hoteteu, L.Mirescu, L.Enache, M.R.Calin, I.Truica, Iulia Bunescu.*
- Efectul speleoterapeutic al mediului salin din mina "Unirea" – Slanic Prahova, "Cacica" – Suceava, Ocna Dej si Turda – Cluj asupra pacientilor cu astm bronsic si boli respiratorii cronice infectios-inflamatorii si un experiment pe animale de laborator cu diferite patologii induse / The Speleotherapeutic Effect of "Unirea" –Slanic Prahova, "Cacica" – Suceava, Ocna Dej and Turda–Cluj County Salt Mines Underground Environment on Patients with Bronchial Asthma and Chronic Respiratory Infectious-Inflammatory Diseases and an Experiment on Laboratory Animals with Different Induced Pathologies - *Iu. Simionca, Ia. Kiss, Claudia Bilha, I.Ietcu, M.Hoteteu, N.Tiganila; M. Ghita, Ana Munteanu, Iuliana Rizea, C.Munteanu, Diana Munteanu, Rodica Rogojan, Irina Iliescu, C.Ursaciuc, D.Ciotaru, Elena Dumitrescu, A.Iliuta, G.Stoian, N.Grudnicki, O.Mera, C.Zup*
- Valorificarea potentialului terapeutic si optimizarea functionarii unui centru de tratament haloterapeutic - *Dr. Lazarescu Horia, CPIII,ing. Mirescu Lucian, CPII,Dr.Simionca Iuri(Gh.), ing. Slavu Ben, ing. Truica Ion, as.cercet. Parvulescu Teodor*
- Prescriptia, modul de administrare, indicatiile si contraindicatiile curei interne cu ape minerale terapeutice din statiunea Slanic Moldova in afectiunile tubului digestiv / Prescription, Route of Administration, Indications and Contraindications of Internal Course with Therapeutic Mineral Waters

from Slanic Moldova Resort in Gastrointestinal Disorders – *Delia Cinteza, Irina Petrusca, Simona Ioana Neagoe, Dan Dumitrascu, Renee Popovici, Alexandru Cristea, Liliana Cioc, Elena Alina Sandu, Horia Lazarescu, Cristina-Elena Paun*, *Crina Elena Diaconu*

- Efectul curei interne cu ape minerale carbogazoase asupra parametrilor sindromului metabolic / The Effect of Internal Course with Carbogazeous Mineral Waters on Metabolic Syndrome Parameters – *Constantin Munteanu, Irina Petrusca, Victorita Marcu, Daniela Poenaru, Liliana Cioc, Simona Neagoe, Horia Lazarescu, Sebastian Diaconescu, Camelia Teleianu*

Vineri / Friday 31.05.2013

9.00 – 11.00 Recuperare medicala I / Medical Rehabilitation I

Moderatori / Chairs: Adriana Sarah Nica, Ioan Sorin Stratulat, Rodica Gabriela Scarlet

- Siguranta pacientului si erori in recuperarea medicala / Patient Safety and Errors in Medical Rehabilitation – *Adriana Sarah Nica, Gilda Mologhianu*
- Protocolul general de recuperare dupa chirurgia mainii pentru leziunile traumatice / The General Protocol for Rehabilitation after Hand Surgery for Traumatic Injuries - *Rodica Scarlet, Consuela Brailescu*
- Impactul societal al durerii cronice – analiza in platforma SIP in conexiune cu EFIC si IASP / The Social Impact of Chronic Pain – an Analysis in SIP Platform in Relation with EFIC and IASP – *Adriana Nica*
- Avantaje si limite ale utilizarii instrumentelor specifice de evaluare a calitatii vietii pacientilor cu hemipareza in clinica de recuperare medicala / Advantages and Limits of Quality of Life Evaluation Scales for Haemiplegia Inpatients - *Brindusa Ilinca Mitoiu, Adriana Sarah Nica, Lili Silvia Miron, Gilda Mologhianu, Florina Ojoga, Andreia Murgu, Iulia Pompei, Mariana Moise, Mariana Comanoiu, Marius Ivascu, Toma Vasile, Constanta Florescu, Cristina Ionescu, Mariana Cojocaru, Gabriel Popa*
- Influenta undelor scurte pulsate asupra remineralizarii osoase la pacientii cu sindrom de durere regionala cronica de tip 1 / Influence of Pulsed Short Waves on Bone Remineralization in Patients with Complex Regional Pain Syndrome Type I - *Gabriela Dogaru, Ioana Stanescu*
- Aportul suplimentarii visco-elastice a genunchiului la pacientii cu gonartroza primara / The Contribution of Viscoelastic Supplementation in Patients with Primary Arthrosis of the Knee – *Dima Augustin, Cristea Alexandru, Sebastian Diaconescu, Dragosloveanu Magda, Paun Cristina-Elena, Lazarescu Horia*
- Actualitati in tratamentul farmacologic si de recuperare medicala in osteoporoza / News in the Pharmacological and Rehabilitation Treatment of Osteoporosis – *Sorina Szabo, Simona Ioana Neagoe*
- Osteosinteza soldului prin cui gamma pentru fractura pertrohanteriana a unei paciente varstnice cu multipli factori de risc / Hip Osteosynthesis with Gamma Nail for Pertrochanteric Fracture in an Elder Female Patient with Multiple Risk Factors - *Katinka Georgescu, Diana Dumbrava, Laurentia Draghescu, Valentina Oprea, Robert Grosu, Madalina Craciun, Rodica Eremia*
- Recuperarea medicala la pacientii cu osteoporoza / Medical Rehabilitation in Patients with Osteoporosis – *Delia Cinteza*

11.00 – 11.30 Pauza de cafea / Coffee Break

11.30 – 13.30 Recuperare medicala II / Medical Rehabilitation II

Moderatori / Chairs: Delia Cinteza, Augustin Dima

Aspecte de diagnostic diferential si management terapeutic la un pacient cu paralizie de nerv radial de etiologie multifactoriala / Aspects of Differential Diagnostic and Therapeutic Management in a Patient with Radial Nerve Palsy of Multifactorial Etiology – *Simona Ioana Neagoe, Liliana Simona Cioc*

Tetrapareza ataxica posthipoxie prelungita prin expunere inhalatorie la gaze cu ardere incomplete / Ataxic Tetraparesis Secondary to Prolonged Hypoxia Due to Inhalation Exposure at Incomplete Combustion Gases – *Liliana Neacsu*

Tehnici de spatiere in patologia neurologica si non-neurologica ce determina fatigabilitate / Spacing Techniques in Neurological and Non-Neurological Pathology Causing Fatigability - *Diana Dumbrava, Robert Grosu, Katinka Georgescu, Laurentia Draghescu, Valentina Oprea, Madalina Craciun, Rodica Eremia*

Managementul sindroamelor de entrapement ale nervului cubital prin tehnici de gliding / The Management of Cubital Nerve Entrapment Syndromes Using Gliding Techniques - *Laurentia Draghescu, Diana Dumbrava, Madalina Craciun, Robert Grosu, Katinka Georgescu, Valentina Oprea, Rodica Eremia*

Necroza de cap femural bilaterala la o pacienta tanara dupa terapia cortizonica - prezentare de caz. / Bilateral Femoral Head Necrosis in a Young Female Patient after Cortisonic Therapy - *Valentina Oprea, Diana Dumbrava, Robert Grosu, Madalina Craciun, Katinka Georgescu, Laurentia Draghescu, Rodica Eremia*

Exercitii de gliding si tensionare pentru nervul median / Gliding and Straining Exercises for Median Nerve - *Robert Grosu, Laurentia Draghescu, Diana Dumbrava, Katinka Georgescu, Madalina Craciun, Valentina Oprea, Rodica Eremia*

Tratamentul non-chirurgical prin tehnici de gliding in patologia nervului radial / Non-Surgical Treatment Using Gliding Techniques in Radial Nerve Pathology - *Madalina Craciun, Valentina Oprea, Diana Dumbrava, Robert Grosu, Katinka Georgescu, Laurentia Draghescu, Rodica Eremia*

Consecintele artroplastiei de sold la o pacienta tanara cu sechele tardive post accident rutier / Consequences of Hip Arthroplasty in a Young Female Patient with Late Car Crash Sequelae – *Andreea Ramona Romila, Irina Petrusca, Simona Neagoie, Renee Popovici, Alina Sandu, Alexandru Cristea, Nicolae Stoicescu*

13.30 – 15.00 Pauza pranz / Lunch

15.00 – 17.00 Managementul terapeutic la sechelarii dupa traumatisme vertebromedulare / Therapeutic Management in Patients with Sequelae of Vertebro-Medullary Injuries

Moderatori / Chairs: Daniela Poenaru, Irina Petrusca

- Neurostimularea vezicii neurogene la pacientii cu traumatisme vertebromedulare / Neurostimulation of Neurogenic Bladder in Patients with Vertebro-Medullary Trauma - *Renee Aurora Popovici, Irina Petrusca, Simona Neagoie, Andreea Romila, Alexandru Cristea*
- Restaurarea functiei musculaturii respiratorii dupa leziunile medulare - Tehnici de stimulare electrica si magnetica / Restoring the Function of Respiratory Muscles after Medullar Injuries – Techniques for Electrical and Magnetic Stimulation *–Irina Petrusca, Simona Neagoie, Renee Popovici, Simona Ruxandra Tarkan*
- Complicatiile cardiovasculare la pacientii cu traumatisme vetebromedulare / Cardiovascular Complications in Patients with Vertebro-Medullary Trauma – *Liliana Neacsu, Camelia Teleianu*
- Disautonomia vegetativa dupa traumatismele vertebromedulare / Vegetative Dysautonomia after Vertebro-Medullary Trauma *–Daniela Poenaru*
- Terapii medicamentoase in activitatea de recuperare si reabilitare fizica medicala- rolul farmacistului in activitatea INRMFB – Pharmacoterapy in Medical Rehabilitation – *Cristina Elena Paun*
- Concordanta/ Discordanta intre nivelul neurologic si nivelul functional la pacientii cu TVM cervical – studiu de caz / Concordance/Discordance between the Neurological and Functional Level in Patients with Cervical Vertebro-Medullary Trauma – Case Study *–Alexandru Cristea, Daniela Poenaru, Horia Lazarescu, Augustin Dima, Victorita Marcu, Sebastian Diaconescu, Renee Popovici, Irina Petrusca, Simona Neagoe*
- Tulburarile de mers in hemiplegiile organice / Walking Difficulties in Organic Hemiplegia – *Dan Dumitrascu*
- Umarul dureros la pacientul hemiplegic / Painful Shoulder in Hemiplegia Patients – *Elena Alina Sandu, Liliana Cioc, Liliana Neacsu, Dan Dumitrascu, Simona Neagoe, Andreea Ramona Romila*
- Neuropatia diabetica si avantajul benfotiaminei in tratamentul patogenic al acesteia / Diabetic Neuropathy and the Advantage of Benfotiamine in its Pathogenic Treatment - *Dan Dumitrascu, Delia Cinteza, Daniela Poenaru, Horia Lazarescu, Ioana-Simona Neagoie, Liliana-Simona Cioc, Simona Ruxandra Tarkan*

17.00 - **Concluzii / Conclusions**

Inchiderea lucrarilor / Closing Remarks

CONCORDANCE/DISCORDANCE BETWEEN THE NEUROLOGICAL AND FUNCTIONAL LEVEL IN PATIENTS WITH CERVICAL VERTEBRO-MEDULLARY TRAUMA – CASE STUDY / CONCORDANTA/ DISCORDANTA INTRE NIVELUL NEUROLOGIC SI NIVELUL FUNCTIONAL LA PACIENTII CU TVM CERVICAL – STUDIU DE CAZ

Alexandru Cristea, Daniela Poenaru, Horia Lazarescu, Augustin Dima, Victorita Marcu, Sebastian Diaconescu, Renee Popovici, Irina Petrusca, Simona Neagoe

ABSTRACT

Introduction : Vertrebo-medullary trauma (VMT) sits behind ones of the most dramatic neurological syndromes. Their gravity is influenced by both the character of the injury (complete / incomplete spinal cord transection) and the cranio-caudal level of the lesion (cervical, thoracic, lumbar, sacral). After a spinal injury patient's personality and ability to integrate in society are dramatically influenced.
Aims: We aim to present the evolution of a patient with a high VMT secondary to a road traffic accident (June 2011). He developed a C5 comminuted fracture (Franckel A complete neurological lesion with C4 neurological level). Following trauma, he was repeatedly admitted in our clinic for rehabilitation treatment.
Material and method: We present the case of a 30 years old patient, without any significant PMH and FH who, secondary to a road traffic accident in 2011, developed a VMT, with C5 body and C5-C6-C7 spinal processes fractures. In June 2011 he underwent a posterior decompression (C4-C6 laminectomy) and metallic spinal reconstruction with poliaxial rods and screws at C4, C6, C7 level. In February 2012 he had a complete Franckel A lesion, with C4 neurological level, and a motor ASIA score of 4/12 right/left. The aims of the rehabilitation treatment were tailored according to the motor deficit. The priority was preventing complications, followed by increasing the respiratory capacity, improving functional status and social and professional reintegration.
Results: With the help of the rehabilitation treatment, the patient managed to improve both his functional and emotional abilities. He improved motility control of his upper trunk, left>right, managing to feed without help and to indefinitely maintain short-sitting position in a rolling armchair. Nevertheless, he still required maximum help from a third person.
Conclusion: Evolution of a patient with VMT depends on a few key factors: level of initial injury, initial muscular force, complete/incomplete lesions, moment of comencing rehabilitation treatment. Familly support and level of emotional involvement are equally important. Any improvement in quality of life for a pacient with VMT can significantly improve overall prognosis.

Aportul suplimentarii visco-elastice a genunchiului la pacientii cu gonartroza primara

Augustin Dima, Delia Cinteza, Cristea Alexandru, Sebastian Diaconescu, Magda Dragosloveanu, Cristina - Elena Paun

ABSTRACT

Introducere
Patologia artrozica a trenului inferior reprezinta in ultimele 2 decade , avind in vedere cresterea perioadei de viata, un factor de invaliditate din ce in ce mai mare raportat statistic, cu invaliditati greu de controlat, cu costuri de tratament impresinante, insa cu rezultate inca relativ modeste. Au fost realizate nenumarate studii privind oportunitatile de tratament(conservator- medicamentus, suplimente nutritive, scheme diverse de recuperare, sau interventional minimal-Suplimentare visco-elastica, sau de amploare –foraje, osteotomii, emondaje articulare etc.), ale caror rezultate sunt partial satisfacatoare, inca discutindu-se pe marginile unui protocol global acceptat privind tratamentul patologiei artrozice la nivelul trenului inferior.
Obiective
Obiectivul principal este acela de a demonstra efectele benefice ale suplimentarii visco-elastice cu saruri ale acidului hialuronic asupra patologiei artrozice cu localizare la nivelul articulatiei genunchiului.

Material si metoda
Studiul a cuprins doua loturi omogene de pacienti in numar de 486 de pacienti, primul lot de 230 de subiecti, ce au efectuat tratamentul in cadrul ambulatoriului de specialitate al INRMFB, si pacienti internati in clinica I a INRMFB urmind tratament complex de recuperare cu FKT de profil si protocolul medicamentos incluzind AINS- Naproxen si Esomeprazol, Tonifiant vascular venos, Sulfat de glucozamina, Acetaminofen si suplimentare visco-elastica cu Hialuronat de Sodiu 2,5 ml saptaminal, trei saptamini consecutiv. Cel de al doilea lot cuprinzind 256 de subiecti, au efectuat tratamentul in afara suplimentarii visco-elastice. Loturile au fost omogene in ceea ce priveste virsta, repartitia pe sexe (preponderenta sexul feminin), cu comorbiditati, conditii de viata si de munca asemanatoare.
Pacientii au fost evaluati in repetate rinduri in momentul inceperii tratamentului, saptaminal, trei saptamini, apoi au fost notate puseele de decompensare algo-functionala si inflamatorii. Au fost intocmite fise de evaluare , si s-au intocmit scoruri pe scalele de evaluare- WOMAC, VAS, schema de mers si masuratori ale circumferintei articulare.
Rezultate si concluzii
Rezultatele au fost semnificative statistic in sensul controlului atit al simptomatologiei, cit si din punct de vedere al morfologie entezo-articulare, si al schemei de mers, rezultatele fiind vizibile statistic inca din ziua a zecea dupa terminarea seriei de infiltratii, cu o ameliorare substantiala catre ziua 30 post tratament de suplimentare, cu mentinere a beneficiilor in medie pentru o perioada de 15 luni post tratament. Hialuronatul de Sodiu reprezinta un remediu de seama in tratamentul patologiei artrozice la nivelul trenului articular inferior, fiind un factor determinant in bunul management atit al simptomatologiei cit si morfologiei artrozice.

DIFFERENTIAL EQUATIONS WITH APLICATIONS IN MUSCLE CROSS-BRIDGE CYCLE
Mariana Rotariu, Mihai Ilea, Marius Turnea, Dragos Arotaritei, Constantin Munteanu

ABSTRACT

Introduction: The mechanical characteristics of smooth muscle can be broadly defined as either phasic, or fast contracting, and tonic, or slow contracting. Muscle fibers generates tension during the action of actin andmyosin cross-bridge cycling. Although the term contraction implies shortening, when referring to the muscular system, it means muscle fibers generating tension with the help of motor neurons. To understand the kinetics of these chemical and physical transitions, a system of simultaneous differential equations can be derived based on a cyclic model. Mathematical modeling in this case, provides useful tools to analyze kinetics processes, validation of conceptual models, and elucidation of governing mechanisms. Methods: The model is based on a set of ordinary differential equations system. Results: To obtain exact solution from a ordinary differential equations system using conventional methods is slow. Using an implicit Runge-Kutta method for solving a system, the order of the error can be reduced compared to what the classical theory predicts. The model is solved numerically using the software MATLAB. U*sing the program Matlab, I did various simulations for different values of biological parameters presented in this model studied.* The graphical output in this article shows the force generated by the cross-bridges in States 2 and 3 is to be proportional to the sum of the cross-bridge fractions in those states and indicates that a transient decrease in the rate of cross-bridge attachment in a muscle hortening at low velocity can produce a force-velocity. In muscle contraction, probability of crossbridge attachment is likely partially determined by the flexibility of individual cross-bridges and at maximal velocity of shortening, although there is evidence of bridges being detained in state 2. Generally the estimation of the kinetic parameters is performed by fitting the experimental by computing a number of ordinary differential equations systems with different parameters and verifying the best solution.
Conclusions: The study of muscle cross-bridge cycle is an exciting and important topic in biomechanics research and will profit considerably from theoretical input.The use of MATLAB in this article illustrates the important role of informatics in research in mathematical modeling. As the model of biological processes becomes more and more realistic, the number of states in the model will undoubtedly increase.

HALOTHERAPY INFLUENCE ON SOME BIOCHEMICAL AND PHYSIOLOGICAL PARAMETERS OF RATS AND HUMANS

Mihai Hoteteu, Iuri Simionca, Constantin Munteanu, Rodica Rogojan, Liviu Enache

ABSTRACT

The aim of this study is to determine the effect of halotherapy on biochemical parameters and hidroelectrolyte balance in human subjects and Wistar white rats with induced pathology. The rats and humans from experimental groups were subjected to a period of halotherapy for 21 days.
In order to study the electrolyte balance animals were kept for 24 hours in individual metabolic cages without food and with free access to a saline solution. After 24 hours was measured water volume, the amount of sodium intake and urine volume and the concentrations of eliminated sodium and potassium in urine.
From the human subjects the urine was collected in various days of experimental halotherapy and was determined the level of eliminated sodium and potassium, also the serum biochemical parameters of human subjects was assayed before and after halotherapy cure.
It was observed that the halotherapy cure normalize the most parameters of the hidroelectrolytic balance on sensitized Wistar white rats. In human subjects the adaptation process to halotherapy conditions begin after 8 to 10 days of exposure, the regulator function of adrenals being adapted to the increased salt loading of the body. On the other hand, most of the serum biochemical parameters studied were maintained in normal values range with a slight tendency of decrease after halotherapy, compared with the values observed before the cure.

