The 6th National Conference of ASNER, The Romanian Society of Electrodiagnostic Neurophysiology

CN2014, Bucharest, Romania
October 31st –November 2nd 2014

Program & Abstract book

Scientific partners:

NEURODIAB
Societatea de Neuropatie Diabetică

National Neuroscience Society of Romania

societatea de neurologie din romania

THE SOCIETY FOR THE STUDY OF NEUROPROTECTION AND NEUROPLASTICITY

International Federation of Clinical Neurophysiology

Dear Friends,

Dear Colleagues,

Dear Guests,

It is for me a pleasure and an honor to invite you to the 6th National Conference of Clinical Neurophysiology, here in Bucharest. Since 2009 we have been dedicated to organizing on an yearly basis 2 or 3 scientific events - a Symposium during the National Congress in Neurology, a Summer School in Clinical Neurophysiology, and a National Conference. It is now for the 18th time that we, the organizers, have managed to put together an interesting scientific program that, we hope, you will find satisfying. It isn`t easy, but the enthusiasm of the participants, during all these years works, for us as a real driving force.

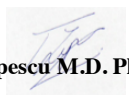
This year you will have the possibility to listen to Letizia Leocani from Milano, a well known expert in evoked potentials and transcranial magnetic stimulation. Bjorn Falck, who has worked for many years in Uppsala, will share us from his knowledge in electromyography. Our dear friend Florin Amzica from Montreal will take us again on a fascinating journey in the "insides" of electroencephalograhy.

We have prepared for you workshops in EEG and EMG. You will hear interesting reviews in important topics of clinical neurophysiology, and colleagues will present cases where, how we like to say, neurophysiology made the difference.

Let us enjoy the opportunity of gathering together, learning new knowledge, connecting and making friends.

Participants at SNN2014 will be awarded 14 Continuous Medical Education points (EMC).

Sincerely,



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Friday October 31st

12.00 – 12:30 Welcome

12.30 – 13:00 Opening Session (Chair, Tudor Lupescu)

From Cartesian dualism to social neurosciences (Leon Zagrean)

13:00–14:00 Nerves less commonly studied **(Bjorn Falck)**

14:00- 16:00 EMG workshop 1

Case demonstrations (Bjorn Falk, Tudor Lupescu, Ana-Maria Cobzaru)

15.45 – 16.00 Coffee break

16:00- 18:00 EMG workshop 2

Practical demonstrations at the conference venue. Tutors: Ana-Maria Cobzaru, Ionela Codita, Mircea Moldovan

16:00- 18:00 EEG workshop 1

Practical EEG demonstrations at University Hospital, 9th floor, Epilepsy Center (Ioana Mindruta, Mihai Malaia). Places are limited.

20:00- 22:00 EEG workshop 2

Polysomnography (PSG) demonstrations at University Hospital, 9th floor Epilepsy Center (Floriana Boghez and Irina Moisei-Constantinescu). The PSG recordings will be shown during the Case Presentation Session on Sunday.

Saturday November 1st

9:00- 11:30 Plenary session 1 (Chair, Tudor Lupescu)

9:00-9:30 Connectomics – Ovidiu Bajenaru

9:30-10:30 Evoked Potentials in Multiple Sclerosis- Letizia Leocani

10:30-11:30 Brachial plexus neuropathies -Björn Falck

11:30-12:00 Coffee Break

12:00-12:30 ***TEVA symposium***

12:30- 14:00 Plenary session 2 (Chair, Dan Psatta)

12:30- 13:30 EEG activity in deep sleep and anesthetic coma. What is different? -Florin Amzica, Montreal (CA)

13:30- 14:00 Evidentiation by EEG Mapping of the Central Motor Neurons dysfunction in ALS-Dan Psatta

14:00-14:30 *Lunch*

14:30- 15:10 Plenary session 3 (Chair, Ioana Mindruta)

14:30-14:50 Patient specific topographic mapping of electrophysiological biomarkers to delineate the seizure onset zone in intracranial EEG recordings– Ioana Mindruta

14:50-15:10 EEG in ICU: a monitoring tool for critically ill patients – Bogdan Florea

15:15 – 15:45 M*edison symposium*

15:45-16:00 *Coffee Break*

16:00-17:30 Plenary session 4 (Chair, Mihai Moldovan)

16:00-16:20 Pseudo-neuromuscular pathology – Tudor Lupescu

16:20- 16:40 Elbow Pain: Types, Diagnosis & Treatments – Mircea Moldovan

16:40- 17:00 Myotonia – Edith Sisak

17:00-17:30 Physiological differences between peripheral nerves. Does it matter? - Mihai Moldovan

18:00 Festive Cocktail

Sunday November 2nd

9:00- 10:30 Case presentations 1 (Chair, Ionela Codita)

Approach to Patient with Myoclonus – Electrophysiological Data in a Clinical Case – Ionela Codita

Kinesiotaping in peripheral nervous system rehabilitation - Gjorgji Nedelkoski, Mircea Moldovan

Atypical motor neuron symptoms –Izabela Popa

Etiologie rară a parezei de nerv sciatic popliteu extern, caz clinic - Epure Diana Anamaria

Polineuropatie cu afectari articulare- prezentare de caz -Vasile Daniela

Diagnostic and therapeutic features of the isolated vasculitis of the peripheral nervous system - a case presentation - Antonescu Florian

10:30-11:00 Coffee Break

11:00-11:30 Merk symposium

11:30- 12:30 Case presentations 2 (Chair, Ana Maria Cobzaru)

Polysomnography cases – Ioana Mindruta

Cyclic alternating sleep patterns - Floriana Boghez

Benign EEG variants: are they really benign? - Moisei-Constantinescu Irina

Utilitatea PESS in diagnosticul si managementul neuropatiei diabetice - Calugaru Lidia

Brainstem auditory evoked responses recorded with surface electrodes in the diagnosis of central vestibular syndrome in dogs -Stanciu Gabriela Dumitrita

Rolul stimulării magnetice transcraniene în urmărirea eficienței tratamentului puseului din Scleroza Multiplă, Trofin Daniela

12:30-13:00 Closing roundtable (certificates, feedback etc)

Ovidiu Bajenaru,

Prof. M.D., Ph.D.

