Seminars

Department of Neurosciences
University of Medicine and Pharmacy "Iuliu Hatieganu"
Cluj-Napoca | Romania

IN CONJUNCTION WITH

FIRST NEUROSONOLGY TEACHING COURSE

SEPTEMBER 25th-26th, 2014

''RONEURO''
INSTITUTE FOR NEUROLOGICAL RESEARC AND DIAGNOSTIC
37 Mircea Eliade Street, Cluj-Napoca, Romania

WELCOME **ADDRESS**

It is a pleasure to welcome you to the 16th edition Seminars of the Neurosciences Department, in conjunction with First Neurosonology Teaching Course, September 25th-26th, 2014. The seminars are hosted by the Department of Neurosciences, Faculty of Medicine, University of Medicine and Pharmacy "Iuliu Haţieganu", Cluj-Napoca, Romania.

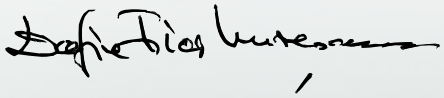
These seminars aim to establish a highly useful framework enabling local specialists to benefit from the expertise of our invited speakers who are part of associated international faculty of our Department of Neurosciences. Our goal is to flourish over years and set up an educational network tool meeting our junior and senior specialists' needs.

In contrast to large international conferences, the intention behind these seminars is to create an informal and intimate setting, which hopefully will stimulate open discussions. As organizers, we would therefore be deeply grateful if you participate and share your time with us.

We are looking forward to your active participation in this educational event!

With consideration,

Prof. Dr. Dafin F. Mureșanu,
Chairman Department of Neurosciences, Faculty of Medicine,
"Iuliu Hatieganu" University of Medicine and Pharmacy,
Cluj-Napoca, Romania



ORGANIZERS

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INSTITUTE FOR NEUROLOGICAL
RESEARCH AND DIAGNOSTIC

FOUNDATION FOR THE STUDY
OF NANONEUROSCIENCES AND
NEUROREGENERATION

"IULIU HAȚIEGANU" UNIVERSITY
OF MEDICINE AND PHARMACY

FACULTY OF MEDICINE
DEPARTMENT OF NEUROSCIENCES
UNIVERSITY OF MEDICINE AND PHARMACY
"IULIU HATIEGANU"

EUROPEAN SOCIETY OF
NEUROSONOLOGY

TEL AVIV UNIVERSITY

CAROL DAVILA
UNIVERSITY
BUCHAREST

DEBRECEN
UNIVERSITY

UNIVERSITY OF BELGRADE
SCHOOL OF MEDICINE

ORGANIZATORI

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CENTRUL DE CERCETARE
SI DIAGNOSTIC
AL BOLILOR NEUROLOGICE

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NEUROREGENERĂRII

UNIVERSITATEA DE MEDICINĂ ȘI
FARMACIE " IULIU HȚIEGANU"
CLUJ-NAPOCA

FACULTATEA DE MEDICINĂ
DEPARTMENTUL DE NEUROȘTIINȚE

SOCIETATEA EUROPEANA DE
NEUROSONOLOGIE

UNIVERSITATEA TEL AVIV

UNIVERSITATEA DE MEDICINĂ
ȘI FARMACIE " CAROL DAVILA"
BUCUREȘTI

UNIVERSITATEA
DEBRECEN

UNIVERSITATEA DIN BELGRAD
SCOALA DE MEDICINĂ


SPEAKERS/**LECTORI**

SPEAKER

Natan Bornstein /Israel

EDUCATION

1970-73 - University of Sienna, Medicine, Sienna, Italy
1973-79 - Technion Medical School, Hifa, Medicine, MD, 1979
Date of receiving specialixation certificate: 11 September, 1984
Title of Doctoral dissertation: Dextran 40 in acute ischemic stroke
Name of Supervisor: Dr. Jacob Vardi

FURTHER EDUCATION

1978-83 - Tel-Aviv University, Sackler Faculty of Medicine, neurology (residence), Israeli Board certified in Neurology, 1983
1979-83 - Tel-Aviv University, Sackler Faculty of Medicine, Post graduate studies in Neurology
1984-87 - Sunnybrook Medical Center, University of Toronto, M.R.C stroke, Fellowship