DIFFERENTIATED HALOAEROSOLTHERAPY AT PATIENTS WITH COMMUNITY ACQUIRED PNEUMONIA IN CONVALESCENCE PERIOD

O.I. Lemko, I.S. Lemko

ABSTRACT

Introduction. The inflammatory process in the broncho-pulmonary system during community acquired pneumonia is not fully completed by the end of the antibiotics course. The evidences of this situation are the remaining clinical manifestations, certain changes in cytokine status and in immune system as a whole.
Objectives: patients with community acquired pneumonia during early convalescence (after completing of antibiotic therapy), who received treatment in conditions of artificial rock salt aerosol medium (haloaerosoltherapy)
Material and Methods. The 53 patients with community acquired pneumonia were examined before and after the course of haloaerosoltherapy. The clinical data (cough, sputum, dyspnea, auscultation data) and pulmonary function tests (PFT) were evaluated. Two regimes of haloaerosoltherapy were used. Treating complex №1 (TC-1) included daily sessions of haloaerosoltherapy with 60 minutes duration each of them. TC-2 was with increased aerosol load due to 2 daily sessions lasting 30 minutes each with an interval of 3-4 hours between them. Dispersion and concentration of rock salt aerosol medium was controlled by a special laser-optical system.
Results. It was established that after antibiotic therapy mild or moderate cough persisted in majority of patients (96,2% of cases), and productive cough was registered more frequently (54,7%). Only two patients (3,8%) didn't note cough. However, dyspnea (mostly mild) persisted in 67,9% of patients. Auscultation dry rales were wiretapped in 47,1% of patients. This testifies the presence of bronchial obstruction and indicates the necessity of rehabilitation treatment. In addition, the single moist rales were found in 22,6% of cases, which confirms the incompleteness of the inflammatory process.
The obtained results were confirmed by PFT data. After a course of antibiotics lowering of inspiratory capacity (70,9 ± 1,50%) remained. This confirms the restrictive changes of ventilation and insufficient functional recovery of lung parenchyma. In addition the bronchi obstruction (FEV_1<85%) were observed in 23 patients (43,4%).

After treatment the positive dynamics of clinical symptoms and PFT data were observed in majority of patients, but its expressiveness depended on the prescribed TC. Using TC-1 cough disappeared in 61,9% of patients, and after the TC-2 – in 82,4% of cases. Other clinical data decreased more significantly after the TC-2 also. The received clinical result was confirmed by the average increase of PFT data, which was 5,91 ± 0,68%, after TC-1 and 9,54 ± 0,72% - after the TC-2.
Conclusion. The course of haloaerosoltherapy according to TC-2 with increased haloaerosol load appeared to be more effective at patients with community acquired pneumonia in the convalesce period, especially accompanied with bronchial obstruction.

IMPROVEMENT THE QUALITY OF LIFE AT THE PATIENTS WITH KNEE OSTEOARTHRITIS BY PHYSICAL TREATMENT AND GAIT DEVICES

Gheorghe Chiriți, Dana-Maria Dimulescu

ABSTRACT

Osteoarthritis is the most common arthritis in adults, typically involved knees, hips and spine. Osteoarthritis of knee cause pain, limitations of daily living activities and decrease the quality of life.
Objective: To determine the role of association between daily use of a cane and physical-kinetic schedule at the patients with knee osteoarthritis, using randomised controlled trial.
Material and method: The study included two groups of patients (1- study group and 2 – control group), either 30 patients, males and females, with knee osteoarthritis.
Each patient of the study group used gait device daily (cane) and instructed in how to use the cane on the contralateral side. The patients of the two groups followed the same physical-kinetic schedule.
The clinical-functional parameters assessed were: pain, physical dysfunctions, disabilities, drugs consumption – NSAIDs, quality of life. We used the scales: VAS, Tinetti Gait Scale, Tinetti Balance Scale, ADL 24, SF-36.
Results: The improvement of the scores were: pain – 47,5% (group I) and 38,4% (group II); physical dysfunctions – 30,2% (group I) and 23,6% (group II); disabilities (gait disturbances) – 39,7% (group I) vs. 31,5% (group II); drugs consumption (NSAIDs) – 45,4% (group I) vs. 36,1% (group II); quality of life – 43,8% (group I) and 35,3% (group II).
Conclusions: This study showed the effect of association between gait devices and physical-kinetic schedule at the patients with knee osteoarthritis, in improvement clinical-functional parameters.

PHYSICAL THERAPY AND REHABILITATION FOR ATAXIC PATIENTS

Florina Ojoga, Smaranda Marinescu

ABSTRACT

Introduction: Ataxia is a movement disorder in which there is a incoordination of movements and postural control, resulting in balance and walking disturbances.
Objectives: The goal of the study is to review the definition of ataxia, its subtypes and causes, to analise the assesment methods and managementbfrom the point of view ofcthe rehabilitation team.
Material and method: We used a complex rehabilitation treatment with multiple approaches (proprioceptive facilitation, resistive exercises, gait exercises, plyometric execises).
Results After a long term rehabilitation treatment, the patients with ataxia improved their balance and postural reactions, increased posturalbstabilisation, developed new upper extremity functions and independent and functional gait.
Conclusion: Physical therapy applications play a crucial part in the treatment of ataxia. Of major importance are the evaluation of the patient and establishing the treatment methods, as well as performing the rehabilitation programme regularly.

EXPERIENCE OF THERMAL IN CONDITIONS OF SANATORIUM COMPLEX "THERMAL STAR" IN TRANSCARPATHIA

V.G. Kudyk, M.O. Haysak, L.V. Dychka

ABSTRACT

Introduction: Among natural factors that are used in the treatment of patients with different diseases and functional disturbances of locomotor system mineral water (MW) are proved to be the most effective especially at the period of rehabilitation. Due to their multicomponent chemical composition and polivalent biological effects, external use of MW improves the nonspecific immune reactivity and restores the affected functions. In addition, the use of MW is one of the oldest methods of treatment that has no side effects, which are characteristic for many medications traditionally used for these patients. *Objectives:* Therapeutic effects of external use of carbonic, highly-siliceous (133-183 mg/l), boric (88-100 mg/l) highly mineralized (9,96-12,32 g/l) sodium chloride slightly acidic thermal (T 42-44^{0}C) MW of the sanatorium complex "Thermal Star" were analyzed. By its composition, the MW is analogous to the thermal water of Wiesbaden spa.
Materials and Methods: The main clinical and functional parameters were studied at 41 patients with disorders of the locomotor system (among them 25 female and 16 male, age of patients ranging from 26 to 67 years).
Results: Dynamics of clinical and functional parameters under the influence of thermal treatment revealed a distinct positive effect of external use of MW (including 10 general baths with temperature of the water 34-36-38^{0}C, duration of the procedure 10-15 min). The pain in the indexed joints disappeared or its intensity significantly decreased in 70% of patients. In 75% of them improved the motion range in the spine and joints. In addition, thermal balneotherapy improved adaptive vegetative reactions of the organism. It must be noted that there were no side effects during the course of treatment.
Conclusions: According to the statistic data, about 2000 patients with pathology of locomotor system are treated in conditions of the sanatorium “Thermal Star” every year. The use of thermal balneotherapy is a promising direction in treatment and rehabilitation of patients with pathology of locomotor system.

OXIDATIVE STRESS IN HALOTHERAPEUTICAL TREATMENT OF SENSIBILIZED WISTAR RATS INHIBITS THE ACTIVITY OF LUNG XANTHINE OXIDASE

Cristina Ionela Nica, Madalina Necula, Roxana Georgiana Macsim, Iuri Simionca, Mihai Hoteteu, Ana Munteanu, Iuliana Rizea, Gheorghe Stoian

ABSTRACT

Oxidative stress is an important pathophysiological component of airway diseases such as asthma and chronic obstructive pulmonary disease (COPD), generated by the action of some environmental pollutants, chemotherapeutic agents, as well as by endogenous ROS produced by inflammatory cells. One of the the principle sources of reactive oxygen species (ROS) in lung is xanthine oxidoreductase (XO), a molibdo-enzyme which can generate superoxide radical in the presence of hypoxanthine and with concomitant reduction of NAD^+ or molecular oxygen. A high activity of XO leads to important oxidative damage and an imbalance between ROS and antioxidants that is representative for asthma, a commonly lung disease.
In this study we used adult Wistar rats with experimentally induced asthma by sensitization with ovalbumin, treated/untreated by speleotherapy into a halochamber with the same physico-chemical parameters of a natural subterranean saline environment. In these conditions, our data show that halotherapy treatment lead to an improvement in symptoms by suppression of ROS production and inhibition of the increased XO activity in asthmatic lungs, which was significantly elevated compared with healthy lung rats.

METABOLIC FINGERPRINTING IN BALNEOTHERAPY

Constantin Munteanu, Diana Munteanu, Mihai Hoteteu, Marius Turnea, Delia Cinteza, Mariana Rotariu

ABSTRACT

Research in balneology must be connected to diagnostic tools and paraclinical evaluation of biological status of an organism treated by balneotherapy for various diseases. Using a natural therapeutic factor to treat a certain medical problem has to be substantiated by positive changes in biological parameters of the organism that stand as arguments for the therapeutic property of that natural therapeutic factor. Looking to the results of a study which evaluates paraclinical parameters as terms for a a mathematical matrix and interpreting the global picture as a mathematic function helps to be objective in recommending a natural therapeutic factor in a specific pathology. Within the system biology framework, using an array of paraclinical parameters changes to evaluate the biological status is of great importance in our research regarding the role in our health status of natural mineral waters. For disease diagnostic and monitoring purposes, using a tool system that gives probabilistic outcomes and quantitative results that could be readily interpreted in biological terms represent an ideally methodical system to argue the effects of mineral water ingestion (Ellis et all, 2007). Experiments can be performed on samples from laboratory animals of the species Wistar rats bred under standard conditions, the cage groups were in adequate numbers so as not to disturb the observation of each animal, temperature 21 - 22oC, humidity: minimum 30% - maximum 70%, day lighting, conventional diet.

EFFECTIVENESS OF BALNEOLOGICAL DETOXIFICATION THERAPY

K.I. Vagerich, T.V. Chajkovska, L.V. Dychka, O.B. Lyahova, N.A. Yakovenko

ABSTRACT

Introduction: Today it is well known that metabolic intoxication derived is one of the most important characteristic non-specific syndromes associated with chronic pathology. It is especially important for gastroenterological diseases because digestive organs belong to the functional detoxifying system of the human organism. So the nonspecific detoxification therapy promotes improving the effectiveness of any complex treatment of patents with different gastroenterological disorders.
Objectives: The peculiarities of antitoxic influence of bicarbonate-rich and siliceous mineral water with low total mineralization (2,3 g/l) at patients with gastroenterological diseases was evaluated.
Materials and Methods: The effectiveness of antitoxic influence of internal use of bicarbonate-rich and siliceous mineral water with low total mineralization (2,3 g/l) was studied at 52 patients with gastroenterological diseases. The level of metabolic intoxication was evaluated using clinical, laboratory analytical and calculated hematological indices of endogenous intoxication.
Results: Clinical and laboratory symptoms of endogenous intoxication manifested in 86,8% of patients with gastroenterological disorders in non-specific clinical symptoms, elevated concentrations of middle mass molecules (MMM), adsorption capacity of erythrocytes, nuclear index of endogenous intoxication and other nonspecific markers of intoxication. The 14-17-days course of the mineral water intake resulted in the positive clinical dynamics (89,4±1,2% of patients), functional compensation of disturbances in the upper part of gastrointestinal tract, general alkalizing effect. These changes contributed to the decrease of toxic load on the hepatic and renal systems and promoted the reduction of endogenous intoxication level, which was testified by decreasing the levels of endogenous intoxication biochemical markers (MMM and their aromatic and hydrophobic fractions, elevated levels of hepatic and renal metabolites). The amount of toxic MMM_{254} decreased from 0,391±0,02 to 0,327±0,012 un. ($P<0,001$); aromatic, less toxic fraction - MMM_{280} – from 0,284±0,014 to 0,239±0,013 un. ($P<0,001$). The level of functional tension of the detoxifying system of the organism also decreased under the influence of treatment. The general therapeutic effectiveness of the course of internal use of bicarbonate-rich and siliceous mineral water was 95,8 %.
Conclusions: The course of internal use of bicarbonate-rich and siliceous mineral water appeared to be an effective complementary method of detoxifying therapy in complex treatment of patients with gastroenterological diseases. The most sensitive effectiveness criteria of the balneological enterosorptive therapy were proposed.

PARTICULARITIES IN GERIATRIC REHABILITATION

Brailescu Consuela, Rodica Scarlet

ABSTRACT

The „aging" process as integrated part of life, considered not a disease and not a disability, is associated with a lot of progressive physiological changes which determines an increase of morbidity prevalence for acute and chronic diseases and a higher rate for physical and disability incidence.
The modern aging concept is based on Geriatric Rehabilitation. This means to put accent on treatment of disability caused by different pathology (stroke, Parkinson) and also to contribute to preventive Geriatrics by promoting physical adecvated programs and early beginning on musculoskeletal pathology to gain time and to slow down the regression towards disability. That is a reason for Geriatric Rehabilitation to became an important chapter not only for individuals, but also as a public health problem and impact.
The aim of this study was to identify the benefits of Rehabilitation program based on ergotherapy on a geriatric group of people hospitalised. The results demonstrates that a proper and individualised Rehab program based on occupational therapy focused on ADLs and gait, associated with specific Physical Medicine methods adapted to the geriatric pathology has a major impact on their quality of life, functional independence and secondary prophilaxy.

IMPORTANCE END THERAPEUTICAL EFFECTS OF SULPHUROUS MINERAL WATERS

Madalina Cosmoiu, Ana Munteanu, Liana Gheorghievici, Iulia Pompei, Gheorghe Gheorghievici, Iosif Tanase

ABSTRACT

The large possibilities of valorization from the medical field, have necessitated in the past and also request nowadays the attention over the physical-chemical composition and processes of this kind, with their direct reflection in the capacity of keeping the therapeutic characters. The analytical data regarding the sulphurous waters accumulated over the years have put in emphasized o great variety of physical-chemical compounds both as regards quality and quantity. They have also emphasized and variations of the redox potential in time on some types of sulphurous waters as indicators of some characteristic processes of these solutions. The present work is proposing itself the notification of the physical-chemical balances mobility in time of the sulphurous mineral waters, of the generating causes, as well for the determination of some correspondences between the physical-chemical indicators alteration and the therapeutical effects. These mineral waters represent electrolytes solutions of a determined ionic strength, which have an evolution in time, strongly influenced by the interactions between the solution ions. The size of the ionic strength influences the activity coefficients of the existing ions and by these, the processes at which participate the ions in solution. The pH is a value both dependant of the solution ionic strength and the temperature as well, fact to be considered in the values estimation. Its mobility in time in the sulphurous mineral waters is an indicator on the processes taking place. As regards the chemical analyze methodology, they use the volumetric methods of analyze, of H_2S, HS^-, $S_2O_3^-$, SO_3^{2-}, the gravimetric method for the determination of the SO_4^{2-} and the extraction of tricloretilene of the colloidal sulphur. In case of the polisulfurs presence it is to be mentioned that the titrimetric method indicated the global concentration in H_2S, HS^- and polisulfur anions. The behavior of the suplhurous waters in time is dependant of a series of physical–chemical factors, among which they can mention:

- the temperature at emergencies and its variation in time
- the chemical composition and respectively the ionic strength of the solution
- the concentrations of H_2S and HS^- and other sulphur compounds
- the partial pressure of oxygen
- the solution pH

The used methods of current analyze determine the total content in H_2S and HS^- and polisulphurs existing in mg H_2S/l. Is more correct the expression of the results in mE/l anions of sulphur in state of global oxidation –2 . The waters with a high content in H_2S and a pH at the source between 7,4 – 7,6

have a bigger percentage of extractable colloidal sulphur, than the one corresponding to H_2S and HS^- and even $S_2O_3^{2-}$ indicating the presence of some anions richer in sulphur, such as polisulfurs. In case of the polisulfurs absence they can estimate by calculation, depending on the temperature and ph the ration between H_2S and HS^-. The redox phenomenons can be determined by the oscillations of the $S_2O_3^{2-}$ anions , the increase of concentration in SO_4^{2-} and the deposits of colloidal sulphur.

IMPROVEMENT SELF-ASSESSMENT OF HEALTH CONDITION AND QUALITY OF LIFE BY POSTURAL THERAPY AT THE PATIENTS WITH LUMBOSACRAL SPINE DISEASES

Dana-Maria Dimulescu, Gheorghe Chiriți

ABSTRACT

Background: Lumbo-sacral pathology patients is one of the most common reasons for consulting in rehabilitation services, through the algo-dysfunctional syndromes, disabilities, decreasing the quality of life caused by these diseases.
Objectives: Carying out a randomized, prospective study regarding the efficiency of a selected physical and kinetic rehabilitation methodology, with emphasis on postural therapy, using two groups of patients with lumbo-sacral spine diseases.
We used objective and quantificable evaluation criteria at these patients.
Material and methods: The study was performed to NIRPMB, in two groups (group I – a study group and group II – the control group), either of 60 patients, males and females, with: radiculopathies, low back pain, sequelae after lumbar disk herniation surgery, lumbar canal stenosis.
Distinction between the two groups was made based on the physical-kinetic rehabilitation methodology: study group was emphased on postural therapy. The clinical and functional parameters assessed: pain, physical dysfunctions, cognitive dysfunctions, disabilities, drugs consumption, self-assessment of health condition, quality of life. We used the scales: VAS, muscular and articular testing, Hamilton Scale, movement ability, absenteeism and work ability, ADL 24.
Results: The improvement recorded were: the pain with 67,40% (group I) and 56,13% (group II); physical dysfunctions with 42,49% (group I) and 32,67% (group II); cognitive dysfunctions (depression) with 47,54% (group I) vs. 40% (group II); disabilities wiyh 69,40% (group I) vs. 59,14% (group II); drugs consumption with 49,71% (group I) and 40,38% (group II); self-assessment of health condition with 54,82% (group I) vs. 40,77% (group II); quality of life with 56,70% (group I) and 46,22% (group II).
Conclusions: These data demonstrated that rehabilitation program improved quality of life at the patients with lumbo-sacral spine diseases; higher percentages recorded at the study group - based on postural therapy, showed the role of this method in the physical-kinetic rehabilitation.

INFLUENCE OF PULSED SHORT WAVES ON BONE REMINERALIZATION IN PATIENTS WITH COMPLEX REGIONAL PAIN SYNDROME TYPE I

Gabriela Dogaru, Ioana Stanescu

ABSTRACT

Introduction: Complex regional pain syndrome type I or algoneurodystrophy (AND) includes a series of complex osteoarticular and vasomotor disorders of the upper and lower limbs. In addition to drug therapy, physical kinetic rehabilitation therapy may increase the quality of life of these patients and reduce sequelae. Pulsed short waves are considered to provide the most adequate energy for the favorable influence of the pathophysiological substrate of AND. The local application (on the affected area) of the treatment is justified by the local action of pulsed short waves, which induce microshocks in the crystalline bone structures (particularly collagen), with the production of negative electrical charges that will result in an increased osteoblast activity and the storage of calcium salts in the bone. Also, a possible role in the energy metabolism of osteoblasts is not excluded.

Objectives: To determine the effect of the local application of pulsed short waves on bone metabolism by measuring the biochemical markers of bone formation turnover, i.e. alkaline phosphatase and osteocalcin, in patients with AND.
Material and method: The study included 40 patients aged between 23-74 years, with post-traumatic AND stages 1 and 2. The study, a prospective longitudinal analysis in a representative sample, was carried out at the Clinical Rehabilitation Hospital, in the period September 2009 – November 2011. Treatment was performed using the Diapulse device. In the same treatment session, all patients were exposed to lumbar irradiation (for the adrenal gland), in doses of 4/400 impulses/sec for 10 minutes, followed by the exposure of the affected area to 6/600 impulses/sec for 10 minutes. There was a single treatment session per day, with a total number of 10 treatment sessions. Throughout the duration of the treatment with Diapulse, the patients received no other drug therapy or physical-kinetic therapy. Blood was taken from each patient before and after treatment, for the determination of the biochemical markers of bone formation turnover. Of the 40 patients included in the study, after the determination of bone mineral density, 12 patients (30%) were diagnosed with osteoporosis, 6 patients with osteopenia (15%), in 1 patient who was overweight (105 kg) the determination could not be performed, and 21 patients (52.5%) had normal bone mineral density values. Of the 12 patients with osteoporosis, only one had been under antiosteoporotic treatment for 3 months. Given the absence of treatment for osteoporosis, it can be concluded that the biochemical markers of bone formation turnover, alkaline phosphatase and osteocalcin, were not influenced.
Results: The mean alkaline phosphatase and osteocalcin values after 10 days of treatment with pulsed short waves were statistically significantly higher than the mean values before treatment ($p<0.05$), while ranging within normal limits.
Conclusions: Pulsed short waves (Diapulse) probably stimulate osteocalcin synthesis in osteoblasts. There was an influence of pulsed short waves on bone metabolism, following the determination of the biochemical markers of bone formation turnover, with a role in bone remineralization.