University Emergency Hospital Bucharest Department of Neurology, Bucharest,

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2011 : Director of the Department of Neurology, Neurosurgery and Psychiatry -University of Medicine and Pharmacy " Catrol Davila" Bucharest

2013 (since) : Honorary President (for longlife duration) of the Romanian Society of Neurology

2004-2009 : member of the Scientific Committee of ECTRIMS

2005-2009 : member of the Executive Committee of the European Society of Neurology

2011(since) : member of the National Committee of Habilitation of the Romanian Ministery of Education for PhD accreditation and high academic degrees in Medicine

-more than 450 scientific papers published and reported in different national and international scientific meetings ; 6 medical books and monographies (published in Romania) -co-author in 2 international medical books ; Country Principal Investigator in more than 30 international, multicentric clinical trials -Principal Investigator of the research site – in more than 30 international and national multicentic trials

-coordinator of the CME national program of the Romanian Society of Neurology -coordinator and author of the Guidelines for diagnosis and treatment of neurological diseases (credited by the College of Medecins of Romania) -coordinator of the National Program for treatment of patients with multiple sclerosis of the National House of Insurance and Ministery of Health (since 2000) -coordinator of the first medical team in Romania for treatment by DBS in Parkinson's disease. -chief-editor of Romanian Journal of Neurology (the official journal of the Romanian Society of Neurology)

2005, 2006, 2010, 2011: awarded by the Prize of Excelence in Neurology for the scientific activity in Romania (decided by a National Jury organized by the Health Chamber of the Romanian Parliament

Letizia Leocani,

MD, PhD

Experimental Neurophysiology Unit; Neurological Department and Institute of Experimental Neurology-INSPE, Hospital San Raffaele, Milan, Italia.

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Neurophysiological techniques in Multiple Sclerosis today.

In Multiple Sclerosis (MS), demyelination and neurodegeneration not compensated by functional reorganization lead to accumulation of disability. The availability of several therapies for multiple sclerosis (MS) points to the need of instrumental markers to monitor and predict disability progression. Neurophysiological methods, mainly evoked potentials, are currently used for the assessment of functional consequences of demyelination, remyelination and axonal loss occurring in the course of the disease, as well as in pre-clinical testing. Among the different techniques available, those exploring the visual pathway are receiving increasing attention as a putative window into brain neurodegeneration, for the possibility to assess demyelination and axonal loss with visual evoked potentials and opical coherence tomography. Also motor evoked potentials are being used increasingly, owing to their consistency with clinical evidence of motor involvement, which has a great impact on disability and on the possibility to utilize transcranial stimulation of the motor pathways towards functional improvement. Recent evidence points to a possible predictive value of evoked potentials on the future evolution of disability, consistently with the hypothesis that early demyelination may prompt future neuronal loss. Finally, the possibility to demonstrate improved conduction through evoked potentials can represent a key feature in the assessment of efficacy of novel therapeutic approaches targeting remyelination.

Dr. Letizia Leocani, after the medical degree at the State University of Milan, took a PhD degree in Human Physiology and specialized in Neurology at the same University the Neurology. She was also a Research Fellow at the Human Motor Control Section of the National Institutes of Health in Bethesda-USA). She is currently Senior Researcher at the INSPE-Institute of Experimental Neurology, where she is Group Leader of the Experimental Neurophysiology Unit and is responsible of the MAGICS IntraCerebralStimulation Center. She performs psychophysiological research using non-invasive neurophysiological techniques of brain recording and stimulation.

Brachial plexus neuropathies

Björn Falck

Department of Clinical neurophysiology, University hospital, Uppsala, Sweden

Brachial plexus neuropathies (BPN) are seen in about 2% of the patients referred to EMG laboratories. The most common causes are: Parsonage-Turner syndrome (plexus neuritis), trauma, temporary compression, chronic compression (thoracic outlet syndrome), iatrogenic lesions (perioperative lesions, complications of local anesthesia), cancer (Pancoast tumour) and Erb's palsy. The presentation will cover with (1) anatomy of the brachial plexus, (2) causes of BPN, (3) neurophysiological methods and strategies used in the diagnosis of BPN and (4) illustrative examples of patients.

Björn Falck

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M.D. University of Turku, Turku, Finland 1974

Specialist in clinical neurophysiology, Univesity of Turku, Finland 1980

Ph.D., University of Turku, Turku, Finland 198383

Associate professor in cinical neurophysiology, University of Turku, Turku, Finland 1986

Senior consultant and head, Clinical neurophysiology, University Hospital, Turku, Finland 1986-92, 1998-2007

Senior consultant, Clinical neurophysiology University hospital, Uppsala, Sweden, 1992-98 and 2007-

Publications on neurophysiological methods used for the diagnosis of neuromuscular disorders. Special intrest in focal peripheral neuropathies.

EEG activity in deep sleep and anesthetic coma. What is different?

Amzica F.

Université de Montreal, Canada

The necessity of understanding basic mechanisms of sleep, both at the cellular and molecular level, has imposed the necessity of a suitable model. Anesthesia emerged as the most prominent one, due to a series of common features such as: loss of consciousness, diminished reactivity to noxious stimulation, recuperative properties, and, above all, the ability to produce electroencephalographic (EEG) patterns similar to the ones recorded during sleep. The use of anesthesia for the study of sleep elicited important breakthroughs in exposing the cellular mechanisms of cerebral networks during sleep. However, the above-mentioned model has notable limitations that will be discussed during the talk. First, sleep is a natural process occurring either actively or passively as a function of a given neuromodulating set point. Anesthesia acts through activation/blockage of various receptor/transporter sites on neurons and glial cells. There are different classes of anesthetics having distinct effects on different receptor categories (GABA, glutamate, etc.). Each of them tends to produce a given pattern of activity at the global level of the EEG. This results from the intimate action of the anesthetic on various cerebral structures (cortex, thalamus, brainstem, spinal cord). The reactivity of the brain is determined by the blood concentration of the used anesthetic, leading to a given degree of deafferentation. At difference, natural sleep is a self-centered process meant to release/recuperate a homeostatic pressure built up during the preceding wakefulness. Finally, the end of sleep occurs either at the end of this regulatory process or at any significant sensory stimulation, while waking from anesthesia is only allowed when blood levels of the agent drop below a threshold blood concentration.