ACADEMIC AND PROFESSIONAL EXPERIENCE

1982-1995 - Tel-Aviv University, Neurology, instructor
1991-present - European stroke Conference (ESC), Executive committee
1995-1999 - Tel-Aviv University, Neurology, Senior lecturer
1995 - Eliprodil CVD 715 clinical trial, Steering Committee
1995-1997 - International Stroke Study (IST), Steering Committee
1995-1999 - American Academy of Neurology, Member of the International Affairs Committee
1996 - Asymptomatic Carotid Stenosis and Risk of Stroke (ACSRS), Advisory Committee
1996-present - The Mediterranean Stroke Society (MSS), President
1996-2002 - EFNS, Management Committee
1997-2009 - Israeli Neurological Association, Secretary
1999-present - Tel-Aviv University, Neurology, Associated Professor
2001-present - European Society Neurosonology and Cerebral Hemodynamics (ESNCH) Executive committee
2005-present- Neurosonolgy Research Group, Executive committee
2006-present - European Master in Stroke Medicine, Member of faculty
2006-2008 - NEST II clinical Trial, Steering Committee
2006-present - SENTIS clinical Trial, Steering Committee
2006-present - CASTA Trial, Steering Committee

2006-present - Brainsgate clinical Trial, Steering Committee
2008-present - World Stroke Association (WSO), Vice president
2009-present - Israeli Neurological Association, Chairman
2009-present - European Stroke Organization (ESO), Member on the board of directors
2010- NEST III clinical Trial, Steering Committee

PROFESSIONAL ACHIEVEMENTS- EDITORIAL BOARD

1991-present - Neurological Research Journal, Guest Editor
1991-present - STROKE, Member of the editorial board
1998-present - European Journal of Neurology, Member of the editorial board
1999-present- Journal of Cerebrovascular disease, Member of the editorial board
2000-present- Journal of Annals of Medical Science, Consulting Editor
2001-present - Journal of Neurological Science (Turkish), Member of the editorial board
2001-present - Acta Clinica Croatica, Member of the editorial Counsil
2003-present - Italian Heart Journal, International Scientific Board
2003-present - Journal of Neurological Sciences, Guest Editor
2004-present - Turkish Journal of Neurology, International Advisory Board
2005-present - Archives of Medical Sciences (AMS), Member of the Editorial Board
2006-present - Journal of Cardiovascular Medicine, International Scientific Board
2006-present - International Journal of Stroke, Editorial Board
2006-present - Acta Neurologica Scandinavica, Editorial Board
2009-present - American Journal of Neuroprotection& Neurogeneration (AJNN) Member of the Editorial Board
2010 - Neurosonology, International Editorial Board
2010 - Frontiers in Stroke, Review Editor

MEMBERSHIP IN PROFESSIONAL SOCIETIES

1977-present - Israeli Medical Association
1983-present - The Israeli Neurological Association
1985-present - Stroke Council of the American Heart Association (Fellow)
1986-present - American Academy of Neurology
1986-present - Neurosonology Research Group of the World Federation of Neurology
1987-present - Stroke Research Group of the World Federation of Neurology
1990-2008 - International Stroke Society
1995-2008 - European Stroke Council
1995-present - Mediterranean Stroke Society (MSS)
1998-present - European Neurosonology Society
2005-present - World Stroke Organization (WSO)
2008-present - Fellow of the European Stroke organization (FESO)

LECTOR

Natan Bornstein /Israel

EDUCAŢIE

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Data obţinerii diplomei de specialist: 11 September, 1984
Titlul lucrării de doctorat: Dextran 40 in acute ischemic stroke
Coordonatorul lucrării: Dr. Jacob Vardi

ALTE SPECIALIZĂRI

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2009-prezent - American Journal of Neuroprotection & Neurogeneration (AJNN) Member of the Editorial Board
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1995-2008 - European Stroke Council
1995-prezent - Mediterranean Stroke Society (MSS)
1998-prezent - European Neurosonology Society
2005-prezent - World Stroke Organization (WSO)
2008-prezent - Fellow of the European Stroke organization (FESO)

SPEAKER

László Csiba /Hungary

László Csiba was born in 1952, Sajószentpéter, Hungary. Now he is the Chairman of Department of Neurology of University Debrecen and Chair of Board of Director's (European Stroke Organisation), President of European Society of Neurosonology and Cerebral Hemodynamics. He is the chair of European Cooperation Committee of EFNS.