INTERNAL USE OF BICARBONATE-RICH MINERAL WATERS IN THE PREVENTIVE ALKALIZING THERAPY

M.O. Haysak, O.P. Holubka, N.A. Popadinets

ABSTRACT

Introduction: Low-grade level of metabolic acidosis as a result of chronic acidic load conditioned by food, different diseases and physiological conditions can progress in numerous injurious effects on the body including calcium-deficit and osteoporosis, muscle wasting, kidney stone formation and other metabolic consequences. Thus prolonged alkalization therapy may be one of the ways for prevention these changes.
Objectives: The possibilities of bicarbonate-rich natural mineral water use in complex alkalizing therapy were evaluated.
Materials and Methods: Natural bicarbonate-rich siliceous mineral water of Shayan deposit with low total content of dissolved salts (2,3 g/dl) and concentration of bicarbonates (1350 mg/dl) was prescribed in complex treatment of 52 patients with chronic associated gastroduodenal pathology. The dynamics of gastric acid level using non-invasive method, urinary pH, rate of urine secretion and urinary acidity detection using titration of the urine by 0,1n $NaHCO_3$ were measured at the beginning and by the end of 14-17-days course of mineral water intake. The regime of mineral water intake depended on the function of stomach, peculiarities of associated pathology, patients age etc.
Results: 0,09 ml of 0,1n NaHCO□0,07 to 0,37□It was found that alongside with the positive dynamics of clinical symptoms positive functional changes were observed in the upper part of gastrointestinal tract. The level of elevated gastric acidity decreased under the influence of treatment by 47%, the rate of the gastric juice evacuation – by 93%. The course of mineral water internal use promoted elevation of diuretic function (from 732,9±37,1 to 1878,4±289,5 ml/min) and has a marked alkalizing effect on the urinary pH. Alongside the urine pH fluctuations during the examined period increased from 5,25-6,86 units to 5,82-7,45 units. The alkalizing effect of treatment was also testified by significant reduction of urinary excretion of titratable acids (from $1,2_3$; $P <0,001$). These changes testified the renewal of acid-

alkaline balance of digestive juices on the expense of reduction the aggressive influence of gastric juice increasing the alkalizing effects of bile and pancreatic juice.
Conclusions: The revealed alkalizing influence of internal use of bicarbonate sodium mineral water is based on its' dilution, acid-neutralizing and diuretic effects, thus may be used in the complex detoxification therapy of chronic gastroenterological diseases associated with elevated gastric acidity and initial functional stage of metabolic acidosis.

NAMOLUL DE TECHIRGHIOL -TRECUT, PREZENT SI VIITOR

Liliana-Elena Stanciu, Elena-Valentina Ionescu, Mihaela Minea, Sibel Demirgian, Traian-Virgiliu Surdu

ABSTRACT
Techirghiol mud, the black pearl of the Romanian seaside, used as means of medical therapy since Antiquity, is a living proof of the fact that passing years leave their mark on valuable objects, furbishing them, giving them a magnificent shine. One cannot speak about the Romanian balneology principles without mentioning the history of Techirghiol city and that of the Techirghiol mud.
OBJECTIVES: This study aims to present the current strategy of the Balnear and Rehabilitation Sanatorium Techirghiol, to keep alive the history of this settlement and continue the tradition, maintaining the medical activity at a high professional level.
MATERIALS AND METHODS: A review of existing literature data about: Techirghiol Resort, sapropelic mud of Techirghiol, Balnear and Rehabilitation Sanatorium Techirghiol, making a comparison between past and present situation of the sanatorium and revising the main development plans.
RESULTS: There are many legends and all of them are depicting Techir: crippled, blind, emaciated by body sufferance and his old donkey that takes him to a saltwater where both man and animal rest their feet
-1560, first documentary attestation, Tekfur - köy is mentioned in two firmans of Sultan Suleyman the Magnificent sent to the ruler of Moldavia
- 1854, first written information about the therapeutic effects of the lake water, during the Crimean War
-1891, the first "establishment with balnear destination."
- 1899, opening of the Maritime Sanatorium Techirghiol subordinated to "Board of Civil Hospitals"
-1951, outbreak of polio in the country and creating more recovery wards, including in Techirgiol.
-1972, establishment of the Balnear Sanatorium Techirghiol with a capacity of 850 beds.
-1983, a recovery ward with 20 beds is created, and in 1994 the capacity is increased to 365 beds.
-Currently Techirghiol Sanatorium is subordinated to the Ministry of Health and includes:
-- Division I with 175 beds
-- Division II with 170 beds
-- Sanatorium Division with 410 beds
-- Neuro medical rehabilitation hospital for children division with 180 beds
-- Total of 935 beds
-- 375 employees, currently 174 vacancies
-- One of the most modern spa-kinetic physics treatment facilities in our country
-- There can be treated over 1,000 patients daily and can be done over 6,000 medical services daily
-- Continuous process of modernization and of quality improvement
-- Addressing to a large number of patients ~ 14,000 patients / year
-- Therapeutic properties of natural factors have been proven through rigorous research studies
Techirghiol benefits of special natural conditions:

- The climate is temperate continental, steppe, with marine influences.
- Lake water contains: chloride, sulphate, bromide, sodium, magnesium, hypertonic.
- Sapropelic mud

CONCLUSIONS: The duty of the current medical staff of the Balnear Sanatorium Techirghiol is to carry on the prestige won so far and maintain the establishment in the top of institutions of this kind.
In the era of Evidence-Based Medicine the development of new clinical trials demonstrating the effectiveness of peloido therapy is required.

MONITORING THE QUALITY OF SPA WATER OF SPAS RESORTS AND TREATMENT CENTERS ACROSS THE COUNTRY 2011 – 2012

Ioan Domahidi, Andra Neamțu, Tünde Fekete

ABSTRACT

Spas are special functional groups in the urban and rural organization in Romania. Tourism development includes also development of spas, reason for which it must be given in terms of a health care a special attention for tracking and tracing factors that negatively affect the health of spa water users in curative or prophylactic purposes.
Objectives: The monitoring of spas mineral water used for spa cures in the country.
Objective: health protection and prevention of diseases associated with environmental risk factors.
Methodology: Drawing up a questionnaire to CRSP Mures regarding data of spa resort, treatment facilities, spa waters, submitting the questionnaire to the DSP, filling up the questionnaires by DSP and sending back the questionnaire to the CRSP Mures, centralizing and processing of acquired data.
Sampling the spa water from source, tubes by county public health directorates (DSP). Determination of chemical parameters (nitrates, nitrites, ammonia, chemical oxygen demand, conductivity) and microbiological parameters (UFC 22 - and 37° C, no of coli form bacteria, no of E coli, no. of intestinal Enterococci, no. of Pseudomonas aeruginosa) in the DSP laboratory, toxicological parameters (cadmium, chromium, copper, lead, zinc, arsenic , mercury) in CRSPM laboratory (from water samples sent by DSP).
Results, Conclusions. It were taken in the study: 26 counties (Arad, Bacau, Bihor, Bistrita Nasaud, Covasna, Harghita, Hunedoara, Iasi, Maramures, Mures, Salaj, Sibiu, Timis, Braila, Caras Severin, Cluj, Constanta, Dambovita, Gorj, Ialomita, Mehedinti, Prahova, Neamt, Satu Mare, Suceava, Valcea), 29 spas, 95 treatment centers. There were collected 168 samples of spa water (sources 53, tanks 64, tubes 51).
In most cases the treatment centers are covered by medical doctors, have authorization for sanitary operating. More than half of the total number of treatment centers have urban plan, and medical - spa operating permit. The vast majority of tanks and tubes are in good condition. Change spa water in pools is not unitary. Periodicity frequency of determination the parameters of spa water in pools and tubes and determined parameters differ greatly from a treatment center to another, there are indicated several laboratories determining the parameters.
Priorities. The establishment of a legislation regarding CMA of physical-chemical parameters, microbiological of spa water from sources (spring, drilling, lake) basins and tubes. Making a monitoring guideline for spa water quality in pools and tubs.

PECULIARITIES OF METABOLIC EFFECTS OF SLIGHTLY-SULPHIDE MINERAL WATER

T.V. Chaykovska, M.V. Shvardak, S.I. Horitska, M.O. Haysak, K.I. Vagerich, V.V. Martsenyak

ABSTRACT

Introduction: Evaluation of biological effects of mineral waters promotes development of new technologies for their use in treatment and prophylaxis of chronic pathology.
Objectives: Biological effects of a single dose of small-mineralized slightly-sulphide (H_2S+HS^- - 27-34 mg/l) bicarbonatate-sulphate calcium mineral water (MW) of Sinyak deposit (well № 15-r) in conditions of clinical-physiological investigations were studied.
Materials and Methods: The rate of diuresis, urinary pH, urine titratable acidity, urine α-amylase activity and total α-amylase debit in urine were studied in fasting period and after internal use of a single dose (200 ml) of Sinyak MW (T^o 37^o C) in 15 healthy subjects. The endocrine pancreatic function was evaluated by measuring the glucose concentration in blood before and after internal use of 200 ml of Sinyak MW at 10 healthy persons and 10 patients with insulin-independent diabetes mellitus.

Results: It was revealed that a single dose of MW has a certain influence on the function of gastro-duodeno-pancreatic and urinary systems. The MW has a marked diuretic effect with maximal elevation of diuresis in 3,1 times on the 120th minute. The reduction of several indices: urine pH (with maximum on the 120th min), urine titratable acidity (max - on the 60th min), urine α-amylase activity (max - on the 120th min) and total α-amylase debit in urine (max – on the 60th min) - were revealed. On the other hand, the level of total α-amylase debit in urine increased with maximum on the 120th minute mainly at the expense of stimulated hydrokinetic pancreatic function. The concentration of glucose in blood had a tendency to decrease by 6 % (from 4,64±0,14 to 4,36±0,13 mmol/l) – in healthy persons and by 11 % - in patients with insulin-independent diabetes mellitus (from 8,97±0,57 to 8,0±0,40 mmol/l) during 2 hours after administration of a single dose of Sinyak MW.
Conclusions: Analyzing the receive data, the effects of Sinyak MW promote rehabilitation of compensatory and regulatory reactions in the gastro-duodenal and pancreatic systems and improve the process of digestion. The revealed pronounced diuretic effect of Sinyak MW is typical to many mineral waters with low total content of dissolved salts, as well as drinking water. This influence results in the activation of secretion processes and reduction the level of endogenous intoxication. A conclusion was made, that the results of clinical-physiological investigations may be used for building the regime of internal use of Sinyak MW in the complex treatment and prophylactics of metabolic intoxication associated with chronic pathology in conditions of the sanatorium “Sinyak”.

PHYSICO-CHEMICAL AND MICROBIOLOGICAL MONITORING OF SOLOTVINO SALT LAKES.

Jaroslav Chonka, I. Lemko, M. Sichka, B. Buleza, V. Yarosh, I. Tzoma, I. Sharkan, A. Shevchuk

ABSTRACT

Healing properties of salt lakes are due to physico-chemical and bacterial composition. So important is the study of physical and chemical properties of the water for the development of medical technologies and monitoring of observations of the properties in terms of environmental issues.
Temperature studies were carried out using the craft, directly on the lake with chromel-alumel devices and resistive temperature sensors with an accuracy of 0.5 C. Temperature distribution of water depth was carried out across the lake with discrete 0.5 m using specially made with a device selecting water samples from different depths of 0.5m discreetness of the different parts of the lake. In the laboratory chemical analysis of water were conducted. Studies were conducted from August 1997 up till present with the intervals once in a month.
Total mineralization and therefore the density of water is not uniform throughout the depth. It is of considerable interest, the fact that there is no linear increase in the total concentration throughout the depth, and at the same time the plateau is available which is characteristic for almost all months in the year. The difference between them is only the width of the plateau.
In order to determine the nature of this anomaly temperature distribution measurement is performed directly in the lake depth. These results clearly indicate the presence of a temperature gradient in depth of the lake, which is characterized by a water layer with high temperature, this layer of water lies below the surface and depending on the season shifts in depth. Thus, during periods when the ambient temperature is low, warm layer of water rises closer to the surface and in periods of high temperature goes deeper.
Periodic monitoring during years 1997-2001 showed that the water level in the lake and the distribution of the total salinity is not constant. Total mineralization decreases substantially. At the same time, the distribution of density with depth has not changed. In water samples taken in the lake in the laboratory for special culture medium the analysis to highlight the seeding bacteria was carried out. The strain of halophilic Halobacterium – solinarum was isolated, containing bacteriorhodopsin (BR). BR - light formation that transforms the quantum of light in gradient flows, which are relevant and leads to morphological changes in the skin. As one of the therapeutic factors the salt lake has is the healing effects of solar radiation, the "correction" of halobacteria that remain on the skin after bathing, the perception of its ultraviolet spectrum is perhaps one of the main therapeutic factors among a number of factors balneotherapeutic lake.

In the summer of 2003 the lake was drain with the brine from the salt mine #9. Total mineralization increased from 2003 to 2006. In 2006 it began to stabilize and remains at this level today. For 2003, 2005 temperature gradient decreased and only since 2006 it began to grow. A layer of anomalous temperature rose closer to the surface of the lake. Number of bacteria in 2004 compared to 2001 decreased enormously. We attribute this to the fact that due to the inlet water, the lake was through flow and began to leach out the top layer of water, where pigmented bacteria were concentrated. Since 2006 when the total mineralization began to stabilize the number of bacteria began to grow.

PREVENTIVE BALNEOLOGICAL CORRECTION OF CALCIUM-DEFICIT ASSOCIATED WITH GASTROENTEROLOGICAL DISEASES

I.S. Lemko, S.T. Shubert, V.G. Malinovska

ABSTRACT

Introduction: Deficit of essential elements, such as calcium, may be the consequence of a large group of diseases, physiological conditions and functional disturbances. Lack in gastric acid, decreased pancreatic function, dysfunction of gall-bladder and cholestatic liver disease are proved risk factors for calcium-deficit. Primary prophylaxis of this form of osteoporosis includes first of all administration of calcium. Natural mineral waters, which contain soluble forms of calcium, are of special value in this case.

Objectives: The influence of calcium and bicarbonate-containing mineral water on the main indices of the calcium metabolism was analyzed.

Materials and Methods: The biological bioavailability of calcium and magnesium from the mineral water was studied using mass-spectrometric evaluation of their level in the hair of patients. The concentrations of calcium, phosphor and magnesium in the serum were measured before and after 18-22-days course of treatment at patients with digestive organs pathology and testified osteoporosis risk factors.

317 mkg/l, P□183 to 2606,7□Results: The middle-mineralized (7,23-7,92 g/l), chloride-bicarbonate, sodium-calcium containing minetal water of Soymi deposit in Transcarpathia contains up to 600 mg/dl of calcium and up to 100 mg/l of magnesium. Under the course of mineral water intake the concentration of calcium significantly increased by 49,0%, from 1753,0<17,0 (16,0%). These results testified the high biological availabity of both elements from the mineral water due to their soluble form. A tendency of 3-5% elevation of average calcium and magnesium concentrations in serum was found. The level of calcium in serum increased from 2,16±0,09 to 2,35±0,05 mmol/l; magnesium – from 0,79±0,04 to 0,80±0,04 mmol/l. The frequency of physiologic concentrations of these elements also increased by the end of treatment – from 36,0±9,6 to 44,0±9,9 % of cases – for magnesium. This effect quantitatively depended on the concentrations of these elements in the serum at the beginning of treatment – the lower was the initial level of calcium the higher was the degree of its elevation and the occurrence of low concentrations of the element by the end of treatment. The revealed positive changes in the calcium metabolism were associated and conditioned by the general positive influence of the course of treatment on the function of gastrointestinal system due to the high content of bicarbonates in the mineral water.□19,7 to 175,3□0,05. Elevation of magnesium was not so high – from 151,5

Conclusions: Calcium-rich mineral waters are an alternative to dairy products as their bioavalability is similar or even better. Bicarbonates are also considered to have a positive effect on bone metabolism. Variety of natural mineral waters with different content of calcium and anionic – cationic composition allows combining different waters and methods of treatment according to individual peculiarities of the dominating gastroenterological dysfunction and degree of calcium-deficit as an effective complementary method of primary prophylaxis of osteoporosis.

THE BALNEOCLIMATIC POTENTIAL OF THE SLANIC MOLDOVA RESORT

Iulia Bunescu, Liviu Enache

ABSTRACT

Introduction.To capitalize the potential of the spa and bioclimatic of an areas it is required the knowledge of the environmental parameters and other specific factors to the study area.

The balneoclimatic resort Slanic Moldova is situated in the center of the Moldova region in southwest part of the Bacau county, on the eastern slope of the Eastern Carpathians, at an altitude of 530 m in the valley of Slanic river.
Objectives.
The paper presents a description of balneoclimatic potential of the Slanic Moldova resort, focus on some particular aspects of climate, bioclimate and air ionization. Also, are considereted, the climate aspects related to the presence of forest ecosystems in the area, due to the influence of vegetation on the diurnal and annual climatic elements. It is known that vegetation is an important component of the genetic climate factor, represented by underlying surface of the atmosphere, and, in addition, the tree vegetation has an ecological role (air „filter"), in turism (landscape), but also as bioclimatic (thermal comfort) and therapeutic (physical and chemical qualities of the air) factors.
Materials and methods.
The topoclimatic observations and the physical factors of the environment (the natural ionization of air) were performed by classical methods generally recognized. So, the measurements of air temperature and humidity were made with psychrometers, determining of the air flow - with anemometers and the air ionization was determined by means of an ion counter, based on electric discharge. The bioclimatic characteristics of the resort were assessed based on specific bioclimatic indices.
The climate of the resort is temperate-continental, characteristic for regions of middle hills and mountains of the eastern half of Romania, being mainly under the influence of air masses originating from the Russian Plain. The average annual temperature is 7.6 ^{0}C, the warmest month – August, showing an average value of 12.4 ^{0}C and the coldest month – January, with o average of -5.0 ^{0}C. The relative humidity shows a maximum in January of 81 – 84 % and the minimum is recorded in July of 72 %. The rainfall records an annual average of between 631 - 700 mm, with a maximum of 90 mm in July and a minimum of 22 mm in February.
The air ionization determinations were performed in the resort park, in an open area, but surrounded by lush vegetation. Although the ion concentrations are not high (the total concentration of ions were 920 ions/cm^3), yet the balanced concentration of negative and positive ions creates a favorable therapeutic framework (the unipolarity factor is close to unit value).
The bioclimate of the Slanic Moldova resort, considered tonic – stimulant, shows some positive aspects from the therapeutic point of view and has been studied both in terms of actual equivalent temperature (related to the thermal comfort) and others bioclimatic stress indices (skin, lung and global). The bioclimatic stress indices represent a complex relationship between three basic meteorological elements (air temperature and humidity, air currents), which describe the connections between environment and human body.
Conclusions.
The values are moderated, in terms of thermal, higric and dynamic parameters. The climate is temperate - cool and the temperature contrasts are not too high. However, it is a normal air humidity for a richly wooded area, located at the shelter wetter air masses from the west of the continent.
The air ionization regime is favorable for climatotherapy (similar to that recorded in Sinaia resort), aspect which is important due to the positive influence of air ions from the free atmosphere on human body.
The resort bioclimate is characterized as sedating, with stimulating tonic shades, because the climatic elements do not produce significant changes on physiological functions and the organism accomodation is relative fast.

SPELEOTHERAPY IN ROMANIA, STATUS AND POSSIBILITIES OF USING OF SOME SALT MINES IN MEDICAL PURPOSES, "BALNEOCLIMATIC " AND "MINING" TOURISM.