Florin AMZICA

Prof., PhD

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Doctor Florin Amzica has a PhD in neurobiology from the Laval University. He started as an engineer in electronics and informatics, and holds a master degree in medical electronics (1982, from the Polytechnics Institute in Bucharest, Romania). During his PhD and after he studied the neuronal mechanisms of sleep and epilepsy with Doctor Mircea Steriade at the Laval University in Quebec. He has been a professor researcher at the Laval University since July 1999, and at the Université de Montreal since 2008.

His main research interests encompass: 1. The neuron-glia dialogue. Through experiments that are underway, he has opened a new field of investigation, studying relationships between neurons and glia in intact brain networks during physiological states such as sleep, wakefulness and during pathological states such as epilepsy and coma. 2. The study of anesthesia mechanisms. Dr. Amzica is particularly interested in the mechanisms underlying the burst-suppression (BS) pattern defined as a state during which the brain reaches one of the lowest levels of neuronal and metabolic activity. 3. Effects of implants and electrical stimulations in patients with Parkinson's, dystonia and essential tremor. The interest is related to the intra-op recording and the electrophysiological study of thalamic, subthalamic and basal forebrain neurons in humans, as well as the development of a post-op recording technique of these structures.

Evidentiation by EEG Mapping of the Central Motor Neurons dysfunction in ALS

Psatta D.

Center of Neurosciences Colentina, Bucharest, Romania

Dan M. PSATTA

Prof. MD PhD

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Dan M. Psatta, Scientist, MD, PhD. Working in the Institute of Neurology of Bucharest, he published 128 original papers. As associate Professor in the Ecological University he elaborated a treaty of Applied Neurophysiology. In 1981 he was rewarded for his scientific activity with the Gheorghe Marinescu prize of the Romanian Academy. He was president of the Romanian Society of Clinical Neurophysiology between 1990 and 2002. At present he activates in the laboratory of Clinical Neurophysiology from the Colentina Hospital, affiliated to the Romanian Center of Neurosciences.

Rationale. We demonstrated in 1986 that a comparison of EEG power obtained under sensory stimulation with the EEG power at rest (%), gives rise to a Frequencies Curve that we called EEG Spectral Reaction Curve (SPRC). This curve revealed two peaks of Delta and Theta increase, two peaks of alpha decrease and 3 peaks of beta increase on stimulation. In further researches we showed that these changes can be reflected by the EEG Mapping (Psatta et al., 1996). The slow waves encountered on these maps derived from a translation of the slow late components of sensory potentials in terms of EEG frequencies analysis. But, slow EEG components (Motor potentials) also occur in the central areas during voluntary movements. Kornhuber and Decke (1965) called them "Readiness potentials", Gray Walter et al. (1964) “Contingent Negative Variation” (CNV). We decided to investigate whether these potentials can be also revealed by EEG Mapping, and whether they are disturbed in ALS (Psatta et al., 2004).

Methods. Our EEG Source Derivation Power Mapping is done on 19 leads (10-20 International recoding system). An autoregressive model of Source Derivation was elaborated. Recording and Mapping of the main frequency domains power was performed twice: 1. at rest (with the eyes closed), 2. under testing. Finally the ratios between testing and rest powers were plotted on a third Maps row, that we called Spectral Reaction or Functional EEG Maps. For the purpose, we investigated 14 subjects with definite ALS, 9 subjects with probable ALS, 4 subjects with bulbar ALS, 11 patients with ALS Syndrome and, by comparison, 5 patients with Epilepsy and 7 patients with Multiple Sclerosis or Encephalitis.

Results. The voluntary motor testing consisted in bilateral symmetric 1/sec finger flexions during one minute. In these conditions the testing/rest power Mapping shows, in normal subjects a clear-cut activation of the Rolandic area: projection areas of the left and right hands (C3, C4). The activation consisted in significant Delta and Theta power enhancement during testing, as well as the increase of a Delta+Theta/Alpha+Beta coefficient. The motor centers reaction totally disappeared in ALS patients. One could find a peripheral compensatory reaction in the pre-motor and retro- rolandic areas. The absent reaction could be uni- or bilateral. This absence was so more paradoxical, as EEG Mapping images at rest were entirely normal. The Spectral Reaction Curves were also changed in the C3, C4 EEG sources of ALS patients. EEG Mapping rolandic reaction images were normal in the Spondilotic Myelopathy with ALS syndrome. In Epilepsy the reaction was accompanied by an activation of the cortical temporal lobe foci. In Encephalitis there were typical EEG Mapping pathological images at rest. The difference between the mentioned groups EEG motor reactions was highly significant statistically, evidencing the severe upper motor neuron dysfunctions only in ALS.

Conclusion. EEG power Mapping may be used as an alternative method to Transcranial brain stimulation, for the diagnosis setting in Amyotrophic Lateral Sclerosis.

Pseudo-neuromuscular pathology

Lupescu T.,

Spitalul Clinic de Urgenta "Prof Dr Agrippa Ionescu"

Frequently, in our practice, we encounter situations in which we are dealing with musculoskeletal disorders that mimic neuromuscular diseases. Such cases can become a burden on our activity, many times the electroneuromyographic examination being useless or, musculoskeletal disorders can be associated with neuromuscular disorders.

Therefore I find it useful to present the most frequent neuromuscular mimics, that involve the upper and lower limbs, among them - supraspinous tendinitis, biceps tendinitis, lateral epicondylitis, de Quervain`s tendinitis, carpo-metacarpian arthritis, hip osteoarthritis, greater trochanter bursitis, "pes anserinus" bursitis, plantar fasciitis and, to show simple clinical tests that can identify such conditions.