His research interests are stroke and stroke-prone diseases, ultrasonic studies in cerebrovascular diseases and clinicopathological studies on cerebrovascular diseases. He published numerous papers on stroke and strokerelated diseases, associated editor of Frontiers on Stroke and member of editorial committee (Intern. J Stroke)

LECTOR

László Csiba /Ungaria

László Csiba s-a născut în 1952, Sajószentpéter, Ungaria. Acum el este preşedintele Departamentului de Neurologie din cadrul Universităţii Debrecen, Preşedintele Consiliului Director (European Stroke Organisation) şi Preşedintele Societăţii Europene de Neurosonologie şi Hemodinamică Cerebrală. El este şi Preşedintele Comitetului de Cooperare Europeană al EFNS.

Cercetările lui au drept interes accidentele vasculare cerebrale şi bolile care prezintă o sensibilitate aparte la accidentele vasculare cerebrale, studiile ultrasonologice în bolile cerebrovasculare şi studiile clinico-patologice pe bolile cerebrovasculare. El a publicat numeroase lucrări despre accidentele vasculare cerebrale şi bolile ce au strânsă legătură cu acestea, fiind editor asociat la „Frontiers on Stroke" şi membru în comitetul editorial (Intern. J Stroke).

SPEAKER

Milija Mijajlovic /Serbia

1. Personal information

Birth date and place of Birth: 1976, Kraljevo, Serbia
Address at work: Neurology clinic (Department for Cerebrovascular Disorders and Headaches), Clinical Center of Serbia,

2. Medical Skills

Experienced with:
Neuropsychological and behavioral examination and evaluation
Neurosonology techniques (Power Triplex Color Doppler and Transcranial Color Doppler Examination)
Ultrasound examination of the brain parenchyma (basal ganglia)
Stroke management (including thrombolytic therapy and sonothombolysis)

3. Education

1995 – 2001
School of Medicine, University of Belgrade
Doctor of Medicine
1998-2001: Student Tutor
Institute of path-physiology, School of Medicine, University of Belgrade
Path physiology of the central nervous system
2001-2002: Internship
School of Medicine, University of Belgrade
Neurology, Neuropsychology
July 2002: General Practitioner License
Ministry of Health, Republic of Serbia
2001-2007: Postgraduate Master's degree studies in Neurology
School of Medicine University of Belgrade
Master's Degree in Neurology
Thesis Title: The role of insulin resistance in ischemic brain disease

2007-2010: Residence in Neurology
Institute of Neurology, Clinical Center of Serbia, Belgrade; School of Medicine University of Belgrade
Title: Board certified Neurologist
2005: National official expert in neuroangiology
National Society of Neuroangiology of Serbia and Medical Faculty Belgrade, Belgrade, Serbia
2009: Scientific Researcher, Research Associate
Ministry of Sciences of Serbia; School of Medicine University of Belgrade Belgrade, Serbia

4. Membership

- Chronic Daily Headache International Study Group of the International Headache Society-IHS
- European Federation of Neurological Societies-EFNS
- The Movement Disorders Society
- European Society of Neurosonology and Cerebral Hemodynamics
- World Stroke Organization
- Board of the National Society of Neuroangiology of Serbia
- Serbian Medical Society

5. Main fields of interests

- Cerebrovascular Disorders (genetics, path-physiology of arteriosclerosis-especially the role of insulin resistance in atherogenesis, asymptomatic carotid artery stenosis and vascular dementia, rare causes of stroke especially in young adults).
- Ultrasound Techniques in Neurology (Power Triplex Color Doppler, Transcranial Doppler, detection of the circulating micro emboli and cerebral vasomotor reactivity testing, sonothrombolysis)
- Chronic Headaches (co-morbidity of migraine, chronic tension type of headache, rare headaches-SUNCT, cluster headache, paroxysmal hemicranias)
- Neuropsychology and Dementias