Simionca Iuri

ABSTRACT

Speleotherapy (ST) is a relatively new method of complementary medicine, although, was officially used in the years 1950-1960 in Germany (Yang B., G. Schubert 1962) and Poland (M. Skulimowski, 1968). Professor Mieczyslaw Skulimowski has granted of speleotherapy in "Wieliczka" Salt Mine, the name of subterraneotherapy. The use of salt mines and caves as natural therapeutic factors - also known

as speleotherapy, is a special scientific interest, a perspective direction in the areas of health and environment. Number of speleotherapeutic centers has increased considerably. Speleotherapy in the underground now is an effective therapeutic method for the treatment of obstructive respiratory tract diseases, especially of patients with bronchial asthma (BA), the upward and effective practice in countries from Europe, Asia and other continents: Austria, Czech Republic, Germany, Poland, Ukraine, Russia, Slovakia, Romania, Belarus, Hungary, Armenia, Pakistan etc. However, the most promising development of speleotherapy in salt mines is Romania. The results of the bioclimatic studies, the pollution evaluation, studies on the microorganisms in the salt mines from Cacica, Slănic Prahova, Praid, Tg. Ocna and Turda in the years 1970-2004 revealed that some of these mines could be used for medical purposes and tourism. Were proposed the solutions for reduction of the anthropic pollution effect (Grant CNCSIS, 2004). For the moment, in Romania the speleotherapy is used for asthma patients, chronic bronchitis and correction effect whose immunopathological changes – the new perspective for speleotherapy, in Slănic Prahova „Unirea" Salt Mine - the subject of a multidisciplinary medical and environmental study (VIASAN Project No. 441, Life and Health – 2004-2006). Another realized RDI project (Nr.2550, FC:42120/2008-2011) is „Complex of medical-biological study of potential therapeutic factors related to salt mines and karst environments for effective use in health and balneo-turism; development and modelling solutions of these factors". A particular interest represents new location of Cacica Salt Mine and Ocna Dej Salt Mine. One promising for medical use is Turda Salt Mine, adapted for tourists and for sick people (PHARE Project, finalized in 2009; Proiects / Financing Contract 310/2010 and 600/2011 – 2012).
As a result of research projects in national programs of research, development and innovation RDI-1 and RDI-2) and projects financially supported from local or private funds (Turda Salt Mine Proiects / Financing Contract 310/2010 and 600/ 2011 - 2012) were realized functionally models with the title:

- "Underground Section for Speleotherapy – Sanatorium" in Salt Mine "Unirea" Salina (complex of salt mines) Slanic Prahova Sectia ;
- "Experimental and Functionally Model of Underground Section for Speleotherapy in "old" Cacica Salt Mine, Suceava County (Branch of National Salt Company – SALROM S.A)" ;
- "Functionally Model of Underground Sections for Speleotherapy in Turda Salt Mine, Cluj County".

Those models of underground sections for speleotherapy are based on the principle of adaptation of patients to salt mine galeries therapeutic factors.
Developing and practicing different methods of using salt mines with therapeutic properties, according to the structure and peculiarities of the underground galleries allow diferencial speleotherapeutic use thereof in medical, "balneoclimatic" or "mining" tourism.

THE ASSESSEMENT OF CLINICAL FEATURES IN PATIENTS WITH CRONIC REGIONAL PAIN SYNDROME TYPE I UNDER THE ACTION OF SAPROPELIC MUD FROM TECHIRGHIOL LAKE

Sibel Demirgian, Olga Surdu, Viorica Marin, Liliana Stanciu, Mihaela Minea, Daniela Profir

ABSTRACT

INRODUCTION: CRPS type I is a multisystem dysfunction accompanied by severe pain, often chronic and impaired motor function, triggered after a minor injury, which has fascinated and intrigued scientists and clinicians for years. As there is no consensus regarding etiology, clinical presentation, diagnosis and management, there is an obvious interest for an old method of treatment (balneal treatment), with recognized therapeutic effects but not validated by rigorous scientific studies. One of the major diagnostic criteria is the increase in local temperature of the region affected by more than 1°C. In trying to understand the therapeutic efficacy of balneal therapy in CRPS type I, I used thermography as objective tool to assess the vasomotor disorders, for both: diagnostic and treatment response. Thermography is used to measure many symmetrical points on the affected and unaffected extremity by comparing between the two limbs. A difference of 0.5°C is considered to be slightly asymmetric, while a difference of 1°C is considered significant.. Unlike other internationally trials, where they put more emphasis on physical and kinetotherapy, this research project is original through the importance that provides to natural therapeutic factors.

OBJECTIVE: The aim of the study was to assess the clinical features (pain, edema, range of motion, temperature) in patients with CRPS type I, under the action of sapropelic mud from Techirghiol Lake.
MATERIAL AND METHOD: This research is based on the study of 41 patients who received complex balneal-physical-kinetic treatment- in Balneal and Rehabilitation Sanatorium of Techirghiol, between 2010-2011, all subjects signed an informed consent from being part of this study.. Patients were assessed at admission and at the end of treatment, after 10 or 15 days. Pain was assessed using the visual analogue scale for pain With a centimeter we measured the volume of the distal affected and unaffected extremity.. In this study we used as clinical parameter the difference of edema, the difference between the volumes of the two limbs, to remove the inconveniences derived from morphotype.
The measurements of range of motion used a goniometer. The local skin temperature was measured using a thermograph.
RESULTS: At the end of treatment, all the clinical features (pain, swelling and range of motion) have a statistically significant decrease ($p < 0.001$). The mean values of temperature in affected extremity decrease statistically significant ($p < 0.001$), compared with admission, the values of the two extremities have the tendency to be the same.
CONCLUSION: The mechanism by which the clinical features were improved statistically significant at the end of balneal cure is probably represented by interfering the pathophysiological mechanisms of CRPS I with physiological and therapeutic mechanisms of mud.
These significant effects on clinical features recommend mud as a therapeutically solution in treatment of patients with CRPS.

THE CHANGES OF CYTOKINES LEVELS IN PATIENTS WITH COMMUNITY ACQUIRED PNEUMONIA UNDER THE INFLUENCE OF HALOAEROSOLTHERAPY

M.L. Gabor, T.I. Kopolovets, G.M. Pavlovych, O.I. Lemko

ABSTRACT
Introduction. In the regulation process of the immune response in case of pneumonia certain role belongs to the specific mediators of the immune response – cytokines. The balance of pro-inflammatory and anti-inflammatory cytokines defines the expression and direction of the systemic inflammatory reaction.
Objectives. The aim of the investigation was to study the levels of cytokines in the blood of patients with pneumonia in the acute period of disease, at the beginning of rehabilitation (after antibiotic therapy) and after the course of haloaerosoltherapy (treatment in the rock salt aerosol medium).
Materials and Methods: 63 patients with pneumonia were examined. Cytokine profile was determined by the levels of pro-inflammatory (TNFα, interleukin-8 – IL-8) and anti-inflammatory (IL-4, IL-10) cytokines.
Results. In the acute period of disease the sharp increasing of TNFα level (in 5,5 times) was determined, which indicates the lung parenchyma damage. The level of IL-8 increased only in 2,7 times. The content of anti-inflammatory IL-4 raised only in 1,5 times and the level of IL-10 was above normal rate. After antibiotic therapy the reduction of the inflammatory process was testified by the decrease of TNFα rate from 46,2±3,9 pg/ml to 35,5+1,9 pg/ml. At the same time the level of IL-8 increased in 1,4 times and the rates of IL-10 and IL-4 were about normal rate, which indicates the abnormalities in cytokine profile. A conclusion was made that the balance of pro- and anti-inflammatory cytokines in the acute period had a shift to the side of inflammation and slightly changed after antibiotic therapy. This was the reason to continue the treatment in the convalescence period, in particular, by means of treatment in conditions of rock salt aerosol medium.
Conclusions. It was found that after the course of haloaerosoltherapy the level of pro-inflammatory cytokines decreased and it was combined with significant increasing of the IL-4 level, which indicated the suppression of inflammatory activity. On the other hand, it should be noted that the levels of pro-inflammatory and anti-inflammatory cytokines didn't reached the normal rates. That is why the subsequent treatment of patients with community acquired pneumonia is required.

THE DIVERSITY OF CHEMICAL COMPOSITION AND THE MICROBIOLOGICAL PARTICULARITIES OF THE MINERAL SOURCES FROM SLANIC MOLDOVA HEALTH RESORT / DIVERSITATEA DE COMPOZITIE CHIMICA SI PARTICULARITATILE MICROBIOLOGICE ALE IZVOARELOR MINERALE DIN STATIUNEA SLANIC MOLDOVA

Gheorghe Gheorghievici, Madalina Cosmoiu, Liana Gheorghievici, Iulia Pompei, Iosif Tanase

ABSTRACT

Introduction: The significant variation of the chemical composition for the mineral sources from Slanic Moldova is a particularity of this health resort. In order to maintain the therapeutic value of these sources it is necessary to exist a physical and chemical composition that is constant is time, which is why a periodic evaluation at optimal intervals of their chemical and microbiological specific properties is imposed.
Objectives: The object of the study was represented by the evaluation of the types of mineral water presently existing in Slanic Moldova health resort, according to their ionic structure, and the appreciation of their level of charging with microorganisms that indicate the level of pollution. The appreciation of the level of stability and also the keeping of the indications in their utilization as natural factors with therapeutic value, have also been objects of study.
Material and methods:For the physical and chemical characterization of the mineral waters from Slanic Moldova there have been determined anions, cations, irresoluble compounds, utilizing the following analytical techniques: gravimetry, volumetry, electrochemistry, spectrophotometry with visible molecular absorption, flamephotometry. It has been utilized the membrane filtering method for the identification of the microorganisms that indicate the level of pollution: the total number of microorganisms that develop at 37˚C (according to SR EN ISO 6222:2004), coliform bacteria and *Escherichia coli* (SR EN ISO 9308-1:2004), intestinal enterococs (SR EN ISO 7899-2:2002) and *Salmonella* (ISO 19250:2010).
Results:According to the ionic principals of the analyzed sources, in Slanic Moldova health resort there have been identified 3 types of water:
- iodinated sources, brominated, chlorinated, sodic bicarbonated, with CO_2 and H_2S content, a mineralization of up to 30g/l, and a temperature between 7-9 ˚C;
- sodium bicarbonated sources, with a total mineralization of 3-5g/l, without a content of CO_2 and H_2S, with temperatures between 11-12 ˚C;
- oligomineral sources.
The microbiota of the analyzed sources was dominated at the moment when samples were taken by coliform bacteria, gram-negative, oxidase negative (*Escherichia, Citrobacter, Enterobacter, Klebsiella*) but also oxidase positive (*Pseudomonas, Aeromonas*). The absence of the microorganisms considered indicators of pollution of fecal origin, give the analyzed sources the quality of a natural factor with therapeutic value for the utilization in both intern and extern cure.
Conclusions: The presence of the chemical components HCO_3^-, I^-, Br^-, Cl^-, Na^+, H_2S, CO_2 gives specificity to the analyzed mineral waters in their therapeutic utilization and also singularity to Slanic Moldova health resort.

THE EFFECT OF THE PHYTOPLANKTONIC STRUCTURE VARIATION OVER THE CHEMICAL COMPOSITION OF THE THERAPEUTIC MUD FORMED IN THE SALINE PELOGENOUS ECOSYSTEMS

Liana Gheorghievici, Madalina Cosmoiu, Gheorghe Gheorghievici, Iosif Tanase

ABSTRACT

Introduction: The algae represent the basis of primary productivity in the saline lacustric ecosystems. This type of biocenosis includes few species but with a large number of individuals. The algae are

implicated in the purification of the water, the formation of mud and the insurance of the necessary oxygen to all aerobe organisms for the respective biocenosis.
Objectives: The study proposes the evaluation of the interrelationship between the type of sources of organic matter existent in the pelogenous ecosystems and the chemical composition of the mud formed here. Establishing the mode in which the structure modification of the microalgae communities, induced by the variation of the environment factors, determines the formation of a sediment with several chemical properties, has represented the main object of the study.
Material and methods: For each phytoplankton sample, 100 liters of lake water have been filtered through the plankton net, 25 μ mesh, from the epilimnion (30-50 cm depth). Algal species were identified according to Anagonstidis and Komárek (1985, 1988), Krammer and Lang-Bertalot (1988), Sládeček (1989), Godeanu (2002), Pârvu (2003), Sigee (2005), Anastasiu (2008), Hamed (2008), Zgrundo et al. (2009).
For the appreciation of the similarity degree of the phytoplankton from the five lakes, generators of therapeutic mud, Salt Lake Brăila, Amara Lake, Fundata Lake, Techirghiol Lake, Black Lake-Sovata the Sorensen index (coefficient) has been calculated (Sorensen, 1984). Cluster analysis was applied to generate dendrograms (Starling, 2000, Cureil et al., 2004, Kulikovsky, 2007), based on the Sorensen coefficient distance among samples.
The chemical analysis of the mud samples was realized according to the working methods used for the analysis of the soil (Mănescu et al., 1994) consisting in the determination of the global composition, of the organic components (organic C, organic N, humic acids), and minerals (NO_3^-, NO_2^-, SO_4^{2-}, NH_4^+, H_2S).
Results: The mud from Lake Techirghiol presented the highest percentage of organic substance; according to its chemical composition, it is situated in the typology of the sapropelic, sulfurous mud. The phytoplankton, made from 7 microalgae classes, dominated by diatoms, participated in a reduced measure to the making of the organic character of the sediment.
In the pelogenous lake Amara and Fundata, of brackish type, the mud formed was of sulfurous, mineral type, with medium organic fraction. Here, the phytoplankton included a reduced number of species, although the salinity didn't represent a restrictive factor.
Salt lake Braila and Lake Negru-Sovata have been the least algological productive ecosystems, although they are biotopes with different salinity; in both cases, the mud has been characterized through preponderant mineral fraction and an organic component in a reduced percentage.
In Lake Negru-Sovata, the phytoplankton was formed from 5 microalgae classes; it had a reduced organic contribution, the zooplankton absorbing the dominant role in the biocenosis through rotifers and copepods.
Conclusions: Bacillariophyceae, the microalgae with the most number of species per dm^3 (126), in the analyzed pelogenous lakes, presented a similarity degree significant in 2 clusters: cluster 1-Salt lake Braila, Amara, Techirghiol; cluster 2- lake Fundata and Lake Negru-Sovata.
The absence of the taxa from Chrysophyceae, Cryptophyceae, Dinophyceae, Euglenophyceae, Xanthophyceae from the phytoplankton of all studied lakes, has made impossible a comparison of the diversity of biocenosis. Lake Techirghiol has proven to be the pelogenous ecosystem where the phytoplankton included the largest number of microalgae species.

THE GENERAL PROTOCOL FOR REHABILITATION AFTER HAND SURGERY FOR TRAUMATIC INJURIES

Rodica Scarlet, Consuela Brailescu

ABSTRACT

Key-words: hand surgery; hand traumatic injuries; rehabilitation medicine; team work

Introduction
The hand can be affected by different pathologies , but due to its main function of inter-connection between the human body and the environment, it's most frequent pathology is the traumatology.
Material and method
This paper presents generalities about hand traumatic pathology and a management plan depending on the seriousness of the damage, in which hand rehabilitation is a major therapeutic sequence.

The major objectives of rehabilitation program are: increasing of patient's quality of life (less pain and oedema, local vasculotrophic improvement, increasing of mobility and prehension recovery) and social and professional reintegration (ADLs improving, increasing of independence and functional level).
Results and discussion
The rehabilitation program is complex, consisting in electrotherapy, thermotherapy, kinesitherapy, occupational therapy and is a team work, with inter-disciplinar cooperation: rehab team, surgeons, orthetist, ergotherapist, social assistant, psychotherapist. We also present the results in some cases with different traumatic pathologies of the hand and who followed a rehabilitation program in our clinique.
Conclusions

- Hand rehabilitation is a complex process, which needs promptitude, perseverence, vocation, compliance and medical inter-disciplinar team work
- Hand rehabilitation is a necessary sequence in post-traumatic pathology for improving the patient's quality of life and for increasing the functional level needed for ADLs and also for social and profesional readaptation.

THE "HALOTHERAPY SALON WITH SALT MINE ARTIFICIAL ENVIRONMENT" FROM NIRPHMB AND PARTICULARITIES OF HALOTHERAPEUTIC FACTORS (PROJECT/ CONTRACT 42120/2008 IN RDI-2 NATIONAL PLAN, ROMANIA).

Simionca Iuri, Nicolae Grudnicki, Horia Lazarescu, Mihai Hoteteu, Lucian Mirescu, Liviu Enache, M.R. Calin, I. Truica, Iulia Bunescu

ABSTRACT

Reproduction on the surface of underground environmental curative conditions of some salt mines with curative therapeutic properties, the field called "HALOTHERAPY" (HT, halos = (w) salt), is a method descendant from speleotherapy in salt mines Solotvino (Slatina), Ukraine. Subsequently were obtained patents, innovations, different types of rooms and methodologies of halotherapy.
In Romania have appeared the so-called "artificial salt mines", "surface salt mines", "salinoterapy centers", often without justifying documents (study, methodological recommendations, patents, certificates of innovation).
Under the Project / FC 42120/2008 in the National Plan for RDI-2 (Romania), dedicated of therapeutic efficacy of some salt mines from the country, has been provided for realization of functional model of a room for halotherapy called "halotherapy salon" with salt mine artificial environment. The model was realized based on experience and previous studies concerning the environmental underground salt mine factors, speleotherapeutic effect and mechanism of therapeutic action of some salt mines which possess therapeutic properties (Iuri Simionca et al., 1976-2007), and also to those from the remembered project.
Location of this product is NIRPhMB - the coordinating institution of the project and the first beneficiary thereby providing necessary medical circuits in the specially constructed spaces (H.Lazarescu, L.Mirescu Iu. Simionca et al., 2012).
Haloterapy innovative character of the product consists of:
• realization of environment with therapeutic properties and components of investigated salt mines - objects of speleotherapeutic effect studies;
• the possibility of adjusting and activation of some halotherapeutic factors;
• use of some therapeutic cure methodologies depending on the pathology, new concepts and innovative products.
Some elements and structure of "haloterapy salon", methodologies and realized products represents news of "know how" or deemed patentable.
To mention the following constructive particularities and environmental halotherapeutic factors:

- The total interior area - 27,4 m², volume of interior space - 68.4 m³. Air temperature-19 to 21 C□ - "thermal comfort zone", adjustable and independent of season; relative humidity - 40 to 60% (L.Enache, Iulia Bunescu, NIRPhMB).
- The concentration of carbon dioxide – 0,039 to 0.041% (Iu. Simionca, M.Hoteteu, NIRPhMB).
- Saline "natural" aerosol particle concentration - 0.4 to 0.7 mg/m³, consisting of salt particles from 0.5 to 2 microns in relative concentrations of 87-90%, the remainder - 2.5- 3 microns. The functionin of

special devices (called "part 1 and part 2") may increase the total number of “natural” aerosol salt particles and the one generated additional particles with different dispersion (Iu.Simionca, NIRPhMB).

- Air Ionization - 2000-2100 small and medium ions/cm^3 of both polarities, unipolarity coefficient indicating a higher concentration of negative ions (L.Enache, NIRPhMB).
- Low natural background radiation - 0. 088 ± 0.012 μSv / h (M.R.Calin, PhNII-HH).
- The concentration of microorganisms in the absence of patients -197-300 / m^3 air (September 2011; Iu.Simionca, NIRPhMB).

Realized construction, enjoy of mining and against traumas safety.
Based on multidisciplinary studies were achieved "Recommendation for use of the halotherapy hall / salon / room” and proposed "the reference standard" for proper functioning of spaces meant for obtaining the halotherapeutic effect.

THE IMPORTANCE OF STIMULODETECTION EXAMINATION IN EVALUATING THE RECOVERY OF PATIENTS WITH LUMBAGO- SCIATICA

Calin Corciova, Dan Zaharia, Daniela Matei

ABSTRACT

Introduction: The lumbar spine may be the affected by different degenerative, inflammatory, neoplazic, metabolic and traumatic diseases, which manifest by clinical pain syndromes or motor disorders. The painful lumbar syndromes have two clinical aspects: neuralgia, which is an irritating peripheral syndrome characterized by paroxistical pain in the distribution territory of the sensitive neuron and neuropathy, which is a peripheral deficient syndrome, characterized by sensitive, autonomic, motor and trophic disturbances due to the interruption of the anatomical- functional continuity of the peripheral motor neuron and of the sensitive protoneuron.
Keywords: lumbar spine, stimulodetection, motor latency
Objectives: The objectives of this study are the development of effective methods of functional assessment using modern methods of stimulodetection for relieving acute pain and for the prevention of chronicity in patients with lumbago-sciatica.
Materials and method: For electrophysiological research we used an electromyograph produced by the Esaote company. Stimulodetection examination was carried out in the motor fibers of the tibial and common popliteal nerves, bilaterally. Examinations were carried out in a warm room, the temperature of the skin of the patient was at least 35° C. The stimulation of mixed or motor nerves was performed with a bipolar surface electrode, the cathode being placed distally each time. The muscular response was recorded with standard surface electrodes, in accordance with the principle of "belly-tendon".
Results: In the study were comprised 10 patients with known lumbago-sciatica (5 females and 5 males, with mean age of 30.1 ± 5.4 years) and 10 healthy patients (the control group). For the statistical analysis we used the ANOVA test. The processed data were derived from the motor examination of the external (EPS) and internal (IPS) popliteal sciatic nerves before and after treatment. For each motor nerve we measured the following electrophysiological indices: the motor distal latency (MDL (ms)), the compound motor action potential (CMAP (mV)) at proximal and distal stimulation, the motor nerve conduction velocity (MNCV (m/s)). These measurements showed that men had frequent IPS nerve damage on the right side, and among women prevailed IPS damage but on the left side. The second assessment conducted after 3 months of treatment showed that the motor nerve conduction velocity in the IPS has improved; in men the motor nerve conduction velocity increased from 45.7± 4,06 m/s to 49,3± 5.1 m/s, p = 0.05, and in women from 42.9 ± 3.6 m/s to 46,8 ± 4.4 m/s, p = 0.01.
Conclusions: Lumbago-sciatica is the painful syndrome of the lumbar region and the territory of the sciatic nerve. It results in most cases due to a disco- radicular conflict consecutive to radicular hernias in the L4-L5 or L5-S1 intervertebral disc. It was found that lumbar pain occurs in 55% of the adult population, starting from a young age to 60 years, with an annual incidence of 6%. The protocol of examination for patients with lumbago-sciatica immediately after its diagnosis should include the measurement of motor nerve conduction velocity of external and internal popliteal sciatic nerves, in order to evaluate the extent of the nervous impairment.