Tudor Dimitrie LUPESCU

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Tudor Lupescu obtained his medical degree from "Carol Davila" University of Medicine in Bucharest, in 1989. After 3 years of training at Colentina Clinical Hospital he became Specialist in Neurology in 1994. Since 2006 he is running the Neurology Department al Agrippa Ionescu Hospital in Bucharest. 1998, he qualified as Consultant Neurologist. Since his early years of training in Neurology, Tudor Lupescu has shown a special interest in Clinical Neurophysiology. In 2000 he earned a Competence in Clinical Neurophysiology (EEG, EMG, and Evoked Potentials). 1997 he was the first to use Transcranial Magnetic Stimulation in Romania. This was also the subject of his PhD thesis presented in 2005. Since 2008, Tudor Lupescu is President of ASNER – Romanian Society of Electrodiagnostic Neurophysiology. He is also founding member and vicepresident of the the Romanian Society of Diabetic Neuropathy.

Dr Tudor Lupescu is associate member of the American Academy of Neurology, and associate member of the American Association of Neuromuscular and Electrodiagnostic Medicine. Between 2008 and 2013 he was also member of the Neurophysiology Subcommittee of ENS

From Cartesian dualism to social neurosciences

Zagrean L

Division of Physiology and Fundamental Neuroscience, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

This work attempts to present a brief description of the way the body-mind relationship knowledge from the Cartesian dualism, passing the mechanistic, reductionist approach to phenomenological and quantic dimension of our neuroworld. The author presents a short history of social neurosciences and their great impact upon our civilization and nature of our present and future times.

Leon ZAGREAN

Prof., MD, PhD

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Leon Zagrean graduated from the Faculty of Medicine in Bucharest in 1978. After a period of four years of medical practice he became, through competition, assistant professor at the Department of Physiology, University of Medicine and Pharmacy "Carol Davila". He got a PhD in Medical Sciences in 1993 and, after completing all academic stages, he became professor in 2002. Since 2004, he is heading the Department/ Discipline of Physiology.

In addition to teaching and scientific activity in physiology, Dr. Leon Zagrean, initiated in 1982 a student research group, which is formed gradually in the Neuroscience Laboratory, and in 2005, together with Prof. dr. Ovidiu Bajenaru, Head of the Department of Neurology of the University Hospital, organizes the Center of Excellence in Neuroscience, accredited by CNCSIS. In 2001 he initiates and organizes National Neuroscience Society, whose president will be until 2012, when it becomes Honorary President.

Leon Zagrean developed in the Laboratory of Neuroscience a cerebral ischemia/reperfusion experimental model, which, then, together with a group of young researchers was extended and explored by electrophysiological methods, neuronal cell cultures under various conditions hypoxia, metabolic and pharmacological treatments. These studies represented the objectives of several national and European research projects whose results have been presented at scientific meetings and published in many papers in journals of international circulation. Prof. Leon Zagrean is editor/author or co-author of several scientific books some of which are published in prestigious international publishing houses. Prof. Leon Zagrean is a member of the Academy of Medical Sciences and a member of several national and international scientific societies. He was Director of the National Biomedical Research "Viasan" in 2001-2008.

Patient specific topographic mapping of electrophysiological biomarkers to delineate the seizure onset zone in intracranial EEG recordings

Ioana Mindruta (1,2) and Andrei Barborica (3,4)

1 Neurology Department, University Emergency Hospital, Bucharest, Romania

2 Neurology Department, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

3 Physics Department, University of Bucharest, Bucharest, Romania

4 FHC Inc, Bowdoin ME, USA

Seizure onset zone (SOZ) is defined in intracranial EEG recordings as an area that displays tonic low voltage fast activity before the occurrence of the first clinical sign during an epileptic seizure.

Both ictal LVFA (low voltage fast activity) and DC shifts are considered to be robust biomarkers of epileptogenicity.

We therefore combine these biomarkers in a weighted power ratio to delineate SOZ during invasive presurgical diagnostic work up for patients with drug resistant epilepsies.

We calculate instantaneous aEEG over several frequency bands of interest and we determine an instantaneous signal power ratio (IWPR) for all contacts and perform a 3D topographic animated representation overlapped with patient's anatomy.

This signal analysis method helps us to delineate the area that should be resected during surgeries to make the patient seizure free.

Funding: UEFISCDI PN-II-ID-PCE-2011-3-0240

Ioana Mindruta

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45-year old, neurologist, with competence in electrophysiology and special interest in epileptology, mainly presurgical exploration for epilepsy surgery. PhD thesis on "Sleep studies in epileptic syndromes" in 2006.

Current position at the University Emergency Hospital in Bucharest in the Epilepsy and Sleep Monitoring Unit and also hospital coordinator of the National Programs for Pharmacoresistant Epilepsy and Rare Disorders.

Academic affiliation - lecturer in neurology at the University of Medicine and Pharmacy "Carol Davila" of Bucharest.

Vicepresident of Romanian Association for Clinical Electrodiagnosis (ASNER) since 2009 and member in the board of Romanian Society of Neurology since 2013.

EEG in ICU: a monitoring tool for critically ill patients

Florea Bogdan

UMF Cluj-Napoca "Iuliu Hatieganu ", Centrul IMOGEN

Dr. Bogdan FLOREA

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Electroencephalography provides dynamic information about the brain function that allow early detection of changes in neurologic status, which is especially useful when the clinical examination is limited. Identification of ongoing electrographic seizures, non-convulsive status epilepticus (NCSE), periodic epileptogenic discharges (PED), irreversible cerebral dysfunction i.e., isoelectric tracing would help the care providers in appropriate decision making regarding the management. Non-convulsive seizures (NCSz) are more common than previously recognized and are associated with worse outcome if not treated in time. The discrete movements could bring great importance data for diagnosis and therapy. Majority of seizures at the ICU are not clinically identified because of the disease phenomena or as the patient may remain under sedation. Studies revealed the first NCSz within 1 to 24 hours of EEG monitoring; longer period of monitoring is required in comatose patient and those with PED. Factors associated with an increased risk of NCSz and NCSE include coma, prior clinical seizures, CNS infection, trauma, stroke, hypoxic ischemic encephalopathy, brain tumor, recent neurosurgery, and PED.
Brain function monitoring with EEG is useful and this is in great demand at the ICU of present time. Such monitoring can help to improve neurological outcome in a variety of ICU settings.