LECTOR

Milija Mijajlovic /Serbia

1. Informaţii personale

Data de naştere şi locul: 1976, Kraljevo, Serbia
Adresă serviciu: Neurology clinic (Department for Cerebrovascular Disorders and Headaches), Clinical Center of Serbia,

2. Aptitudini medicale

Experienţă în:
Neuropsychological and behavioral examination and evaluation
Neurosonology techniques (Power Triplex Color Doppler and Transcranial Color Doppler Examination)
Ultrasound examination of the brain parenchyma (basal ganglia)
Stroke management (including thrombolytic therapy and sonothombolysis)

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2009: Scientific Researcher, Research Associate
Ministry of Sciences of Serbia; School of Medicine University of Belgrade
Belgrade, Serbia

4. Calitate de membru

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- European Federation of Neurological Societies-EFNS
- The Movement Disorders Society
- European Society of Neurosonology and Cerebral Hemodynamics
- World Stroke Organization
- Board of the National Society of Neuroangiology of Serbia
- Serbian Medical Society

5. Principale domenii de interes

- Cerebrovascular Disorders (genetics, path-physiology of arteriosclerosis-especially the role of insulin resistance in atherogenesis, asymptomatic carotid artery stenosis and vascular dementia, rare causes of stroke especially in young adults).
- Ultrasound Techniques in Neurology (Power Triplex Color Doppler, Transcranial Doppler, detection of the circulating micro emboli and cerebral vasomotor reactivity testing, sonothrombolysis)
- Chronic Headaches (co-morbidity of migraine, chronic tension type of headache, rare headaches-SUNCT, cluster headache, paroxysmal hemicranias)
- Neuropsychology and Dementias

SPEAKER

Cristina Tiu /Romania

I always considered myself an optimistic person but still there are certain things which I find depressing, and a CV is one of those things. Suddenly it is not about you anymore, but about a person who had a number of achievements which are rarely the things you find interesting about yourself, and all your life is compressed in half a page.

I have graduated the University of Medicine and Pharmacy "Carol Davila" in Bucharest in 1987 and I started my career in neurology in 1991, as a resident in the Department of Neurology of the University Hospital Bucharest, the same place where now I am Associated Professor and Head of the Stroke Unit. I have two favorite domains:
vascular pathology and multiple sclerosis. My main interest is in cerebrovascular diseases, I am coordinating a teaching course for cervical and cerebral ultrasonography and I followed the European Master in Stroke Medicine Programme in Austria.

My involvement in MS field started in year 2000, when the first patients in Romania were treated with DMTs due to a constant effort (read fight) of three people: Prof. Ioan Pascu, Prof. Alexandru Serbanescu and Prof. Ovidiu Bajenaru. Since then, I have followed-up hundreds of patients with MS, and I am now the coordinator of the University Hospital Bucharest Center for the National Programme for treating the Patients with Multiple Sclerosis. I have participated, together with my colleagues in the majority of the main International Clinical Trials in MS in the last decade and we had also several original scientific work related to clinical aspects of MS patients. I am one of the two representatives of the Romanian Society of Neurology in the Board of ECTRIMS.

In the end of my half page, I am looking forward to future goals: development of basic research in MS in Romania, a National MS Registry, better drugs, a better education for patients and doctors, a better me...