THE INFLUENCE OF HALOAEROSOLTHERAPY UPON NONSPECIFIC DEFENCE AT PATIENTS WITH COMMUNITY ACQUIRED PNEUMONIA

O.I. Lemko, N.V. Vantyuh, M.I. Popadynets, T.I. Kopolovets

ABSTRACT

Introduction. Community acquired pneumonia in Ukraine occupies one of the leading positions in the structure of respiratory diseases, is frequently characterized by prolonged duration with complications, which can be a result of immune disorders. Therefore, the study of nonspecific defense followed with immunorehabilitation is very important. The aim of the investigation was to study the influence of recovery treatment using artificial aerosol medium of rock salt – haloaerosoltherapy at nonspecific defense at patients with community acquired pneumonia.
Objectives: patients with community acquired pneumonia during early convalescence period (after completing of antibiotic therapy).
Material and Methods. 31 patients with community acquired pneumonia were examined in the early recovery phase and after the course of haloaerosoltherapy, which was prescribed after antibiotics. Immunological studies included: evaluation of the complement titer (CT), phagocytic activity of neutrophils (PhAN - the percentage of phagocytic neutrophils), phagocytic number (PhN - number of latex particles absorbed by a neutrophil), metabolism of neutrophils in the test with nitroblue tetrasolium (NBT-test) spontaneous and induced, which allowed to assess the functional reserve of neutrophils (FR).
Results. Before haloaerosoltherapy the following changes were revealed: the significant decrease of PhAN (47,1 ± 0,77% against to 55,5 ± 1,15% in healthy, $p<0,001$), PhN (3,03 ± 0,05 against to 3,75 ± 0,08 in healthy, $p<0,001$), spontaneous NBT-test (22,2 ± 0,59% against to 25,0 ± 0,76% in healthy, $p<0,01$), induced NBT-test (29,2 ± 0,54% against to 32,8 ± 0,84% in healthy, $p<0,05$) and FR (6,81 ± 0,30 against to 7,84 ± 0,35 in healthy, $p<0,01$) which was accompanied by a significant decrease of complement titer (38,6 ± 2,40 against to 44,9 ± 0,92 in healthy, $p<0,05$). The obtained results confirmed a decrease in absorptive function of neutrophils, their metabolic activity and so their ability to digest and degrade the viruses and bacteria. These changes indicate a significant inhibition of nonspecific immune defense at patients with community acquired pneumonia in the early phase of recovery and ground the necessity of immunorehabilitation.
After the course of haloaerosoltherapy the significant increase of PhAN (51,21 ± 0,99%, $p<0,01$), PhN (3,38 ± 0,05; $p<0,001$) was observed. These changes indicate a significant improvement of the absorptive function of neutrophils, which, however, did not reach the normal level. The normalization of spontaneous NBT-test and significant increase of induced NBT-test were observed also. This indicates the improvement of neutrophils' digesting ability. These changes are associated with a growth close to normal values of the complement titer (43,6 ± 0,65, $p<0,05$). However, it should be noted that complete functional recovery of phagocytosis did not reached, substantiating the necessity to improve the rehabilitation technology using haloaerosoltherapy.
Conclusion. Haloaerosoltherapy promotes certain recovery of nonspecific immune defense at patients with community acquired pneumonia and reduce the likelihood of recurrent infectious and inflammatory processes in the early phase of recovery.

THE SPELEOTHERAPEUTIC EFFECT OF "UNIREA" –SLANIC PRAHOVA, "CACICA"-SUCEAVA, OCNA DEJ AND TURDA– CLUJ COUNTY SALT MINES UNDERGRAUND ENVIRONMENT ON PATIENTS WITH BRONCHIAL ASTHMA AND CHRONIC RESPIRATORY INFECTIOUS-INFLAMMATORY DISEASES AND IN EXPERIMENT

Iuri Simionca, Jaroslav Kiss, Claudia Bilha, I. Ietcu, Mihai Hoteteu, N. Tiganila, M. Ghita, Ana Munteanu, Iuliana Rizea, Constantin Munteanu, Diana Munteanu, Rodica Rogoja, Irina Iliescu, C. Ursaciuc, Dan Ciotaru, Elena Dumitrescu, Alexandru Iliuta, Gh. Stoian, N. Grudnicki, Ovidiu Mera, Corneliu Zup, Delia Cinteza, Lidia Anitei, Horia Lazarescu

ABSTRACT

In Romania the speleotherapy is seldom used for bronchial asthma and chronic bronchitis patients in the „Unirea" Salt Mine Slănic Prahova (VIASAN, Project No. 441, Life and Health– 2002-2006). In the

National Plan for RDI-2, Program–Partnerships, priority areas- Health, was conducted multidisciplinary RDI project (Nr.2550, FC:42120/2008-2011) for study of potential therapeutic factors in salt mines Cacica and Dej and effective use in health and balneo-turism. In Proiects / Financing Contract 310/2010 and 600/2011-2012, presents specific therapeutic salt underground factors in Turda Salt Mines, developed experimental regimes of speleotherapy cure for bronchial asthma and chronic bronchitis patients.
The result of the specific speleotherapeutic treatment in the underground galleries of the salt mines "Unirea"- Slanic Prahova, "Cacica" – Suceava, "Ocna Dej" – Cluj and Turda Salt Mine complex - Cluj has been found the following positive effects:
stimulation of cellular nonspecific resistance antiinfection factors;
correction and activation of the immune system, inclusive immunocompetent cells and their cell secretions;
positive changes in the process of sensitization and allergic reactions of the organism - at the cellular level (decrease of sensitizing lymphocyte test values with "ovalbumin" and "Staph. Aureus") and IgE secretion in blood serum;
suppression and decrease of the inflammatory process, including some immunological markers (cellular secretions - interleukins) and biochemical humoral (C-proteine);
positive changes of regeneration of pulmonary fibroblast and dendric cells;
the positive effect on markers of oxidative stress and expression of heat shock proteins, noting the tendency of normalization of HSP protein concentration;
on the mineralocorticoid function of the adrenal glands;
at clinical status of bronchial asthma and other chronical respiratory pathologies patients and laboratory animals with experimentally pathologies;
Be mentioned that positive speleotherapeutic effect was found differently concerning the description and value, depending on the composition and structure of underground galleries, set of therapeutic factors in experimented salt mines/galeries and their quality, depending on the speleotherapy regimes and duration of cure as well as pathology and clinical status of laboratory animals (Wistar rats) with induced pathology ("ovalbumin" sensitization, skin wounds and burns) and later - of patients with bronchial asthma and other chronic allergic and infectious-inflammatory respiratory diseases.

THE THERAPEUTIC EFFECT OF "HALOTHERAPY SALON WITH SALT MINE ARTIFICIAL ENVIRONMENT" AT OVALBUMIN-SENSITIZED WISTAR RATS AND PATIENTS WITH ASTHMA AND OTHER CHRONIC RESPIRATORY DISEASES (PROJECT / CONTRACT 42120/2008 IN RDI-2 NATIONAL PLAN).

Simionca Iuri, Mihai Hoteteu, Ana Munteanu, Iuliana Rizea, Horia Lazarescu, Delia Cinteza, Dan Dumitrascu, Alexandru Iliuta, Gheorghe Stoian, Madalina Necula, Roxana Maxim, Rodica Rogojan, Irina Iliescu

ABSTRACT
Introduction: Halotherapy (HT, halos = (w) salt) - is recognized as descending method from speleotherapy, using the underground salt mines therapeutic properties, artificial created at the surface, especially dried aerosol micro particles of salt (sodium chloride), which contain and other minerals.
The project / CF 42120/2008 (the NPR-2) were referred: making a room for halotherapy, multidisciplinary investigation of specific environmental quality and halotherapeutic effect.
*Material and methods.*Experimental cure in "halotherapy salon" (INRMFB, Bucharest, Bul.Ion Mihalache 11A) has been applied to 15 patients with bronchial asthma and other chronic respiratory diseases. In parallel were investigated 4 patients with bronchial asthma, chronic bronchitis, chronic obstructive pulmonary disease subjected of drug treatment at home. The patients were evaluated clinically, including spirometry and electrocardiography, were performed various bio-medical investigations such as, hematological markers, by nonspecific resistance and inflammatory process markers, of immune status, immunopathological tests, the concentration of sodium and potassium in serum and urine and the mineralocorticoid function.
*Results and conclusions.*Results of studies on laboratory animals that model of "asthma" induced by sensitization with ovalbumin, after cure experimental HT, indicate the possibility of activation of nonspecific resistance factors to infectious and antiinflammatory pathology on animal organism, at

immunostimulatory effect on level of activation of T-lymphocyte function, decrease the organism sensitization to some antigens and inhibition of allergic process; tendency to normalize of sodium intake, to increase renal elimination of sodium and potassium and increase of water ingestion and its renal elimination and also the normalization of mineralocorticoid function of the adrenal glands.
Subsequently, based on experimental results were elaborated the medical indications and contraindications for halotherapy of patients with bronchial asthma and other chronic infectious-allergic and inflammatory respiratory diseases (Iu.Simionca, Delia Cinteza, 2011), the methodologies and procedures of specific halotherapeutic cure as and model documents for the selection and consent of patients for hiring and HT experimental cure study group (Iu.Simionca, Delia Cinteza, H.Lazarescu 2011).
Adapting of investigated patients to environmental conditions of artificial salt mine was shown at 5-10 days of HT procedures, depending on the pathology and its severity.
The results, depending on pathology and its severity, indicate the presence of the positive effect of decreasing infectious-inflammatory process and activation of antiinflammatory mechanisms (including allergic), involving different components of the immune system,correction of immune status changes and also to those immunopathological, especially allergic; of normalization mineralocorticoid function of the adrenal glands.. After 15 days of applied the methodology of specific HT cure, approximately two thirds of investigated patients has been found positive clinical evolution of the disease, as manifested by the absence of allergic reactions and irritation, lack of cough and wheezing, coughing up mainly liquid (rarely viscous), breathing "light" significant decrease dyspnea and increase physical resistance to effort, lack of cases of supplimentary infection or worsening of asthma; about 1/4 of the investigated patients had discontinued use or significantly reduced dose of medication (antihistamines, bronholitic, inhaled corticosteroids). HT cure did not affect negatively on the functions of other organs at patients from the study.

THERMAL WATERS OF TRANSCARPATIAN REGION IN UKRAINE: SHORT OVERVIEW

I.S. Lemko, M.O. Haysak, B.M. Fekeshazi, A.G. Mankovich

ABSTRACT

Introduction: Transcarpathia alongside with Crimea is a region with high elevated temperature of the entrails of the earth. There are places in the region where every 100 m in depth the temperature increases by 5 or even 10^0C. Therefore, these areas are promising for thermal waters.
Objectives: The main deposits of thermal mineral waters were analyzed concerning perspectives of their use for treatment and rehabilitation.
Materials and Methods: Composition of thermal mineral waters deposits of the region and their classification according to the level of temperature were analyzed.
Results: Currently in Transcarpathia there are 20 deposits of subthermal (T 20-35^{0}C), thermal (T 35-42^{0}C) and highly thermal (T > 42^{0}C) waters, in total 80 water sources of mineral waters and brines. By their chemical composition, they belong to the groups of sodium chloride, methane, siliceous, among them - iodine and bromine containing. The total capacity (debit) of these sources is enough for their use for therapeutic and prophylactic purposes.
Thermal waters with moderate temperature (T 35-45^{o}C) are of great value for external medical use. They need no no additional heating or cooling. The sources of this group of thermal waters in Transcarpathia are mainly found in areas of Uzhgorod, Mukachevo, Irshava, Vinogradovo, Tyachiv. But the greatest number of them is concentrated in Beregovo recreational zone (Beregszasz, Koszony, Huta, Janosi and others). Mineral waters and brines (after their appropriate dilution) of this area may be widely used in a form of mineral baths and pools.
Numerous hotels, recreational complexes were already built on the base of these waters. The preliminary analysis testified that external use of them appeared to be effective in the complex treatment and rehabilitation of patients with diseases and disfunctions of the locomotor system, urinary, skin, cardiovascular, respiratory diseases and other pathology.

Conclusions: It may be concluded that deposits of thermal mineral waters in Transcarpathia have a good perspective for their use in recreation, prophylactics and treatment of different diseases, but need further development concerning questions of infrastructure and treatment technologies.

TRATAMENTUL BALNEOFIZIOTERAPIC AL ATEROSCLEROZEI

Marius Turnea, Mariana Rotariu, Dragos Arotaritei, Mihai Ilea

ABSTRACT

Introducere. Ateroscleroza se poate dezvolta in orice artera mare sau medie din orice zona a corpului. In stadiile initiale ale bolii, endoteliul arterelor este traversat de celule inflamatorii si LDL-colesterol care se acumuleaza in intima-al doilea strat al peretilor vasculari. Peste ani acumularea de elemente ateromatoase determina formarea unei placi calcare in peretele arterial. Placa ateromatoasa devine din ce in ce mai mare pe masura ce procesul patologic continua.

Materiale si metode. Placile de aterom determina trei entitati clinice: boala arteriala coronariana care determina angina, moartea cardiaca subita si infarctul miocardic; boala cerebrovasculara care cauzeaza infarctele cerebrale si atacurile cerebrale tranzitorii; boala arteriala periferica care determina circulatie sanguina deficitara in picioare, cu durere la mers si vindecare incetinita a ranilor. Terapia balneara si cu agentii fizici au rol: profilactic, curative si de recuperare pentru ateroscleroza. Aportul tratamentului balnear se datoreaza atat factorilor climatici cat si efectelor CO_2 (ape carbogazoase si mofete). Asociate, procedurile cu agenti fizici si de hidroterapie au efecte favorabile asupra circulatiei. Modelarea matematica a proceselor de obstructie arteriala si venoasa dar si a actiunii factorilor balneari si a agentilor fizici asupra capilarelor si validarea modelului matematic reprezinta o modalitate de predictie a evolutiei modificarilor structurale.

unde u reprezinta concentratia de monocyte, celule endoteliale din intima, v reprezinta concentratia de cytokine, 1 descrie o sursa constanta a activatorului din intima.

Rezultate. Solutiile modelului propus conduc la obtinerea unor reprezentari grafice ce descriu interdependenta dintre fluxul celulelor inflamatorii–monocite, cytokine si LDL-colesterol care se acumuleaza in intima. Aceste reprezentari grafice pot fi utilizate si la stabilirea conduitei terapeutice in timp real. Trimiterea unui bolnav cu afectiune cardiovasculara în statiunea balneara trebuie precedata de examen cardiologic, tratamentul in statiune fiind individualizat dupa boala, stadiu respectiv afectiuni asociate. Nu este de neglijat meteosensibilitatea bolnavilor coronarieni. În acest sens se va tine seama de coordonatele geografice ale statiunii balneare si anotimpul in care va fi efectuata cura.

Concluzii. In contextul actual al studiilor interdisciplinare, este extrem de util, pentru deschiderea unor noi perspective legate de preventia si tratamentul aterosclerozei, sa se realizeze asocierea faptului ca balneofizioterapia este o terapie de reactie, de reglare şi de adaptare care-si exercita actiunea prin mijloace nespecifice obligand organismul uman sa-si mobilizeze propriile forte de recuperare si de autovindecare cu modelarea matematica a proceselor de obstructie arteriala si venoasa, a actiunii factorilor balneari si a agentilor fizici asupra capilarelor si validarea modelului matematic care reprezinta o modalitate de predictie a evolutiei modificarilor structurale. Elaborarea unor modele, solutii conceptuale si metodologii multidisciplinare noi conduc la transferul cercetării fundamentale din domeniul matematic in cel al terapiei aterosclerozei precum si dezvoltarea unor strategii de preventie, diagnostic si tratament, cu implicatii in cercetarea clinica.

Balneoterapia nu exclude celelalte proceduri terapeutice, ci numai le completeaza, intervenind fie simultan, fie, mai des, succesiv, iar modelarea matematica a proceselor fiziologice orienteaza si sustine atitudinile terapeutice adoptate.

USE OF SPELEOTHERAPY IN CONDITIONS OF SALT MINES FOR PERSONS EXPOSED TO THE CONSEQUENCES OF THE ACCIDENT ON THE CHERNOBYL ATOMIC STATION

I.S. Lemko, T.A. Zadorozhna, M.L. Gabor, O.I. Lemko

ABSTRACT

Introduction. After the Chernobyl accident a large number of people, healthy and with the pathology of the respiratory system, experienced the effects of high doses of radiation and stress. It was expected that these factors' influence will result in the mucosal changes and subsequent disturbances of the organs,

hematopoietic system, vegetative regulation. That is why it was necessary to use complex of natural factors, which contribute to the restoration of the affected organs. Special attention was paid to the complementary admission of iron ions, which have radio-protective features.
Objectives: 260 patients with bronchial asthma and 180 COPD patients were observed during 1986-1990. In 80% of cases the main disease was associated with vegetative dysfunction of hyperreactive or hyporeacive character.
Materials and Methods: clinical observation, pulmonary function tests, radio-immune detection of pituitary and thyroid hormones, gastric acidity by means of tubeless method. Medical complex was proposed, which included differential speleotherapy in the underground department with day and night sessions. Iron-containing mineral water Kelechinska was administered additionally. Its' administration depended on the level of gastric acidity. Duration of treatment depended on the severity of the disease, presence of complications and comorbidity. Much attention was paid to the examination of endocrine system, long-term adaptation hormones, including the pituitary, thyroid, and immune systems.
Results. As a result of treatment characteristic therapeutic effects of speleotherapy were observed - disappearance and significant reduction of obstructive and restrictive disorders, improvement of general condition of patients and pulmonary function tests. It was also found that speleotherapy resulted in the normalization of hormones concentrations in the blood and increasing the frequency of their normal values. Additionally to the clinical and functional improvement, the immunomodulative effect of speleotherapy, which was realized in the normalization of immune defense was demonstrated (the ratio of lymphocytes subpopulations, phagocytosis).
Conclusions. In general, it was testified that speleotherapy in complex with iron-containing mineral water is indicated for patients with pathology of the respiratory system, who were exposed to additional doses of radiation and stress after the accident on the atomic station. Improvement of the clinical parameters and associated vegetative dysfunction, optimization of pituitary gland secretion and balance of thyroid hormones were reached under the influence of treatment.