Dr. Bogdan FLOREA: UMF "Iuliu Hatieganu" Cluj-Napoca, Imogen Research Center

Bogdan Florea graduated the "Iuliu Hatieganu" University of Medicine in Cluj-Napoca in 1997 and became senior consulting neurologist in 2012. Clinical neurophysiology fellowships in Italy – Modena and Bologna, USA – Mayo Clinic, Sweden – Uppsala doubled by the daily activity in the computerized EEG department of the Neurological Clinic and many teaching courses in this area recommend him as a passionate in neurophysiology. His domains of interest are epilepsy and neurophysiology of coma.

Elbow Pain: Types, Diagnosis & Treatments

Mircea Moldovan, Ionela Codita , Uko Ema Mfon, Lavinia Grozoiu, Patricia Toboc

Neurology and Rehabilitation, Department of Elias University Emergency Hospital, Bucharest, Medlife Clinic Bucharest

Primul diagnostic in durerea laterala la cot este de epicondilita laterala (Moris 1882 tenis elbow) deoarece initial este greu de deosebit de sindomul de supinator sau de sindromul de tunel radial Sindromul de supinator prezinta un deficit motor in teritoriul

n interososos posterior (NIP)

Sindromul de tunel radial-este un diagnostic controversat ,un sindrom miofascial cu afectarea sau nu a n interososs posterior si se manifesta clinic uneori numai prin dureri in partea laterala a cotului 5 cm distal de capul radial, exagerate de supinatia contrarezistenta ,prin cresterea compresiei n radial la nivelul arcadei Frose si foarte rar cu afectarea secundara NIP

Se prezinta cazul unei paciente in etate de 38 ani cu dureri cronice la nivelul partii laterale a cotului , limitarea mobilitatii ,agravare la supinatie si extensia degetului mijlociu contrarezistenta, sensibilitate localala presiune distal de epicondilul lateral, absenta afectarii motorii si de sensibiltatae

Examenul neurografic a fost normal deoarece nervul interososs posterior contine fibrele groase mielinice care nu sunt afectate iar fibrele nemielinizate grup IV si fibre subtiri mielinizate grup II A aferente ,sensibile la presiune, nu pot fi evaluate EMG

Am constatat inca odata dificultatea diagnostica in aceste cazuri si am optat ca localizare spre un sindrom de tunel radial cu afectare inervatiei m supinator in cursul miscarilor ocupationale ,orientand optiunea terapeutica

Mircea Moldovan

MD, PhD

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Dr. Mircea Moldovan, graduate of the “Carol Davila” University Bucharest, Doctor of Medical Sciences, MD is a neurologist at the Hospital “Elias” Bucharest since 1968. Throughout his career, he had a continuous interest for clinical neurophysiology. In the 80s, his main interest was the EEG and evoked potentials under the guidance of Prof Dr V Voiculescu. In the 90s, his interest expanded to the peripheral conduction studies and EMG. During his pioneering work in Romanian clinical neurophysiology, Mircea Moldovan advocated the diagnostic importance of clinical neurophysiology for neurological practice through talks at national scientific meetings and scientific publications. Most importantly, however, through his wealth of practical experience and didactic spirit, he helped initiate in clinical neurophysiology generations of young neurologists. During the last decade, with the transformation of “Elias” hospital neurology into a university department and re-formalizing his skills in EMG (2003) and EEG (2004), Dr. Mircea Moldovan developed his preoccupation for clinical neurophysiology teaching. Together with Dr. Ionela Codita he carries out practical demonstrations of post-graduate courses organized by Professor Dr. Panea EMG. In addition, Dr. Mircea Moldovan contributed to re-launch of the clinical neurophysiology society in Romania as founding member of ASNER 2009.

Approach to Patient with Myoclonus – Electrophysiological Data in a Clinical Case

Ionela Codita(1), Raluca Simona Gurgu(1), Liana Stanescu(2), Gabriela Elena Cioara(1), Cristina Aura Panea(1)

1. Elias University Emergency Hospital , Bucharest, RO

2. Hipomed Clinical Care , Chiajna, RO

We present the case of a patient who was hospitalized for symptoms consisting of cervical pain and muscular "cramps", predominantly of the scapular girdle. The patient reports onset of symptoms two months after the last session of radiotherapy performed for laryngeal cancer.

Clinical examination reveals involuntary movements relevant for myoclonus affecting the axial region and proximal upper limb muscles.

Nerve conduction studies and electromyography excluded the brachial plexopathy and other peripheral neuropathy .

The EEG didn't show epileptiform discharges.

Myoclonus can be classified in a number of ways, although classification based on the underlying physiology is the most useful from the therapeutic point of view.

We intend to define the presumed source of its generation (cortical, subcortical, spinal, peripheral), taking into account the clinical and electrophysiological features and also the influence of several elements (activity during which it occurs, precipitating or alleviating factors).

Ionela Codita

MD, PhD

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Ionela Codita is currently working as a Senior Neurologist in the Neurology Department of Elias University Emergency Hospital in Bucharest. She has graduated "Carol Davila" University of Medicine and Pharmacy in 1995 and became a specialist in Neurology in 2000.

She earned a Competence in Clinical Neurophysiology in 2005. During her practice, dr. Codita attended many courses and teaching programs in the field of Clinical Neurophysiology such as: scholarship in Neurophysiopathology field at Policlinical Institute of San Donato Milanese, Italy (2002-2004), training Course in EMG and Neurography Uppsala , Sweden (2009), International SFEMG and QEMG Course –Kobe, Japan (2010), VIREPA distance learning courses on "EEG in the diagnosis and management of epilepsy – Basic Course 6th edition" (September 2011- March 2012) and "EEG SCORE course-1st edition"(November 2012-March 2013), the international educational course "Dinalund Summer School on EEG and Epilepsy" (July 2012).