LECTOR

Cristina Tiu /Romania

Tot timpul m-am considerat o persoană optimistă, dar totuşi sunt anumite lucruri pe care le găsesc deprimante, iar unul din acele lucruri este CV-ul. Dintr-o data nu mai este vorba despre tine, ci despre o persoană care a avut un număr de realizări, foarte rar acele lucruri fiind cele interesante despre tine, toată viaţa ta ajungând să fie comprimată într-o jumătate de pagină. Am absolvit Universitatea de Medicină şi Farmacie "Carol Davila" din Bucureşti în 1987 şi am început cariera în Neurologie în 1991, ca medic rezident în cadrul Departamentului de Neurologie al Spitalului Universitar Bucureşti, acelaşi loc în care acum sunt profesor asociat şi Şef compartiment Stroke. Am două domenii preferate: patologia vasculară şi scleroza multiplă. Principalul meu interes se îndreaptă spre bolile cerebrovasculare, coordonez un curs de ultrasonografie cervico-cerebrală şi am urmat cursurile European Master in Stroke Medicine Programme în Austria. Implicarea mea în domeniul sclerozei multiple a început în anul 2000, cand au fost trataţi primii pacienţi din România cu DMT datorită efortului constant (a se citi luptă) a trei persoane: Prof. Ioan Pascu, Prof. Alexandru Şerbănescu şi Prof. Ovidiu Băjenaru. Din acel moment, am urmărit sute de pacienţi cu scleroză multiplă, iar acum sunt coordonatorul Programului Naţional pentru tratarea pacienţilor cu Scleroză Multiplă al Spitalului Universitar Bucureşti. Am participat, alături de colegi, la majoritatea studiilor clinice internaţionale ce priveau scleroza multiplă din ultimul deceniu şi ne-am adus, de asemenea, contribuţia la studiul pacienţilor cu scleroză multiplă. Sunt unul din cei doi reprezentanţi ai Societăţii Române de Neurologie în consiliul ECTRIMS. În sfârşitul jumătăţii mele de pagină, privesc spre obiectivele mele de viitor: dezvoltarea unei cercetări de bază a sclerozei multiple în România, un Registru Naţional al Sclerozei Multiple, medicamente mai bune, o educaţie mai bună pentru pacienţi şi doctori, un mai bun eu...

SCIENTIFIC **PROGRAM/**
PROGRAM **ȘTIINȚIFIC**

SCIENTIFIC **PROGRAM**

THURSDAY, 25TH SEPTEMBER, 2014

9:00–9:45	BASIC ULTRASOUND PRINCIPLES /Milija Mijajlovic (Serbia)
9:45–10:30	CAROTID STENOSIS AND PLAQUES /Natan Bornstein (Israel)
10:30–11:15	VERTEBRAL ARTERIES – EXTRA – AND INTRACRANIAL INVESTIGATIONS /Cristina Tiu (Romania)
11:15–11:45	COFFEE BREAK
11:45–12:30	INTRODUCTION AND CLINICAL APPLICATIONS FOR TCCD /Milija Mijajlovic (Serbia)
12:30–13:15	TCD IN ACUTE ISCHEMIC STROKE AND SAH /László Csiba (Hungary)
13:30–14:30	LUNCH
14:30–16:30	HANDS ON (PART I) /László Németh (Hungary), Cristina Tiu (Romania), Milija Mijajlovic (Serbia)
16:30–17:00	COFFEE BREAK
17:00–19:00	HANDS ON (PART II) /László Németh (Hungary), Cristina Tiu (Romania), Milija Mijajlovic (Serbia)

PROGRAM **ȘTIINȚIFIC**

JOI, 25 SEPTEMBRIE, 2014

9:00–9:45	PRICIPII DE BAZĂ ÎN ULTRASONOGRAFIE /Milija Mijajlovic (Serbia)
9:45–10:30	PLĂCILE DE ATEROM ȘI STENOZELE CAROTIDIENE /Natan Bornstein (Israel)
10:30–11:15	ARTERELE VERTEBRALE – INVESTIGAȚII EXTRA ȘI INTRACRANIENE /Cristina Tiu (Romania)
11:15–11:45	PAUZĂ DE CAFEA
11:45–12:30	INTRODUCERE ȘI APLICAȚII CLINICE PENTRU TCCD /Milija Mijajlovic (Serbia)
12:30–13:15	TCD IN ACUTE ISCHEMIC STROKE AND SAH /László Csiba (Hungary)
13:30–14:30	PAUZĂ DE PRÂNZ
14:30–16:30	HANDS ON (PART I) /László Németh (Hungary), Cristina Tiu (Romania), Milija Mijajlovic (Serbia)
16:30–17:00	PAUZĂ DE CAFEA
17:00–19:00	HANDS ON (PART II) /László Németh (Hungary), Cristina Tiu (Romania), Milija Mijajlovic (Serbia)