UTILIZAREA SISTEMULUI POSTURAL ANTIGRAVITATIONAL DINAMIC IN KINETOTERAPIE

Mariana Rotariu, Marius Turnea, Mihai Ilea

ABSTRACT

Introducere: Participant activ la evolutia anatomica si la realizarea unei forme normale a corpului, aparatul locomotor, dirijeaza intreaga activitate stato-dinamica de postura si miscare a organismului in cele mai variate circumstante de solicitare. Sistemul postural antigravitational dinamic (SPAD) utilizeaza principiul suspendarii greutatii corpului pacientului, concomitent cu folosirea covorului rulant, in asociere cu tehnici de facilitare neuromusculara in scopul reeducarii mersului.
Material si Metoda: Prin crearea unui nou mediu de lucru (microgravitational) se deschide poarta spre reeducarea motorie si se mentine in timp adaptarile induse si automatice relative ale deplasarii. Aparatul este dotat cu doua tipuri de sisteme de facilitare gravitationala: unul central constant de tip pneumatic si doua laterale, intermitente de tip mecanic, cu scopul de a interveni asupra celor 2 parti ale corpului in mod independent. Acestea actioneaza asupra unei centuri pneumatice situata la nivelul regiunii abdominale (sub cusca toracica), miscand-o pe directie verticala. O a doua centura va fi pozitionata la nivelul crestelor iliace, cu rolul de a realinia bazinul in plan frontal, in concordanta cu umerii. Intregul corp va fi apoi aliniat intr-o postura corecta, cu ajutorul unor "brate" fixate pe acromion, creste iliace, coccis si pe apofiza spinoasa din punctul maxim al curbei dorsale. Realinierea tractului cervical se va face, la nevoie, cu ajutorul unor gulere pneumatice de marimi si volume variabile.
Rezultate: Mersul pe covorul rulant cu suspendarea a 40% din greutatea corporala a avut un rol normalizant imediat asupra aspectelor cinematice si cinetice al modelului de mers. Utilizarea suspendarii greutatii (BWS – body-weight supported) si a mersului fortat, poate fi un factor important in redobandirea abilitatii locomotorii la persoanele cu leziune spinala. Un studiu pe 89 de subiecti cu leziune spinala incompleta (45 acuti si 44 cronici) para- si tetraplegici tratati pe covorul rulant cu BWS si un lot de 64 subiecti etalon (24 cronici si 40 acuti) tratati cu terapia conventionala, dupa 3-20 de saptamani, a aratat ca atat subiectii cronici cat si cei acuti cu leziuni incomplete prezentau imbunatatiri importante in comparatie cu grupul etalon. Rezultatele testului Chi-patrat bazat pe realizarea tabelului de

contingenta a evidentiat faptul ca nu exista o asociere semnificativa intre sexul subiectilor si recuperarea postural antigravitationala dinamica (χ^2=6.58, p=0.0096, 95%CI). Rezultatele studiilor au fost analizate in raport cu cele trei aspecte urmarite: viteza mersului, rezistenta si necesitatea asistentei. Concluzia a fost ca nu sunt diferente statistic semnificative intre antrenamentul pe covorul rulant cu sau fara Bws si alte interventii reabilitative in recuperarea mersului. Exista o inclinare spre stanga a indecelui Skewness, spre o eficienta mai buna a covorului rulant cu BWS in raport cu viteza mersului, doar in cazul pacientilor care sunt deja capabili de a se deplasa autonom. In ceea ce priveste suspendarea greutatii, nu exista dovezi substantiale asupra eficacitatii acesteia, ci doar beneficiile utilizarii sale in follow up.
Concluzii: Prin programul complex de kinetoprofilaxie si corectie posturala, aplicat in studiul practic, s-au creat premizele unei cresteri normale si ale unei dezvoltari fizice armonioase, insistandu-se mai mult pe constientizarea subiectilor asupra atitudinii corecte a corpului, asupra reeducarii reflexelor de atitudine, asupra regulilor igienice si asupra practicarii activitatilor sportive in timpul liber. Nu este inca foarte clar care sunt parametrii ce pot fi modificati pentru optimizarea recuperarii, atat pentru pacientii acuti cat si pentru cei cronici.Totusi,majoritatea studiilor se orienteaza spre inceperea tratamentului cu o suspendare intre 20% si 40% din greutatea corporala, ce poate fi apoi redusa progresiv in timpul aceleiasi sedinte sau de la o sedinta la alta.

NEW WAYS IN PHARMACOLOGICAL TREATEMENT AND MEDICAL REHABILITATION IN OSTEOPOROSIS

Sorina Sabo, Simona Ioana Neagoie

ABSTRACT

Osteoporosis is the most frequent bone pathology, characterized by low bone mass and microarhitectural dissruption of bone architecture, which leeds to bone fragility and high risk of fracture.
More than 10 million Americans have osteoporosis and an additional 33,6 million have low bone density of the hip. About one out of every two Caucasian women will experience an osteoporosis related fracture, as will one in five men.
Osteoporosis is a natural part of aging process.But, with early treatement, it is possible to stop or slow the progress of bone loss.Treatement is important to prevent broken bone, maintain or increase the bone thikness, relieve pain caused by fractures and changes to bones, keep the ability to function physically and the DAL activities.
Treatement for osteoporosis includes avoidance of tobacco use and excessive alcohol intake, eating a diet rich in calcium and vitamin D, getting regular weight-bearing exercise and taking medicine to reduce bone loss and increase bone thickness.These measures help prevent spine and hip fractures.
Exercise has been shown to have positive effect on bone mineral density on both premenopausal and postmenopausal women. An even greater benefit of exercise is noted in postmenopausal women when combined with pharmacological treatement.Some exercise can prevent bone loss while other forms of exercise have been shown to increase bone mineral density. A regular exercise program improves quality of life and increase strength and balance, which may affect the rate of falls and related fractures, strontium ranelate, tibolone, RANKL, calcitriol, Genistein. PTH (1-34), PTH(1-84)Current pharmacological options are: bisphosphonates(alendronate, ibandronate, risendronate, zolendronic acid), calcitonin, estrogenagnist/antagonist and parathyroid hormone
Pharmacological treatement led to decrease of fracture incidence by 30-50%. Resistance exercise for strengthening and reduction of kyphosis are key elements for reducing the risk of falls and further fractures.

THE ROLE OF RAHABILITATION IN NEUROGENIC BLADDER MANAGEMENT

Renee Popovici, Irina Petrusca, Simona Neagoie, Andreea Romila, Alexandru Cristea

ABSTRACT

Introduction: Lower urinary tract disfunctions are divided in 3 cathegories: symptoms regarding filling phase, voiding phase and postvoiding symptoms. Neurological bladder term is used in describing both filling and voiding disfunctions after partial or complet damage of integrity for nervous centers and motoneural ways on central or periferic level. Regarding functional problems in neurogenic bladder, mainly voiding disfunction, we are reffering to: urinary frequency, urgency, incontinence and nonobstructive retention.

Common causes for neurological bladder are: stroke, spinal cord injury, multiple sclerosis, cranio-cerebral trauma, spina bifida, Parkinson and Alzheimer disease.

Aim: To review the up-to-date literature of the mostly used conservative treatment modalities, in order to improve functional level and quality of life.

Methods: Informations from international literature, along with practical experience from cases from ours clinic, regarding conservative treatment for neurological bladder diysfunction. Behavioural training,catheters, external appliances, drugs and electrical stimulation are presented, their indications and limitations.

Results: Treatment will depend on the type of underlying disease, on the bladder dysfunction, its natural evolution but also on the patients'general condition, and the available resources.

Conclusions.The conservative treatment is in almost all cases the first and will remain the primary choice in the majority of patients with neurogenic bladder. Conservative treatment is the mainstay in neurogenic bladder management. It offers different methods which allow us to successfully treat most symptoms and conditions in this prevalent low urinary tract pathology. Healing, means total absence of disease, fact unreacheble in this case, our main purpose beeing improving quality of life, for a pacient with neurological bladder.

ELECTRICAL AND MAGNETIC STIMULATION TECHNIQUES OF RESPIRATORY MUSCLE FOLLOWING SPINAL CORD INJURY

Irina Petrusca, Simona Neagoie, Renee Popovici, Simona Ruxandra Tarkan

ABSTRACT

Introduction: Respiratory complications are a leading cause of morbidity and mortality in patients with spinal cord injury. Approximately 20% of patients with acute cervical spinal cord injuries will require some form of mechanical ventilatory support. Fortunately, the respiratory status of most of these patients improves substantially. Still, □5% of this group or 200–400 patients per year will require chronic ventilatory support (Carter et al.,1987). These patients generally have spinal cord lesions at the C4–C5 level and above, and have inadequate diaphragm function.

Purpose: presenting the stimulation techniques to restore respiratory muscle function with a major emphasis on newer methodologies that are currently under development. Optimal design of a stimulation system would involve a closed loop system utilizing command signals from the brain to drive motor function

Methods: Several techniques, currently available or in development, have the capacity to restore respiratory muscle function allowing these patients to live more normal lives and hopefully reduce the incidence of respiratory complications. Magnetic stimulation, surface stimulation and spinal cord stimulation of the expiratory muscles are promising techniques to restore an effective cough mechanism in this patient population.

Results: In patients with only a single functional phrenic nerve, combined intercostal and unilateral diaphragm pacing can maintain long term ventilatory support. In patients with bilateral phrenic nerve function, intramuscular diaphragm pacing offers significant advantages compared o conventional phrenic nerve pacing. With this new technique, electrodes are placed by laparoscopic surgery obviating the need for the more invasive thoracotomy. Moreover, electrodes are not placed in direct contact with the phrenic nerve and phrenic nerve dissection is not required. Consequently, the risk of phrenic nerve injury is virtually eliminated. Since laparoscopic surgery is usually performed in the outpatient setting, the morbidity, need for hospitalization and associated high costs of a thoracotomy are eliminated. These

alternative methods of artificial ventilation appear to provide advantages similar to that achieved with conventional phrenic nerve pacing.
Conclusion: New emerging options are being developed for patients with ventilator dependent tetraplegia. These techniques hold promise to reduce the incidence of respiratory tract infections and atelectasis in patients with spinal cord injury, reduce the morbidity and mortality associated with these complications.

ASPECTS OF DIFFERENTIAL DIAGNOSIS AND MANAGEMENT THERAPY IN A PATIENT WITH RADIAL NERVE PARALYSIS OF MULTIFACTORIAL ETIOLOGY

Ioana-Simona Neagoie, Liliana-Simona Cio, Sorina Szabo

ABSTRACT

Introduction The radial nerve, the largest branch of the brachial plexus can be injured at any point along the anatomic course and may have varied etiologies. The most common seat of compressions is in the proximal forearm in the area of the supinator muscle and involves the posterior interosseous branch**.**
Aim of the study To introduce elements of differential diagnosis and medical rehabilitation program in a patient with radial nerve paralysis recently operated for schwannoma of the posterior interosseous branch.
Material and methods Patient 34 years old, forklift operator, with progressive motor weakness in the left wrist and finger extensors about 3 years, suddenly worsened 5 months ago, when the pacient associated headache, dizziness, nausea and vomiting. Following investigations the patient was diagnosed with lead poisoning, Fahr disease and benign tumor of left radial nerve - the posterior interosseous branch. The schwannoma removal surgery was followed by internal neurolysis of the posterior interosseous branch and the radial trunck. At 2 month after the surgery the rehabilitation program adapted to the motor deficit was initiated. The aim of the rehabilitation program was preventing complications, recovery of strength, social and professional reorientation.
Results Corroborating surgery treatment with a complex rehabilitation program, the pacient had a good evolution in improving the motor deficiency and improved his psycho-emotional status, with socio-professional reorientation.
Conclusions The evolution of a patient diagnosed with peripheral motor deficit depends on the etiology and lesion centre, the duration of lesion, as well as the treatment methods and the patient compliance in the recovery program.

THE CONSEQUENCES OF TOTAL HIP ARTHROPLASTY IN A YOUNG FEMALE WITH LATE SEQUELAE AFTER A CAR ACCIDENT - CASE REPORT

Andreea Ramona Romila, Irina Petrusca, Simona Neagoie, Renee Popovici, Alina Sandu, Alexandru Cristea, Nicolae Stoicescu

ABSTRACT

Introduction: Traumatic hip dislocations complicated with infero-internal and supero-external fragment fractures of the femoral head are an indication for total hip arthroplasty. The noncemented hip prosthesis is recommended for young patients because of its bigger range of operation without complications and also because the initial fixation and further revision are easier due to lack of bone cement.
Purpose: To present the objectives and methods of physical therapy for a young female patient, suffering from minimum paraparesis after severe traumatic brain injury, total left hip arthroplasty for fracture-dislocation of femoral head in the context of multiple trauma and left external popliteal sciatic nerve paresis after intraoperative traumatic injury of the sciatic nerve trunk.
Material and method: Female patient, aged 29, victim of a car accident in 2008, who suffered severe head trauma, pelvis fracture, fracture-dislocation of left femoral head, medial humeral epicondyle fracture, spleen rupture, was admitted to our rehabilitation clinic for minimal paraparesis and distal motor deficit of left lower limb peripheral type, disabled gait partially corrected by using a crutch and a dynamic ankle-foot orthosis. Total hip replacement with noncemented prosthesis was performed one month after the accident. After surgery left external popliteal sciatic nerve paresis was found. Current disable in gait is not due to upper motor neuron deficit but peripheral-type motor deficit and weakness of gluteus medius. The patient has also a secondary static disorder of the spine and pelvis and minor right

elbow joint stiffness. The main objectives of treatment are improvement of gait, improvement of stability and mobility of the left lower limb and improvement of static disorder of the spine.
Results: Short term evolution was favorable, with significant increase of endurance; moderate increase in muscle strength was obtained for most muscle groups, and also slightly improvement of dynamic balance and coordination. A significant increase in active range of motion for the left ankle was not obtained. Improvement of gait was not obtained.

Conclusions: Over time the central type motor deficit was almost completely resolved, only remaining coordination disorder could raise in regaining a normal gait. The peripheral motor neuron lesion made functional prognosis worsened and slowed down the whole process of recovery requiring the use of a crutch and a dynamic ankle-foot orthosis. Plus, during the arthroplasty surgery a wide surgical approach was preferred, interrupting the chain of musculoskeletal abduction, difficult to restore at the end of the operation and making the postoperative recovery process harder. Another problem is total hip replacement in a young active patient. At one point a second surgical intervention will be required for the replacement of prosthesis and it will be necessary to resume the rehabilitation program. Kinetotherapy and physical therapy are essential to improve the functional status and to increase the quality of life of these patients.

THE ROLE OF IMAGING TECHNIQUES RELATIVE TO MEDICAL REHABILITATION
Gilda Mologhianu, Dan Moldoveanu, Alexandru Marin, Adriana Sarah Nica
ABSTRACT
The role of plain film examinations is well established through investigation and control methods in medical rehabilitation. In the last two decades, conventional radiology has lost ground to modern imaging techniques (MRI, CT, musculoskeletal ultrasound). The aim of the presentation is an overview of the types of medical imaging (CT, MDCT, MRI : T1, T2, FLAIR, MRA, STIR, fMRI-BOLD, US) required in physical medicine and rehabilitation, the advantages and disadvantages associated methods involved
Radiologia conventionala are un loc bine stabilit printre metodele de investigatie si control in Recuperarea Medicala. In ultimele doua decenii radiologia conventionala a pierdut din teren in fata tehnicilor imagistice moderne : RMN, CT, ultrasonografia musculoscheletala.
Scopul prezentarii este o trecere in revista a tipurilor de imagistica medicala (CT, MDCT, RMN : T1, T2, FLAIR, MRA, STIR, fMRI-BOLD, US) utile in Recuperarea Medicala, cu avantajele si dezavantajele aferente metodelor in cauza.

PLATELET RICH PLASMA – REGENERATIVE THERAPY IN ORTHOPEDIC DISEASES / PRP – TERAPIA REGENERATIVĂ CU PLASMĂ ÎN AFECTIUNILE ORTOPEDICE
Dan Laptoiu, Dan Chelariu, Oana Laptoiu
ABSTRACT
Platelet-rich plasma (PRP) treatments have been used and studied for the past 20 years. Its use has become extended over the last several years due to utilization in plastic and reconstructive surgery applications.
PRP works by increasing the concentration of platelets, thereby increasing the concentration of growth factors and increasing healing potential. PRP has an advantage over many tissue engineering products because it is an autologous product. It has been studied and used for the treatment of tendon injuries, chronic wounds, ligamentous injuries, cartilage injuries, muscle injuries, and bone augmentation. The results from in vitro and in vivo studies in foot and ankle injuries are promising. The applications for treatment of degenerative musculo-scheletal lesions may be broader than once thought. Proponents of this therapy advocate its effectiveness as a safe and natural way to expedite the healing process. However, there exist few controlled trials to objectively examine the proposed benefits of this therapy. Although some studies demonstrate promising results, the published data sample sizes are small.
In this presentation we review the biological mechanisms by which PRP facilitates healing as well as the personal clinical research that has investigated PRP therapy as a treatment for musculoskeletal injuries, such as tendonitis, tennis elbow, rotator cuff repair, Achilles tendon repair and anterior cruciate ligament repair.

TRATAMENTUL NECHIRURGICAL PRIN TEHNICI DE GLIDING IN PATOLOGIA NERVULUI RADIAL.

Madalina Craciun, Valentina Oprea, Diana Dumbrava, Robert Grosu, Katinka Georgescu,Laurentia Draghescu, Rodica Eremia

ABSTRACT

Compresia nervului radial sau leziuni ale acestuia pot apărea în orice punct de-a lungul traseului anatomic al nervului si poate avea variate etiologii.Cea mai frecventă localizare a compresiei nervului radial este la nivelul antebratului proximal,în zona muschiului supinator.
In cadrul patologiei nervului radial putem incadra: paralizia de nerv radial, sindromul de tunel radial, sindromul Wartenberg.
Tratamentul variază în functie de nivelul si cauza afectarii nervului radial, acesta poate fi chirurgical sau tratament nechirurgical.
In cadrul tratamentului conservator tehnicile de gliding, electroterapia, medicatia antiinflamatorie insotita de purtarea unei atele functionale pot imbunatati simptomatologia.
Tehnicile de gliding sunt exercitii de elongare a unui nerv la nivelul unei articulatii si scurtarea la nivelul articulatiei adiacente.

NECROZA ASEPTICA BILATERALA DE CAP FEMURAL LA O PACIENTA TANARA DUPA TERAPIE CORTIZONICA

Valentina Oprea, Diana Dumbrava, Robert Grosu, Madalina Craciun, Katinka Georgescu, Laurentia Draghescu, Rodica Eremia

ABSTRACT

Osteonecroza aseptica de cap femural o entitate clinico-radiologica bine precizata este urmarea unui lant etiopatologic inca insuficient descifrat care duce la necroza medulara si osteocitara.
Osteonecroza aseptica de cap femural inregistreaza o crestere semnificativa a frecventei, atat printr-o cunoasterea si o recunosterea mai buna a bolii cat si prin cresterea numarului de bolnavi sub corticoterapie (boli autoimune, transplant de organe) sau bolnavi dializati.
Importanta diagnosticului precoce in osteonecroza aseptica de cap femural este data de faptul ca aceasta boala infirmizanta ce afecteaza adultii tineri, poate fi oprita din evolutia sa in stadiile initiale, pacientul reintorcandu-se la viata profesionala si sociala dinaintea bolii. Un alt argument in favoarea punerii diagnosticului precoce este bilateralitatea bolii in proportii ce variaza intre 30-70%.
Tratamentul osteonecrozei este diferentiat in functie de stadii astfel ca in stadii usoare tratamentul medical se bazeaza pe protejarea soldului, folosirea antiinflamatoriilor si reeducarea functionala iar in stadiile avansate artroplastia este tratamentul de baza.

MANAGEMENTUL SINDROAMELOR DE ENTRAPMENT ALE NERVULUI CUBITAL PRIN TEHNICI DE GLIDING

Laurentia Draghescu, Daniela Poenaru, Diana Dumbrava, Valentina Oprea, Katinka Georgescu, Madalina
Craciun, Robert Grosu

ABSTRACT

Sindroamele de entrapment ale nervului cubital reprezinta o patologie intalnita in practica, sediul compresiei putand avea loc pe traiectul anatomic al nervului la nivelul bratului si antebratului- mai rar intalnita, la nivelul pumnului, in canalul Guyon. Cel mai frecvent compresia nervului se produce la nivelul cotului in tunelul cubital, situat intre epicondilul medial al humerusului si olecraniu, deoarece traverseaza un spatiu putin protejat de tesuturi.

Lucrarea de fata isi propune sa prezinte cauzele, simptomatologia , diagnosticul si tratamentul conservator, prin tehnici de gliding- de alunecare ale nervului cubital in santul cubital. Cauzele pot fi diverse: traumatisme – fracturi cu deformari in valg, ocupationale- pozitii prelungite de sprijin pe cot, afectiuni generale- PAR, guta. Simptomatologia este predominant motorie, producand slabiciune la nivelul muschilor intriseci ai mainii, mai marcata la nivelul intersosos I si la nivelul degetului V si tulburari de sensibilitate pe jumatate deget IV si deget V.
Exercitiile de gliding au ca scop reducere disconfortului produs si sa restabileasca abilitatea de a performa miscarile de finete ale mainii.