She also manifests interest in Epilepsy, Motor Neuron Diseases and Movement Disorders. Dr. Ionela Codita is a member of the Romanian Society of Neurology, affiliated to the ENFS (European Federation of Neurological Societies) and to the WFN (World Federation of Neurology) and since May 2013 she is the secretary of ASNER-The Romanian Society of Electrodiagnostic Neurophysiology.

Rolul stimulării magnetice transcraniene în urmărirea eficienței tratamentului puseului din Scleroza Multiplă

Dr. Trofin Daniela, Dr. Trofin Dan , Dr. Bolbocean Orest, Prof. Dr. Popescu Dinu Cristian

Spitalul Clinic de Recuperare, Iași, Clinica de Neurologie

Scleroza multiplă (SM) este una dintre cele mai venerabile boli neurologice, nu numai prin frecvență și evoluție cronică, cât mai ales prin incidența acesteia în rândul adulților tineri.

Procesul de demielinizare ce duce la pierdere de mielină la nivelul axonilor este procesul patologic primar din cadrul acestei afecțiuni, la care se adaugă suferința neuronală axonală și glială, expresia clinică a acestui mecanism fiind manifestată prin noțiunea de puseu.

În investigarea SM, un loc tot mai important alături de potențialele evocate vizuale (PEV) și auditive (PEA), îl reprezintă stimularea magnetică transcraniană (TMS).

TMS reprezintă o metodă neinvazivă de evaluare a disfuncțiilor tractului corticospinal la pacienții cu SM, vizând observarea alungirii timpului central de conducere motorie (TCCM), creșterea pragului motor și reducerea amplitudinilor potențialului evocat motor (PEM). Stimularea ariei motorii determină un răspuns care reprezintă comportamentul electrofiziologic al fascicolului piramidal.

Scopului studiului nostru a fost evidențierea modificărilor PEM obținut prin TMS la pacienții cu SM în puseu (manifestat atât prin deficit motor, cât și prin manifestări tip nevrită optică, dar și simptomatologie senzitivă).

Am investigat 37 pacienți cu SM în puseu, cu deficit motor, din acesti pacienti 26 au prezentat ameliorarea simptomelor după corticoterapie iar 11 pacienți au prezentat agravarea simptomelor.

Pacienții care s-au prezentat în puseu au fost investigați prin TMS înainte de administrarea corticoterapiei, după terminarea corticoterapiei (Metiprednisolon 1000 mg/zi, 5 zile) și la o lună.

Trofin Daniela

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2013 - prezent

Doctorand în cadrul U.M.F. Iași cu tema „Rolul potențialului evocat vizual și motor în investigarea puseului din Scleroza Multiplă";

Ianuarie 2012 – prezent

Medic rezident specialitatea Neurologie Spitalul Clinic de Recuperare Iași, Str. Pantelimon Halipa nr.14;

2010 – 2011 Medic rezident specialitatea Epidemiologie Spitalul Sf. Spiridon, Iași.

Atypical motor neuron symptoms

Izabela Popa

Timisoara

ALS is the most common of all motor neuron disorders. Yet, not any patient presenting with lower motor neuron symptoms is ALS. When cerebellar and psychiatric signs are associated, hexosaminidase A deficiency should be considered in the differential diagnosis.

The case of a 46 years old male with atypical motor neuron symptoms is presented, where the adult-onset form of lysosomal enzyme deficiency is suspected.

Izabela Popa

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Izabela Popa graduated the University of Medicine and Pharmacy, Timisoara in 1999. She finished internship and residency in neurology in Timisoara and became neurologist in 2006. Followed clinical neurophysiology trainings at the Department of Neurology, University of Szeged, Hungary (2004), Department of Neurology, University of Leipzig, Germany (2005) and the Department of Neurophysiology, Uppsala University Hospital, Sweden (2008, 2011). In 2007 earned competence in electromyography and nerve conduction studies and in 2009 received a Certification for Electrophysiological Testing from Albert Einstein College of Medicine of Yeshiva University. Since 2007 she works as a private practitioner with special interest in neurophysiology.

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Myotonia (clinical cases)

Distrofia miotonica este cea mai frecventa forma de distrofie musculara a adultului, implicand multiple organe in lantul patologic. Studiile genetice din ultimii 20 ani au clarificat baza moleculara si diferitele forme ale bolii. Vor fi prezentate doua cazuri clinicoe cu examinarea lor electrofizilogica .

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EMG cases (practical demonstrations)

Physiological differences between peripheral nerves. Does it matter?

Moldovan M. (1,2)

1) Copenhagen University DK; 2) Carol Davila University, Bucharest, RO

Myelinated peripheral axons are biological structures specialized in energy-efficient conduction of action potentials. Axonal conduction involves a complicated voltage-gated ion channel machinery comprised of several types of Na+ channels (mediating the inward depolarizing currents), K+ channels (mediating the outward rectifying currents) and hyperpolarization-activated cyclic nucleotide-gated channels(mediating the inward rectifying currents), as well as energy-dependent pumping mechanisms required to maintain the ionic concentration gradients across the membranes. Additionally, the spatial distribution of these channels is tightly controlled by axon-Schwann cell interactions. In spite of this complexity, the prevailing neurophysiological message about conduction is linked to "nerve conduction velocity is 6 fold the largest myelinated axon diameter" established nearly a century ago by cat physiologists. This proportionality between electrophysiology and morphology leads to the oversimplification that "a low conduction velocity reflects a demyelinating neuropathy". Undoubtedly this is important to consider in the clinical context because a demyelinating neuropathy is potentially treatable.

Various normative values exist for nerve conduction velocities with slight difference between laboratories and the technique used. Nevertheless, a consistent observation is that "normal" nerve conduction velocity is different between nerves, and, to some extent, between different segments of the same nerve. Does this matter? To answer this, the presentation pleads for a more pathophysiologic approach to understanding the factors contributing to nerve conduction velocity and how the electrodiagnostic value of low conduction velocity can be helped by other electrophysiological measures such as nerve excitability studies by "threshold-tracking".