SCIENTIFIC **PROGRAM**

FRIDAY 26TH SEPTEMBER, 2014

9:00–9:45	VASOMOTOR REACTIVITY /Natan Bornstein (Israel)
9:45–10:30	PFO /Natan Bornstein (Israel)
10:30–11:15	MICROEMBOLI DETECTION (MES) /László Csiba (Hungary)
11:15–11:45	COFFEE BREAK
11:45–12:30	RISK ESTIMATION WITH ULTRASOUND (IMT) /Natan Bornstein (Israel)
12:30–13:15	MONITORING WITH ULTRASOUND /László Csiba (Hungary)
13:30–14:30	LUNCH
14:30–17:00	INTERACTIVE CASE PRESENTATIONS/HANDS ON
17:00–17:30	FINAL EXAMINATION

PROGRAM **ȘTIINȚIFIC**

VINERI 26 SEPTEMBRIE, 2014

9:00–9:45	REACTIVITATEA VASOMOTORIE /Natan Bornstein (Israel)
9:45–10:30	PFO /Natan Bornstein (Israel)
10:30–11:15	DETECȚIA MICROEMBOLIILOR (MES) /László Csiba (Hungary)
11:15–11:45	PAUZĂ DE CAFEA
11:45–12:30	ESTIMAREA RISCULUI VASCULAR (IMT) /Natan Bornstein (Israel)
12:30–13:15	MONITORIZAREA CU AJUTORUL ULTRASONOGRAFIEI /László Csiba (Hungary)
13:30–14:30	PAUZĂ DE PRÂNZ
14:30–17:00	PREZENTARE DE CAZ INTERACTIVĂ/HANDS ON
17:00–17:30	EXAMEN FINAL

ABSTRACTS/**REZUMAT**

FIRST NEUROSONOLOGY **TEACHING COURSE**

CAROTID STENOSIS AND PLAQUES

NATAN BORNSTEIN /ISRAEL

The cervical vessels ultrasound imaging is the most used method for atherosclerosis plaques and stenosis diagnosis. This method allows on one hand the evaluation of the arterial wall (structure, elasticity), atherosclerosis plaques (size, location, structure, degree of lumen narrowing), and on the other hand the assessment of cerebral blood flow. The assessment of vascular pathology of carotid arterial system is possible using the combination between velocimetry measurements, the spectral analysis and the B mode.

During the seminary the participants will learn to follow an examination protocol and use direct and indirect diagnostic criteria to quantify the degree of arterial stenosis.

VASOMOTOR REACTIVITY

Cerebral vasomotor reactivity : definition, principles of testing of the VMR and clinical importance in specific hemodynamic conditions of cerebral circulation will be presented in the light of the most recent studies. In asymptomatic carotid stenosis, a compromised VMR will detect patients at risk of recurrent stroke. VMR is also usefull in assessing importance of collateral circulation in cerebral vessels.

PFO

Persistent foramen ovale (PFO) – incidence, importance in stroke etiopathogenesis, assessing the risk of recurrent stroke, and controversies regarding treatment of PFO will be discussed. PFO is present in 26% of adult population, and association with interatrial septum anevrysma increases the risk of stroke. Combination of trans-eoesofagial ecocardiography and TCD is better in identifying PFO with cerebral microemboli. Scores for evaluation of stroke risk in patients with PFO have been validated and will be discussed.

RISK ESTIMATION WITH ULTRASOUND (IMT)

Risk estimation with ultrasound will discuss the importance of evaluating the IMT (intima-media thickness), risk-marker for cerebrovascular and cardiovascular diseases. IMT is a method of detecting atherosclerotic disease, it predicts the risk of apparition of carotid and coronarian plaques. IMT is correlated wih other cardiovascular risk factors. Progression or regression of IMT value is important for risk assessment in patients.