STRATEGII DE ADAPTARE LA FATIGABILITATE IN CADRUL BOLILOR DEGENERATIVE NEUROLOGICE CRONICE

Diana Dumbrava, Laurentia Draghescu, Robert Grosu, Katinka Georgescu

ABSTRACT

Multe persoane au experimentat, probabil, la un moment dat senzatia de oboseala. Aceasta reprezinta unul dintre cele mai comune simptome atat ale afectiunilor acute, cat si ale celor cronice. Aaronson si colaboratorii propun urmatoarea definitie: “Fatigabilitatea reprezinta constienta descresterii capacitatii fizice si/sau psihice datorita unui dezechilibru al disponibilitatii, utilizarii si refacerii resurselor necesare performarii unei activitati”.
Patologia ce include ca simptom comun fatigabilitatea poate fi de natura neurologica (B. Parkinson, scleroza multipla, scleroza laterala amiotrofica, distrofii musculare, miastenia gravis, polimiozita, botulism, etc), precum si de natura non-neurologica: fibromialgia, afectiuni cardiace, pulmonare (BPOC), afectiuni renale, metaboloce (diabet zaharat), endocrinologice (hipotiroidism), anemie, boala Lyme.
Avand in vedere aceste aspecte, este foarte important stabilirea unui echilibru intre perioadele de repaus si de activitate,de asemenea modificarea stilului de viata in vederea adaptarii la noile conditii, precum: modificarea dozelor medicamentelor ce pot determina fatigabilitate, mentinerea unui regim igieno-dietetic echilibrat cu evitarea meselor copioase si mentinerea unei greutati corporale normale, utilizarea de strategii pentru eficientizarea efortului (pauze dese in timpul zilei, mentinerea unui program de somn corespunzator, etc), evitarea unui mediu ambiat cu temperatura ridicata, evitarea bailor fierbinti, dozarea echilibrata a exercitiilor fizice cu pauze dese, program de exercitii personalizat in functie de capacitatea fizica a fiecarui pacient.
Concluzie. Desi fatigabilitatea este prezenta in numeroase patologii si poate influenta stilul de viata a pacientului, exista tendinta de minimalizare a importantei acesteia in comparatie cu alte simptome. Prin utilizarea unor strategii de adaptare, pacientii isi pot mentiune un stil de viata cat mai apropiat de cel anterior debutarii bolii si pot beneficia de o integrare sociala cat mai buna.

AVANTAJE SI LIMITE ALE UTILIZARII INSTRUMENTELOR SPECIFICE DE EVALUARE A CALITATII VIETII PACIENTILOR CU HEMIPAREZA IN CLINICA DE RECUPERARE MEDICALA

Brindusa Ilinca Mitoiu, Adriana Sarah Nica, Lili Silvia Miron, Gilda Mologhianu, Florina Ojoga, Andreia Murgu, Iulia Pompei, Mariana Moise, Mariana Comanoiu, Marius Ivascu, Toma Vasile, Constanta Florescu, Cristina Ionescu, Mariana Cojocaru, Gabriel Popa

ABSTRACT

Accidentul vascular cerebral urmat de hemipareza este o patologie frecvent intalnita in clinica de recuperare, iar impactul social generat este unul major. In incercarea de a aprecia si influenta calitatea vietii pacientilor din aceasta categorie, au fost elaborate mai multe instrumente specifice de evaluare a calitatii vietii.
In cadrul studiului nostru, efectuat in clinica III a INRMFB pe un lot de 21 de pacienti, se urmaresc datele obtinute la prima internare si la urmatoarea, aproximativ 6 luni mai tarziu. Modificarile survenite

ofera o imagine de ansamblu asupra efectului programului de recuperare initiat in mod organizat, indicat pentru continuare la domiciliu si reevaluat periodic. In acest scop am utilizat cateva instrumente specifice, constantand avantaje si dezavantaje ale utilizarii lor. Printre concluziile noastre putem specifica timpul scurt necesar aplicarii acestora si informatiile tintite pe care ni le ofera, dar si datele insuficient publicate pana in prezent, precum si imposibilitatea de a folosi respondenti insotitori.
Constatam astfel ca Instrumentele specifice de evaluare a calitatii vietii ofera pentru pacientii cu AVC si hemipareza o alternativa optima de evaluare etapizata in scopul constituirii unui program complex de recuperare tintit, adaptat si personalizat.

INCIDENTA RUPTURII TENDONULUI SCURT PROXIMAL SI DISTAL AL BICEPSULUI LA PACIENTII SUPRAPONDERALI

Laurentia Andronache

ABSTRACT

Scopul studiului a fost determinarea factorilor de risc care pot induce aparitia acestui tip de patologie la pacientii obezi.
Intervalul de timp in care s-a facut studiul a fost :ianuarie 2011- aprilie 2013.Au fost examinati zece pacienti (barbati), care au suferit traumatisme ale umarului si cotului.Grupa de varsta a fost intre 50 si 70 ani.Majoritatea rupturilor a survenit la pacientii peste 60 ani.
In ceea ce priveste etiologia rupturii,trei dintre pacienti au semnalat un traumatism prin cadere pe mana; alti trei au acuzat dureri in regiunea bratului dupa ce au efectuat o solicitare excesiva cu abductia bratului.Restul au semalat aparitia durerii dupa efectuarea unei miscari bruste.Noua pacienti erau fumatori.Patru pacienti facusera tratament cu chinolone (ciprofloxacin) si corticosteroizi.
Ecografia efectuata a semnalat 3 rupturi ale tendonului distal al bicepsului si sapte ale tendonului proximal scurt al acestui muschi.Nu s-a efectuat RMN.Recuperarea motricitatii si a mobilitatii articulatiei cotului si umarului a nercesitat aproximativ douasprezece luni si evaluare trimestriala .Doi pacienti au ramas cu deficit permanent invalindant al bratului.

RECUPERAREA MEDICALĂ ŞI BALNEOFIZIOTERAPIA SINDROAMELOR DE COMPRESIUNE A NERVILOR PERIFERICI

Jaroslav Kiss, Magda Dragosloveanu, Georgeta Fortescu

ABSTRACT

The workpaper proposes the systematization of the entrapment syndroms of peripheral nerves, from the clinical and physio-pathological mechanisms point of view.
At the same time, the workpaper refers to the most important rehabilitation principles, through physical-kinetic proceedings of this affection group.

CLINICAL STUDY REGARDING THE RESULTS OF HYALURONIC ACID INTRAARTICULAR ADMINISTRATION IN PACIENTS WITH KNEE ARTHROSIS AT 6 MONTHS POST THERAPY

Magda Dragosloveanu, Georgeta Fortescu

ABSTRACT

Purpose: We observed the analgetic effect of Hyaluronic Acid (three doses intraarticular ,one phial/week) after 6 months posttherapy.
Method and material: The study included 88 patients with unilateral/bilateral, primary/secondary arthrosis of which 64 women and 24 men. The average age of the group has been 64 years for women and 60 years for men.

We applied the analgetic protocole before the treatment and 6 months posttherapy. We have used a visual analogue scale (0 to 10 grades) in which the patients have been asked to self evaluate the level of pain and improvement with therapy.
Results: 10% of the patients have not experienced an improvement in the level of pain. 60% have experienced a medium level of pain improvement and 30% of the patients a significant improvement. In 90% of the cases the analgetic dosage has been reduced. None of the patients has experienced adverse drug reactions.

EXERCITII DE GLIDING SI TENSIONARE PENTRU NERVUL MEDIAN

Robert Grosu, Laurentia Draghescu, Diana Dumbrava, Katinka Georgescu, Valentina Oprea, Madalina Craciun, Rodica Eremia

ABSTRACT

Sindroamele de “entrapment” ale nervilor periferici sunt din ce in ce mai des intalnite si tratate de catre kinetoterapeuti. O patologie frecventa in aceasta sfera este reprezentata de sindromul de tunel carpian, urmare a oricarui proces inflamator, degenerativ sau inlocuitor de spatiu la nivelul tunelului carpian ce determina cresterea presiunii si comprimarea nervului median cu repercursiuni senzitive si motorii in teritoriul acestuia. Cauzele prezente in sindromul de tunel carpian variaza de la afectiuni sistemice precum hipotiroidism, artrita reumatoida, diabet pana la obezitate, fumat, sarcina si traumatisme la nivelul mainii si articulatiei radio-cubito-carpiene.
Lucrarea propune prezentarea tipurilor de exercitii de kinetoterapie cu indicatie in afectarea nervului median, fie ca este vorba de exercitii de alunecare (“gliding/sliding”) in care se urmareste alungirea nervului la nivelul unei articulatii concomitent cu scurtarea acestuia la nivelul unei articulatii adiacente sau exercitii de tensionare (“tensioning”) in care se urmareste cresterea tensiunii pe minim 2 articulatii adiacente prezente pe traiectul nervos.

PATOLOGIA CARDIO-VASCULARA LA PACIENTII CU LEZIUNI MEDULARE

Liliana Neacsu, Camelia Teleianu

ABSTRACT

Introducere: Datele publicate in ultimii ani au aratat ca morbiditatea si mortalitatea datorate afectarii cardio-vasculare sunt mai mari comparativ cu cele datorate afectarii renale sau pulmonare,aceasta fiind considerata principala cauza de mortalitate la pacientii cu leziuni medulare.
Principalii factori de risc majori pentru dezvoltarea acestul tip de patologie - obezitatea,dislipidemia,sindromul metabolic si diabetul zaharat au o prevalenta crescuta si este necesar ca tratarea riguroasa a acestora sa constituie o parte esentiala a managementului terapeutic al acestor pacienti in ideea minimizarii pe cat posibil a afectarii cardio-vasculare propriu-zise.Disfunctiile sistemului nervos autonom datorate lezarii medulare precum si consumul energetic zilnic semnificativ mai scazut la aceasta categorie de pacienti contribuie de asemenea la cresterea le cresterea riscului de a dezvolta acest tip de patologie.
Obiective:Reactualizarea si trecerea in revista a principalilor factori ce determina existenta unui risc crescut din punct de vedere cardio-vascular la pacientii cu leziuni medulare precum si a masurilor terapeutice ce trebuie avute in vedere in scopul minimizarii ratelor de morbiditate si mortalitate din aceste cauze.
Metode:materiale din literatura internationala insotite de date din experienta practica a clinicii cu privire la managementul terapeutic complex necesar acestor pacienti.
Metodele de tratament includ educatia pacientului, tratament medicamentos, exercitiu fizic cu indicatiile si limitele ce se impun in contextul bolii de baza
Rezultat: Evolutia pe termen lung a pacientilor cu leziuni medulare este grevata de aparitia complicatiilor de natura cardio-vasculara si se impune luarea tuturor masurilor de preventie si terapeutice pentru a se incerca scaderea morbiditatii si mortalitatii datorate acestui tip de patologie

Concluzii:Tratamentul judicios al factorilor de risc cardio-vascular si promovarea activitatii fizice in diverse moduri luand in considerare particularitatile clinice si ale stilului de viata se impun in vederea scaderii ratelor de aparitie a multiplelor complicatii si implicit in vederea imbunatatirii calitatii vietii la aceasta categorie de pacienti.

PREZENTARE CAZ:PACIENT CU TETRAPAREZA ATAXICA POSTHIPOXIE CEREBRALA PRELUNGITA- EXPUNERE INHALATORIE LA GAZE DE ARDERE INCOMPLETA.SECHELE POSTARSURI SEVERE TEGUMENTARE SI DE CAI AERIENE

Liliana Neacsu

ABSTRACT

Introducere: Statistic in cazul victimelor incendiilor si exploziilor principalele cauze de deces se datoreaza leziunilor inhalatorii si nu leziunilor tegumentare produse de agentul termic vulnerant.Pacientul ars reprezinta un caz cu patologie complexa ce necesita management terapeutic elaborat de foarte lunga durata.
Scopul lucrarii: prezentarea evolutiei unui pacient ce a fost victima unei explozii in urma cu ~1 an suferind arsuri severe pe ~70-75% din suprafata corporala inclusiv la nivelul fetei si cailor aeriene,respectiv afectare cerebrala in contextul expunerii inhalatorii prelungite la gaze de ardere incompleta in urma efectuarii mai multor cure de recuperare medicala in intervalul de timp mentionat.
Material si metoda:Pacient in varsta de 35 ani,fara APP si AHC semnificative ce a fost victima unui accident in timpul muncii –explozie(februarie 2012).In contextul dat pacientul a fost expus inhalator pentru un interval de timp semnificativ la gaze de ardere incompleta- hipoxia cerebrala prelungita determinand afectare cerebrala extinsa soldata cu deficit motor initial de tip tetraplegic si tulburari importante de vedere; a suferit arsuri severe pe aproximativ 70-75% din suprafata corporala totala inclusiv faciale ce au necesitat tratament chirurgical complex etapizat si arsuri importante de cai aeriene ce au impus mentinerea prelungita a ventilatiei mecanice si spitalizare de lunga durata in sectie de terapie intensiva perioada in care pacientul a prezentat multiple fenomene de insuficienta respiratorie si repetate episoade de sepsis.
Obiectivele tratamentului de recuperare au fost adaptate deficitelor motorii restante mergand progresiv de la prevenirea complicatiilor,ameliorarea deficitului motor,ameliorarea echilibrului pana la initierea ortostatismului si chiar a mersului cu sprijin din partea kinetoterapeutului si mijloace ajutatoare.
Rezultate:prin tratamentul de recuperare sustinut pacientul a reusit o imbunatatire a nivelului functional reusind sa mearga cu sprijin si dispozitive ajutatoare pe distante scurte-medii.De mentionat este faptul ca evolutia a fost semnificativ grevata de scaderea marcata a acuitatii vizuale bilateral.
Particularitatea cazului- complexitatea - evolutia favorabila a unui pacient cu afectare cerebrala importanta in contextul hipoxiei prelungite care asociaza si tulburari importante de vedere,cu multiple complicatii asociate arsurilor extinse respectiv ventilatiei mecanice prelungite pana la atingerea unui nivel functional de dependenta modificata si cu recuperare aproape integrala din punct de vedere cognitiv

DEMOGRAPHICAL AND CLINICAL ASPECTS OF THE PATIENTS ADMITTED IN SLANIC MOLDOVA BALNEARY SANATORIUM / ASPECTE DEMOGRAFICE SI CLINICE ALE PACIENTILOR INTERNATI IN SANATORIUL BALNEAR SLANIC MOLDOVA

Dan Dumitrascu, Irina Petrusca, Simona Ioana Neagoe, Alexandru Cristea, Renee Popovici, Mihaela Galaon, Delia Cinteza, Horia Lazarescu, Codruta Paula Pentiuc

ABSTRACT

This research is a descriptive study, taking into account demographical and clinical aspects regarding the patients population admitted in Slanic Moldova balneary sanatorium during January – May 2013. The data has been collected from the inpatients register.
There have been studied the distributions according to age groups, gender, residence environment, insurance categories and the diagnostic groups involved have been analyzed.

THE THERAPEUTIC EFFECT OF CARBOGASEOUS NATURAL MINERAL WATERS IN THE METABOLIC SYNDROME / EFECTUL TERAPEUTIC AL APELOR MINERALE CARBOGAZOASE ÎN SINDROMUL METABOLIC

Constantin Munteanu, Irina Petrusca, Victorita Marcu, Daniela Poenaru, Liliana Cioc, Simona Neagoe, Horia Lazarescu, Sebastian Diaconescu, Camelia Teleianu

ABSTRACT

Metabolic syndrome (syndrome X or insulin resistance syndrome) is a complex of metabolic disturbances that increase the risk of developing cardiovascular disease. Entity includes: dyslipidemia (altered lipid profile, with increasing levels of serum triglycerides and low serum levels of HDL-cholesterol, which promotes the development of atherosclerosis), high blood sugar (diabetes type II) or increased insulin resistance, hypertension, abdominal obesity syndrome, proinflammatory, prothrombotic syndrome. In the last 20 years, there was a continuous increase in individuals suffering from this syndrome, the cause remains unknown, but several studies also claim that it is a complex interaction between genetic, metabolic and environmental factors. Of environmental factors, diet low in micronutrients such as calcium, magnesium and potassium seems to be an essential contributor element (Feldsein et al, 2007, Cidalia Pereira et al, 2011).
Decreased intake of sodium and increased intake of calcium, magnesium and potassium, proposed by Dietary Approaches to Stop Hypertension - DASH diet (Van Leer et al 1995, Meigl et al 2008) leads to optimized blood pressure. Even in the absence of increased sodium intake, low levels of magnesium in the blood and cells can induce in some conditions, hypertension, diabetes, insulin resistance or completely metabolic syndrom.
Among the methods proposed to correct dietary intake of micronutrients, natural mineral water, often very complex in terms of chemical composition and versatile in terms of the intended effect is one handy, safe and simple.
Although used in order to preserve the health from ancient times, scientific studies proving natural mineral water effects on the human body takes place only since the twentieth century. Carbonated mineral waters are the result of deep water filtering through volcanic soils, which contain CO2, carbon dioxide, thus obtained, will help dissolve other elements contained in the soil layers through which water, like calcium, magnesium, sodium, iron, chlorides, ATC bromides, so finally carbonated water will have a complex and varied composition.

TERAPII MEDICAMENTOASE IN ACTIVITATEA DE RECUPERARE SI REABILITARE FIZICA MEDICALA- ROLUL FARMACISTULUI IN ACTIVITATEA INRMFB

Cristina Paun

ABSTRACT

Activitatea de recuperare si reabilitare fizica medicala este destinata persoanelor care din diverse motive isi pierd starea de sanatate in ceea ce piveste functionarea sistemelor osteoarticular si muscular.
Afectiunile tratate in cadrul INRMFB sunt multiple, ceea ce implica o gama extrem de variata de medicamente si produse medicamentoase pentru atingerea scopului final: acela de a ameliora sau vindeca afectiunile pacientilor ce ni se adreseaza.
Medicatia care se asigura prin farmaciile INRMFB, are in vedere atat afectiunea principala pentru care pacientii ni s-au adresat si complicatiile ce pot aparea din aceasta, cat si polipatologia pe care o prezinta majoritatea pacientilor.
Rolul farmaciei in sustinerea activitatii medicilor si asistentilor medicali este major, nu doar in sensul asigurarii medicamentelor necesare tratarii afectiunilor pacientilor, ci si in sensul preocuparii continue de a asigura medicamente de buna calitate.
Pentru o terapie completa si complexa, farmacistul, girat de pregatirea profesionala, pune la dispozitia medicilor pe langa medicamentele tipizate oferite de industria farmaceutica si produse medicamentoase

oficinale, preparate dupa formule magistrale consacrate, precum si produse elaborate, preparate in farmacie.
Preocuparea continua a farmacistului nu este doar aceea de a asigura cu medicamente activitatea sectiilor INRMFB, ci si aceea de a veghea la pastrarea medicamentelor in cele mai bune conditii, pentru conservarea proprietatilor terapeutice ale acestora,

Pentru asigurarea continuitatii tratamentului aplicat, farmacistul face demersurile necesare pentru o aprovizionare cu medicamente adecvate , urmareste consumurile de medicamente pe grupe terapeutice , pentru anumite perioade de timp si colaboreaza activ si continuu cu medicii prescriptori.
Starea de bine , pe care fiecare medic urmareste sa o obtina pentru pacientul lui, este si obiectivul major in preocuparile si obligatiile farmacistului, care in toate cazurile este un colaborator de nadejde al medicului.
Eforturile unite intr-un scop comun, garanteaza rezultate bune si foarte bune in tratarea afectiunilor pacientilor nostri si de aici prestigiul de care se bucura INRMFB.