Mihai Moldovan

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Mihai Moldovan obtained his medical degree from "Carol Davila" University Bucharest in 1999. Based on his research interests as a student, after graduation he was selected to work in the group of prof. Christian Krarup that continues the Copenhagen neurophysiology school founded by prof. Fritz Buchthal in the 60' with the aim of translating experimental neurophysiology into clinical electrodiagnostic procedures for patients with nerve and muscle disease. Mihai Moldovan obtained his PhD degree in neurophysiology from Copenhagen University in 2004 where he continues his scientific career as associate professor. His research is focused on distinguishing the contribution of voltage-gated ion channel dysfunction to pathophysiology of neurodegenerative disorders, with particular emphasis on peripheral nerve excitability testing. While based in Copenhagen, Mihai Moldovan continued to collaborate with prof .Leon Zagrean at "Carol Davila" University, Department of Physiology and Neuroscience. In 2011, he founded the COMAEEG.RO international network, bringing together Romanian neuroscientists, clinicians and engineers dedicated to improving the monitoring of the comatose brain excitability. Emerging from these wide research interests are not only original publications and review articles in international journals but also educational chapters in neuroscience and neurophysiology textbooks in Romanian language. Mihai Moldovan has scientific duties in several international organizations including International Brain Research Organization (IBRO) and the European Federation of Neuroscience Societies (FENS). He is also founder and acting president of the National Neuroscience Society of Romania (SNN) and founder of the Romanian Society of Electrodiagnostic Neurophysiology (ASNER) for which he now serves as scientific director. For his activity he received several international and national prizes and he was recently appointed editorial board member for Clinical Neurophysiology, the official scientific journal of the International Federation of Clinical Neurophysiology (IFCN).

Case presentations

Utilitatea PESS in diagnosticul si managementul neuropatiei diabetice

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Diagnosticarea precoce a neuropatiei diabetice (ND) prin efectuarea potentialelor evocate somato-senzoriale(PESS) la pacientii cu diabet zaharat care duce, prin tratament precoce corespunzator la schimbarea cursului bolii.

Au fost luati in studiu un numar de 25 de pacienti cu neuropatie diabetica, urmand tratament cu gabapentina si vitamine B, si un grup de 20 de pacienti cu neuropatie fara tratament.

Cele 2 loturi s-au comparat cu un al treilea lot format din 10 pacienti cu diabet, dar fara semne clinice de neuropatie diabetica.

Inregistrarile s-au efectuat in dinamica la fiecare pacient, fiind repetate la un interval in jur de 2 luni.S-au identificat undele componente N9 si N20 si s-au masurat latentele acestora.

Concluzii

PESS poate fi valorificat in diagnosticul si managementul neuropatiei diabetice:

-Valorile undei N9 obtinute prin inregistrarea in punctul Erb a potentialelor sunt mai mari la pacientii cu neuropatie diabetica comparativ cu cele inregistrate in lotul martor.

-Prelungirea N20 este prezenta insa la valori mai reduse in comparatie cu intarzierea undei N9. Unda N20 are latenta crescuta la pacientii cu AVC ischemic in antecedente, denotand afectarea emisferului cerebral contralateral stimularii nervului median.

-In lotul martor cu diabet zaharat fara neuropatie cresterile de latenta ale undei N9 au valori mai scazute fata de loturile cu neuropatie diabetica, indicand posibilitatea existentei unei neuropatii infraclinice.

-Datele obtinute prin inregistrarea PES la bolnavii din lotul cu neuropatie diabetica sub tratament cu gamapentina si vitamine grup B confirma partial un efect pozitiv al acestei terapii.

-Evolutia neuropatiei diabetice,inclusiv dupa tratament,poate fi monitorizata prin inregistrarea PESS.

Diagnostic and therapeutic features of the isolated vasculitis of the peripheral nervous system - a case presentation

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National Institute of Neurology and Neurovascular Disorders

OBJECTIVES

We shall be presenting the case of a 57 year old male, admitted in our clinic for a tetramelic asymmetric motor deficit, with a subacute onset in the legs, progressing in the next 8 weeks to the upper limbs, also associated with severe neuropathic pain.

METHOD

The clinical and EMG exams confirmed a severe mononeuritis multiplex (overlapping type), in a subacute-chronic stage, with a ONLS score of 7/12. The patient has been thoroughly investigated, but without confirming neither a systemic vasculitis or a neoplastic process.
The biopsy showed possible vasculitic neuropathy, with severe subacute axonal loss and subtle signs of inflammation.
The cerebral MRI revealed chronic microanyopathic lesions and an acute ischemic lesion in the right thalamus in a patient without any vascular risk factors.
The patient was put on corticosteroids and pain medication, at 3 months the results being favorable, with clinical (5/12 ONLS) and electrophysiological improvement (stabilizing chronic neurogenic lesion).

CONCLUSIONS

The clinical, electrophysiological and histopathological data, with the exclusion of other causes through the extensive paraclinical testing, have led to a diagnosis of isolated vasculitis of the peripheral nervous system with mononeuritis multiplex.
Currently the diagnostic criteria and therapy of this entity are not firmly standardized, although a guideline in this sense has been published by the Peripheral Nerves Society.
The diagnosis remains one of exclusion, the core of the treatment being immunosuppressive therapy.
We will discuss the significance of the association of peripheral inflammatory lesions with the small vessel disease identified in the MRI screening.

Brainstem auditory evoked responses recorded with surface electrodes in the diagnosis of central vestibular syndrome in dogs

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The goal of the current study was to determine the diagnostic usefulness the brainstem auditory evoked responses (BAER) acquired with surface electrodes (SE) in dogs with central vestibular syndrome (CVS), by assessing the prognostic value and the possibility of this test to distinguish central from peripheral origin of vestibular syndrome.
BAER were recorded in ten dogs with CVS and in ten healthy dogs by monaural and binaural stimulation, with stimulus intensities of 90 dBSPL. To compare ears of patients with lateralized CVS with healthy dogs ears, the latencies and amplitudes waves were analyzed in SPSS 20 with Wilcoxon Signed Ranks Test for 2 paired samples, at a significance threshold of $P<0.05$.
BAER reflected morphological changes of waves I, II, III and V in 7/10 dogs and decreased amplitudes of all waves at all dogs with CVS. P values obtained were = 0.014 for wave I amplitude, 0.031 for waves II and III and 0.032 for wave V. Comparing the latency I, II, III and V to between left and right ear of dogs suffering from CVS no statistically significant differences were obtained. No statistical differences were observed for BAER latencies between patients with CVS and healthy dogs, which demonstrates that the latency is kept normal and the presence of biauricular interaction.
In CVS, BAER recorded with SE were characterized by decrease amplitudes without changes in latencies waves, which may show an impairment of strength, but not the speed of transmission of information between the nuclei of the auditory pathway.

Polineuropatie cu afectari articulare- prezentare de caz

Vasile Daniela

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Polineuropatiile periferice au un polimorfism important atat din punct de vedere genetic, etiologic, cat si al formelor de prezentare clinica. Va prezentam cazul unei paciente in varsta de 13 ani, cu multiple APP (epilepsie, retard psihic usor, microcefalie, sindrom dismorfic) internata in mod repetat pentru tulburari de mers, caderi frecvente, retractii tendinoase progresive care asociaza aspect clinic de polineuropatie (picior deformat, atrofii musculare distale, dificultati de mers) cu ROT prezente, redori articulare. Investigatiile paraclinice (studiul electrofiziologic, biopsie cutanata, musculara si de n senzitiv) releva o afectare tip neuropatie senzitiva demielinizanta la nivelul MI . Data fiind simptomatologia, raman in discutie cauze variate de atrofii musculare si deformari articulare
Cuvinte cheie: polineuropatie, retractii tendinoase, copil

Etiologie rară a parezei de nerv sciatic popliteu extern – caz clinic

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Pareza nervului sciatic popliteu extern poate avea o etiologie variată, implicand lezarea directă sau indirectă a nervului. Determinarea sediului leziunii este foarte importantă pentru diagnostic şi tratament, cât şi pentru prognostic. Acest lucru este posibil prin asocierea examinării electroneurografice cu examinarea electromiografică. Prezentam cazul unei paciente în vârstă de 12 ani care a fost internată în clinica noastra pentru deficit motor în teritoriul nervului peronier stâng, insidios instalat. Examenul neurologic a relevat pareză a nervului sciatic popliteu extern stâng, picior scobit bilateral. Examenul electrofiziologic extins – electroneurografic şi electromiografic – a decelat o afectare axonală difuză a plexului lombosacrat bilateral, cu situarea sediului leziunii nervului peronier comun stâng proximal de desprinderea sa din trunchiul nervului sciatic stâng. S-au continuat investigaţiile cu efectuarea IRM lombo-sacrat şi neurografie prin rezonanţă magnetică la nivelul plexurilor lombosacrate care au decelat o malformaţie medulară rară asociată cu lipomielocel sacrat.

Cuvinte cheie: nerv sciatic popliteu extern, studiu electrofiziologic, copil.

Benign EEG variants: are they really benign?

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The significance of the interictal EEG “normal variants” remains controversial, despite advances in EEG techniques. Overinterpretation of benign EEG variants is a common problem that can lead to misdiagnosis of epilepsy. Most studies point out 3 “patterns of uncertain significance”, benign epileptiform transients of sleep (BETS), wicket spikes and 6-Hz spike and waves, which may be considered either true normal variants or associated with epilepsy, depending on topography and morphology. Long-term EEG is indicated in assessing the potential epileptogenicity of the “normal variants”.

Kinesiotaping in peripheral nervous system rehabilitation

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Kinesiotaping-ul este o tehnica de recuperare medicala recent aparuta in Romania , dar in origine din Japonia in urma Patenttului inregistrat de catre dr-ul Kase Kenzo in urma cu 25 ani, fiind folosita la inceput

doar in competitiile sportive ulterior captand o mare atentie medicilor de recuperare medicala si fisioterapeutilor fiind folosita ca metoda benefica si ajutatoare in patologie larga de afectiuni.

-effect la nivelul pielii benzile lipite stimuleaza proprioceptorii, cellule sau grupuri de cellule sensibile la miscare, presiune sau intindere sobiacenta be tendoane sau muschi care trimit catre SNC contribuind ulterior la coordonarea activitatii musculare la mentinerea echilibrului si pozitiei corpului.

Cyclic alternating sleep patterns

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Somnul nu este un proces liniar, ci este un comportament complex care implica sistemul nervos central la diferite niveluri in diferite etape ale sale pe masura ce se desfasoara (Steriade, 1993).

Din punct de vedere neurofiziologic, somnul poate fi studiat ca macrostructura, cu stadiile sale bine cunoscute (W, N1, N2, N3 si R) sau ca microstructura cu stadiile CAP si nonCAP. Patternul ciclic alternant al somnului (cycling alternating pattern, CAP) este un fenomen fiziologic al somnului ce reprezinta activitatea EEG din timpul somnului NREM caracterizata prin secvente tranzitorii de evenimente electrocorticale care se deosebesc de activitatea de background, aceste secvente fiind elementele fazice din somn/oscilatii (complexele K, fusurile, undele de vertex, activitatea lenta, microtrezirile). Importanta patternului ciclic alternant este ca reflecta instabilitatea somnului NREM. La fel ca si stadializarea somnului din macrostructura, si microstructura este alcatuita din faze A (de activitate) si faze B (de background). Fazele A sunt de trei feluri in functie de tipul de activitate pe care il contin (lenta, mixta sau rapida) si suprapunerea lor peste hipnograma (macrostructura) sugereaza tendinta pacientului de a migra catre veghe sau somn profund.

Notes

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THE 15TH EUROPEAN CONGRESS ON CLINICAL NEUROPHYSIOLOGY

September 30 – October 4, 2015
Brno, Czech Republic

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Best regards,

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