EROARI SI SIGURANTA PACIENTULUI IN RECUPERAREA MEDICALA RAPORT
Adriana Sarah Nica, Gilda Mologheanu

ABSTRACT

„Eroarea este umana”
Siguranta pacientului in domeniul medical a fost si continua sa fie un subiect central in numeroase dezbateri si intalniri medicale sau de interfata interdisciplinara medicala, economico-financiara si juridica.
In acest moment, in managementul cunoasterii in domeniul clinic medical - legat atat de stabilirea diagnosticului complet, corect si realist cat si de decizia terapeutica – se recunoaste ca in ciuda multiplelor solutii de evaluare si terapie pacientul nu este protejat suficient si nici scutit sa cunosca pe „propria piele” dilemele de diagnostic sau indicatie terapeutica.
Dar daca nu sunt analizate toate personajele incluse in acest scenariu si secventele cunoasterii „cazului” nu se pot da suficiente solutii corective sau cu caracter preventiv, privind barierele si modalitatile de protectie si de siguranta pentru pacient. De la dialogul cu pacientul, la analiza si evaluarea clinico-functionala si paraclinica, la decizii si actiuni incluzand si consecintele lor, intrebarile legate de dinamica clinica, insuficienta diagnosticului sau a terapiei, temporizarea unor recomandari medicale si a unor decizii ale pacientului, toate pot fi bariere in stabilirea unui diagnostic corect, oferind premizele unui rezultat terapeutic cu siguranta indoielnic.
In Statele Unite 34-40% din americani au o experienta sau cunosc pe cineva care a trait experienta unei erori medicale. Dintre tipurile de erori medicale semnalam:
- probleme de diagnostic: de la insuficienta diagnosticului (faza, stadiu, forma de evolutie clinico – functionala, complicatii/ sechele, particularitati ale diagnosticului) la eroare, omisiune;
- probleme de evaluare biologica si paraclinica: modalitati de recoltare si starea fiziologica a pacientului, tipuri de solicitare si reactivitatea vegetativa,
calitatea echipamentului de lucru si a reactivilor, experienta echipelor de lucru in diferitele laboratoare de evaluare, experienta interpretarii rezultatelor radio-imagistice coroborate sau nu cu cazul clinic, s.a.)
- probleme de comunicare, de tip comunicare absenta, insuficienta, informatii eronate (actul medical de trimitere – esential dar insufficient !) - probleme care se regasesc in toate registrele de comunicare: intre clinicieni, intre medic si pacient, familie si medic, familie-pacient-medic, pacient- echipa de terapie, s.a;
- probleme de intelegere si de aplicare a terapiei (doza, momentul si calea de administrare);
- probleme financiare ale pacientului ce restrictioneaza decizia neasumata privind respectarea terapiei farmacologice;
- nivel de educatie si comportament al pacientului, care in numeroase cazuri devine o bariera importanta in realizarea sigurantei pacientului.
Aceste aspecte cu caracter general se regasesc si in domeniul recuperarii medicale. Siguranta pacientului din recuperare capata complexitate prin asocierea obligatorie si specifica a evaluarii functionale (conform ICF) somatice si psihocomportamentale – aceste secventele regasindu-se prioritar in planul terapeutic si de recuperare, devenind posibile secvente de eroare medicala.

Cel mai edificator exemplu este al pacientului neurologic cu :
- dizabilitate severa si dependenta fizica totala /partiala si psihocomportamentala
- tulburari cognitive si de comunicare, ce cresc vulnerabilitatea pacientului

- polipatologie, in numeroase cazuri cu echilibru hemodinamic sau metabolic precar venind in clinica de recuperare!
- polipragmazie, cu asociere de produse clasice sau de „ultima ora" , administrate corect sau nu, care pot da efecte adverse (de tip alergic, HDS, insuficienta renala), intoleranta, potentare, sau pot dezvolta aspecte necunoscute de iatrogenie.

Unul dintre fenomenele demografice cu impact major privind siguranta pacientul este fenomenul de imbatranire al populatiei si cresterea cazurilor care impun programe de recuperare. Aceasta categorie populationala dezvolta patologii degenerative asociate, dar si modificari specifice fiziologice ale varstnicului (osteopenia, sarcopenia, instabilitate si risc de cadere prin mecanisme diferite).

In ecuatia recuperarii varstnicului sunt obligatorii: monitorizarea locomotorie in activitatea cotidiana, evaluarea gradului de adaptare si antrenare la efort, disponibilitatea de comunicare, intelegere si relatia cu lumea (pasiv/ activ), evaluarea starii generale si biologice (anual) tinand cont de riscul crescut al dezvoltarii de neoplazii, ca fundal al unei patologii locomotorii ce ajunge in sectorul de recuperare sau riscul rapid al decompensarii unor patologii de fundal . Lipsa sau insuficienta unei evaluari complete reprezinta bariere ale cunoasterii si riscuri potentiale pentru siguranta pacientului varstnic.

Educatia pacientului este o componenta importanta pentru siguranta acestuia. In functie de cum se raporteaza pacientul la suferinta sa, cum percepe relatia medic-pacient, cum respecta terapia farmacologica pentru patologiile cronice si cum isi desfasoara programul de recuperare se poate vorbi de eliminarea sau reducerea unor bariere privind aportul ingrijilor medicale si cresterea gradului de siguranta al pacientului

„S-a raportat ca 50% dintre americani au dificultati in intelegerea informatiilor de sanatate."- oare in Romania in ce masura s-au analizat aceste realitati ?

Evaluarea in dinamica - atat a prioritatilor in lista de analiza critica a pacientului care ajunge in sectia de recuperare, cat si a ofertei terapeutice medicale, realiste privind infrastructura, resursa umana, echipamentele de monitorizare, tratament si recuperare - poate crea premizele unei strategii de siguranta pentru pacientul din recuperare

Lucrarea se doreste a fi o evaluare cuprinzatoare a diferitelor categorii de bariere privind siguranta pacientului si in acelasi timp o analiza secventiala a posibilelor situatii de insecuritate pentru pacioentul din recuperare, informatiile putand servi la organizarea ulterioara a unui indreptar sau ghid de buna practica privind siguranta pacientului in sectorul de Recuperare Medicala.

SCOALA MEDICALA DE LA IASI SI PREMIZELE BALNEOLOGIEI ROMANESTI - COMUNICARE:

Adriana Sarah Nica, Nicolae Marcu, Roxana Miclaus

ABSTRACT

In 1860 Ministrul Agriculturii, Comertului si Lucrarilor Publice al Principatelor Unite recunoaste public calitatile terapeutice ale apelor minerale romanesti si faptul ca ele trebuie strict controlate pentru a preveni situatiile nefavorabile ale utilizarii lor.

Circulara 8766/1862 preciza ca „apele minerale incep a dobandi in tara noastra o importanta din ce in ce mai mare" dar ca „ au fost lasate cam la voia intamplarii si intrebuintate fara nici o regula". Ministrul da dispozitie ca „apele minerale sa fie supuse unui regim special de exploatare si utilizare in sensul de dezvoltare a avutiei publice si de incurajare a tratamentelor in tara si limitare a plecarilor in statiunile straine".

Este momentul in care incepe actiunea de localizare si conectare a izvoarelor de ape minerale condusa de serviciul sanitar si efectuata propriu-zis de medicii sefi de judete.

1863 se ia initiativa de infiintare a unei societati care sa coordoneze stiintific si sa organizeze activitatea in domeniul balnear. In cadrul adunarii extraordinare a Societatii Medicale Stiintifice din 24 oct 1863 (publicat in Monitorul Medical nr.3 din 21 ian. 1865) descrisa pe larg de dr. Victor Gomoiu in lucrarea aparuta in 1923, avand ca tema principala de dezbatere „situatia apelor minerale in Romania – dr. Carol

Davila arata „necesitatea infiintarii unei societati nationale pentru cultivarea si imbunatatirea apelor minerale din Romania". El propune ca denumire „Societatea de hidrologie" si recomanda intocmirea statutelor provizorii pentru formarea societatii. Statutele intocmite nu au fost publicate si eforturile doctorului Carol Davila nu s-au concretizat in organizarea balneara si in folosul populatiei.
Inainte de aceasta perioada existau preocupari de utilizare a mijloacelor terapeutice balneare, dar si de cercetare conforme cu standardele vremii. Astfel de preocupari se regasesc in Iasi, in „Cercul iesean de lectura" sau „Cercul de cetire medicala" - ca prima asociatie cu scop cultural si stiintific infiintata in 1830 de Mihai Zotta. Este primul loc in care se sustine „societatea a inceput modest dar hotarat studiul factorilor balneari, desprins din preocuparile fata de stiintele naturii (fauna, flora, ape minerale) in scopul valorificarii lor".
A existat o lunga suscesiune de evenimente, actiuni si reorganizari si in 1833 cercul s-a transformat in „Societatea de medici si naturalisti din Iasi" prima societate stiintifica din Romania, al carui presedinte a fost M. Zotta.
Valorificarea apelor minerale din Moldova a devenit o preocupare distincta a Societatii, membrii ei realizand numeroase studii ale apelor minerale. 1832 dr M.Zotta este trimis de Societate prin toata Moldova pentru a incepe cercetarea apelor minerale, iar din 1833 societatea solicita pe farmacistul A. Abrahamfi sa inceapa analiza unor ape minerale la Slanic Moldova, Sarul Dornei, Borca, Hangu si Strunga.
Eforturile inceputului de secol al XIX-lea le-au urmat numeroase exemple de doctori romani sau conationali interesati de soarta, locatiile, valoarea, efectele si perspective apelor minerale terapeutice din Romania – efort valorificat medical prin oficializarea „Societatii de Hidrologie" in 1923 si juridic prin aparitia primei legi balneare din Romania in 1926.

IMPACTUL SOCIETAL AL DURERII CRONICE PLATFORMA SIP (SOCIETAL IMPACT OF PAIN) CONEXA LA EFIC SI IASP COMUNICARE:

Adriana Sarah Nica

ABSTRACT

Federatia Europeana pentru Durere, realizata in retea din totalitatea societatilor nationale europene preocupate de Durere, a initiat proiectul de realizare a unei platforme multiplu reprezentate – platforma „Societal Impact of Pain" creata in anul 2010 si sustinuta in activitatea ulterioara de Federatia Europeana de Durere – Capitol al IASP si compania farmaceutica Grunenthal GmbH. Obiectivele acestei platforme au fost:

- cresterea gradului de relevanta al impactului pe care il are durerea in societate, privind atat sistemul de sanatate cat si sistemul economic;
- schimbul de informatie si de experienta privind ghiduri de buna practica intre tarile europene din platforma Uniunii Europene
- dezvoltarea si aplicarea de strategii, politici si activitati pentru inplementarea programelor de ingrijiri medicale pentru Durere la nivel European.

Platforma a promovat si promoveaza oportunitati pentru dezbateri si actiuni ce reunesc si implica specialisti din domeniul medical si reprezentanti ai autoritatilor de sanatate, grupuri de reprezentare pentru pacienti, reprezentanti din structurile de asigurari de sanatate, politicieni si alte categorii implicate in promovare si reglementari in domeniul de asistenta medicala.
De-a lungul ultimilor patru ani s-au organizat si desfasurat , in diferite locatii, trei conferinte internationale si o sesiune speciala focusate pe teme si grupuri de lucru, legate de impactul societal al durerii (SIP) desfasurate astfel :

- 2010 - Bruxelles - s-au identificat punctele cheie si s-a realizat organizarea retelei pentru conectarea la informare – comunicare –cunoastere privind impactul societal al durerii, si dezvoltarea schimbului de bune practice in managementul durerii in Europa,
- 2011 - Bruxelles la Parlamentul European in prezenta a peste 85 de grupuri nationale si internationale s-a realizat o prima reprezentare a mapei cu expresie geografica si medicala, legata de informatiile furnizate si prelucrate privind particularitatile de abordare in diferite tari din platforma europeana, in plan medical, socio-economic si juridic. Conferinta prin „SIP Road Map for Action" a

scos in evidenta si a structurat sapte dimensiuni privind politicile de promovare si adresare efectiva institutionala la nivel European si a statelor membre legate de impactul societal al durerii.

- 2012 – Copenhaga , unde au participat mai mult de 400 de reprezentanti din 30 de tari si 161 de organizatii si unde s-au analizat concret programe nationale de referinta privind managementul durerii in scopul preluarii de modele si adaptarii la nivelul tarilor participante, in vederea implementarii Mapei de actiune SIP in platforma europeana.

- In mai 2013 sesiunea de intalnire a avut scopul de a organiza dezbateri in doua grupuri de lucru ale platformei SIP.

In primul grup tema a fost ,,Durerea ca Indicator de Calitate"si s-a bazat pe un proiect de indicatori de buna practica pentru managementul durerii. Acest proiect a fost dezvoltat ca un proiect pilot conex la Federatia Europeana pentru Studiul Durerii - componenta a Asociatiei Internationale pentru Studiul Durerii (IASP).

Pentru al doilea grup tema a fost ,,Durerea Cronica la Populatia Activa" , subiect ,,fierbinte" in aceasta perioada de austeritate si criza economica, in care aspectele profesionale si de productivitate ale populatiei active reprezinta subiectul central al dezbaterilor la nivel national si international. Contextul impune evaluarea ,,durerii cronice" subliniind ca printre cele mai frecvente cazuri se numara cele de la nivel locomotor, context in care suntem obligati sa luam in discutie atat durerea cat disfunctia. Ecuatia Durere –Disfunctie influienteaza capacitatea si randamentul in procesul muncii. Plecand de la impactul durerii cronice s-a subliniat importanta masurilor de preventie si a programelor de recuperare. – in vederea reintegrarii pacientilor cu dureri cronice in procesul productiv.

La finalul dezbaterilor s-a prezentat raportul in care s-au subliniat obiectivele legate de nevoia de cunoastere si schimb de bune practice si modele intre statele membre ale Uniunii Europene si necesitatea dezvoltarii propunerilor pentru actiune (,,Proposal for Action") implicand atat specialisti din diferite sectoare medicale dar concomitent dezvoltand si parteneriatul cu recuperarea medicala, prin programe si propuneri de masuri concrete in platforma europeana.

DIABETIC NEUROPATHY AND THE ADVANTAGE OF BENFOTIAMINE IN ITS PATHOGENIC TREATMENT / NEUROPATIA DIABETICA SI AVANTAJUL BENFOTIAMINEI IN TRATAMENTUL PATOGENIC AL ACESTEIA

Dan Dumitrascu, Delia Cinteza, Daniela Poenaru, Horia Lazarescu, Ioana-Simona Neagoie, Liliana-Simona Cioc, Simona Ruxandra Tarkan

ABSTRACT

The aim of the pathogenically oriented treatment is at least to control, or even to reverse the progression of diabetic neuropathy and also to reduce its associated symptoms. Besides the management of the glycaemic control and of the risk factors involved, another important aspect of the pathogenic treatment is the inhibition of harmful alternative pathways, and here there are to be noticed the actions of benfotiamine, which blocks multiple essential metabolic pathways, causes of the lesions made by hyperglycaemia. As an activator of the enzyme transketolase, benfotiamine promotes the degradation of glucose via the harmless pentose phosphate pathway, thus inhibiting the pathogenic routes – the hexosamine pathway, the protein kinase C pathway, the polyol metabolism and the formation of advanced glycation products.

WALKING DIFFICULTIES IN ORGANIC HEMIPLEGIA / TULBURARILE MERSULUI IN HEMIPLEGIILE ORGANICE

Dan Dumitrascu, Delia Cinteza, Daniela Poenaru, Horia Lazarescu

ABSTRACT

Physiological and pathological gait analysis represents a subject of interest since the school of Charcot, at Salpetriere, topic developed later by one of his illustrious students, the neurologist Gheorghe Marinescu, who made the first scientific movie in the world – „Walking Difficulties in Organic Hemiplegia" (1899).

This paper brings in the same subject, having on hand the current clinical and research data. Here, there are analyzed the swing and stance phases of physiological gait, and also the pathological patterns seen in hemiplegia: drop foot in swing phase, ankle dorsiflexion in stance, hyperflexion or insufficient flexion of the knee in terminal swing phase, at initial contact and in loading response, the flexion of the hip during the swing phase, axial rotations of the lower limb segments, and the spinal column response through changes of lordosis during the whole gait cycle.

DISAUTONOMIA REFLEXA – COMPLICATIE A TRAUMATISMELOR VERTEBRO-MEDULARE

Daniela Poenaru

ABSTRACT

Disautonomia reflexa poate insoti traumatismele vertebro-medulare cu nivel deasupra T5-T6, zona in care isi are originea simpaticul cervical.
Fiziopatologic, sub nivelul lezional exista predominenta sistemului nervos parasimpatic iar deasupra a sistemului nervos simpatic. Clinic, sub nivelul leziunii semnele se datoreaza vasoconstrictiei, iar deasupra leziunii vasodilatatiei. Evenimentul acut este criza hipertensiva, sistolica si diastolica, cu debut brusc. De mentionat ca pacientii cu TVM au, in mod obisnuit, TAS de 90 – 110 mm Hg, iar orice crestere cu peste 20 – 40 mm Hg este o criza HTA in cadrul disreflexie autonome. Stimulii declansatori sunt din cei mai diversi: din sfera renourinara, digestiva, genitala etc.
Tratamentul crizei HTA din disreflexia autonoma este comun cu al oricarei crize HTA. Exista posibilitatea "profilaxiei" crizelor in momentul in care sunt identificati factorii declansatori.

STUDIU EPIDEMIOLOGIC PRIVIND CATEGORIILE DE PATOLOGII LA PACIENTII TRATATI IN STATIUNEA PUCIOASA-COMUNICARE

Adriana Sarah Nica, Lili Miron

ABSTRACT

Suferintele degenerative reumatismale prin evolutia si raspunsul partial la tratamentul farmacologic,prin consecintele functionale, somatice si psiho-comportamentale raman printre patologiilecele mai frecvente-cauze de consult,investigatii si solutii terapeutice care ajung in zona balneara.
In ultimii ani s-au facut eforturi sustinute pentru promovarea turismului balnear si pentru a creste adresabilitatea populatiei active catre tratamentul de recuperare din statiunile balneare.
Populatia activa reprezinta un procent din ce in ce mai crescut de pacienti ,cu patologii care necesita tratament de recuperare precum si preventie secundara.
Statiunea balneara Pucioasa se gaseste in zona Subcarpatilor Munteniei, intr-o regiune de climat moderat, sedativ de crutare.Factorul natural de cura il reprezinta apele minerale sulfatate,sulfuroase.
In perioada martie 2012 –decembrie 2012 in cadrul ambulatoriului INRMFB Pucioasa s-au prezentat aproximativ 4000 de pacienti(3870).90% din pacienti s-au prezentat prin sistemul de bilete oferite de casele judete de pensie,iar din cei 10 % ,aproximativ 5% salariati si 5% cu plata proprie.
Varsta pacientilor a fost de la 18-90 de ani, distributie aproximativ egala pe sexe,cu usoara prevalenta a sexului feminin; 80% din pacienti provin din mediul rural,restul din mediul urban.
Categoriile de patologii ,cele mai frecvent intanite au fost:-reumatismale degenerative -58%, -afectiuni reumatismale inflamatorii(poliartrita reumatoida,spondilita anchilozanta-50 pacienti),-afectiuni posttraumatice(fracturi,contuzii,rupturi ligamentare-256 pacienti), -sechele post chirurgicale(proteze solduri/genunchi-140 pacienti,traumatisme vertebrale), -afectiuni neurologice centrale si periferice(AVC-80 pacienti), -afectiuni din sfera ORL si respiratorie(120 pacienti)Asa cum am amintit mai sus,am constatat o crestere a numarului pacientilor care provin din populatia activa si care solicita cura in statiunea balneara pentru tratament cu scop de profilaxie secundara.Este necesar din acest punct de vedere o constientizare a efectului benefic al profilexiei secundare(si prin tratament in statiunea balneara), mai ales in populatia active,acest lucru avand un efect pozitiv in ceea ce priveste costurile ingrijirilor de sanatate in perspectiva.

VALORIFICAREA POTENTIALULUI TERAPEUTIC SI OPTIMIZAREA FUNCTIONARII UNUI CENTRU DE TRATAMENT HALOTERAPEUTIC

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În cadrul Proiectului CF 42120 /2008 cu titlul ”Studiu complex medico-biologic în vederea utilizării inovative a factorilor potențial terapeutici de mediu din saline şi pesteri, în sanatate şi turism balneoclimatic; soluții de modelare a acestora ”, derulat in cadrul institututlui, a fost prevăzută realizarea unui Model experimental / functional de Salon pentru speleoterapie cu mediu artificial de mina salina, destinat utilizarii in scopuri de haloterapie.

Prin lucrarea de fata se urmareste definirea circuitelor functionale, dotarea si incadrarea in cerintele si normele minime de functionare ale unui centru de tratament haloterapeutic.

Salonul destinat speleoterapiei a fost creat artificial cu componente similare celor naturale ale unei mine de sare. Acest mediu prezinta factori potential terapeutici, a caror actiune depinde de patologia pacientilor.

In vederea pastrarii proprietatilor curative, sunt considerate si impuse norme de functionare si organizare a circuitelor functionale privitor la seriile de pacienti, intervalele de intrari in “salon”, cat si respectarea unor masuri de siguranta sanitara .

A fost definit balneotehnic un circuit functional de baza , acesta fiind impus obligatoriu, fiind alcatuit dintr-un numar minim de incaperi cu destinatii precis stabilite.

In concluzie, circuitul functional prezentat cu o alcatuire obligatorie, cat si normele minime de functionare urmeaza a fi incluse ca Norme in completare la HG 1154 / 2004 existent.