PRIMUL CURS DE **NEUROSONOLOGIE**

PLĂCILE DE ATEROM ȘI STENOZELE CAROTIDIENE

Explorarea ultrasonografică a vaselor cervicale este cea mai frecventă metodă utilizată în diagnosticul plăcilor de aterom şi al stenozelor. Ea permite evaluarea peretelui arterial (structură, elasticitate), a plăcilor de aterom (dimensiune, localizare, structură, gradul de îngustare al lumenului) şi pe de altă parte aprecierea fluxului sangvin cerebral. Aprecierea patologiei vasculare a sistemul carotidian este posibilă folosind combinaţia măsurătorilor velocimetrice, a analizei spectrale şi a modului B.

Pe parcursul seminarului, cursanţii vor învăţa să urmeze un protocol de examinare şi să utilizeze criteriile de diagnostic directe şi indirecte de determinare a gradului unei stenoze arteriale.

NATAN BORNSTEIN /ISRAEL

REACTIVITATEA VASOMOTORIE

Reactivitatea vasomotorie cerebrală (RVMC): vor fi discutate definirea noţiunii, metodele de testare a reactivităţii vasomotorii cerebrale şi importanţa clinică a evaluării RVMC în situaţii specifice. În stenoza carotidiană asimptomatică, o RVMC compromisă poate face diferenţa între un pacient cu risc de accident vascular cerebral şi unul fără risc. Evaluarea RVMC este utilă şi în aprecierea calităţii circulaţiei colaterale în anumite teritorii cerebrale.

FOP

Foramenul ovale persistent (FOP) –Vor fi abordate teme precum: Importanţa în etiopatogeneza AVC, măsurarea riscului repetării unui AVC şi controversele privind tratarea FOP. FOP este prezent la 26% din populaţia adultă şi împreună cu anevrismul de sept interatrial creşte riscul de AVC. Evaluarea prezentei FOP si rasunetul cerebral al acestuia necesita efectuarea atat a ecografiei transesofagiene, cat si a TCD. S-au elaborat scoruri pentru evaluarea riscului de AVC la pacienţii purtători de FOP.

ESTIMAREA RISCULUI VASCULAR (IMT)

Estimarea riscului vascular cu ajutorul ultrasonografiei va cuprinde importanţa măsurării indicelui intima-medie (IMT), considerat marker al riscului cerebrovascular şi cardiovascular al unui pacient. IMT este o metoda de detecţie a bolii aterosclerotice, şi un factor de predicţie al apariţiei plăcilor carotide şi coronariene. IMT se coreleaza şi cu alţi factori de risc vascular. Progresia sau regresia IMT rămâne un predictor important al riscului vascular al unui pacient.

FIRST NEUROSONOLOGY **TEACHING COURSE**

TCD IN ACUTE ISCHEMIC STROKE AND SAH

Assessment of cerebral hemodynamics with transcranial Doppler (TCD) can provide real-time, bed-side assessment of important prognostic variables in acute stroke such as the status of collateral flow and vessel recanalization status. One objective of this course is to provide an overview of confirmed evidence and perspectives on sonothrombolysis for treatment of acute ischemic stroke. It will also be discussed TCD as an important tool for vasospasm evaluation in subarachnoid hemorrhage.

LÁSZLÓ CSIBA
/HUNGARY

MICROEMBOLI DETECTION (MES)

Detection of the microemboli (METS) in cerebral circulation: technique of detection and main sources of microemboli (such as unstable carotid plaques, atrial fibrillation, aortic arch stenosis, carotid artery dissection, intracranial stenosis, invasive vascular and cardiac procedures) will be presented with video examples.

MONITORING WITH ULTRASOUND

Monitoring with ultrasound: videos with specific clinical situations will be presented

PRIMUL CURS DE **NEUROSONOLOGIE**

TCD IN ACUTE ISCHEMIC STROKE AND SAH

Evaluarea hemodinamicii cerebrale utilizând examinarea Doppler transcraniană (TCD) poate oferi informații prognostice importante în accidentul vascular cerebral (AVC) ischemic acut. Circulația colaterală și statusul recanalizării vasculare, ca factori de prognostic în AVC ischemic acut, pot fi evidențiati în timp real, la patul bolnavului utilizând TCD. Unul dintre obiectivele acestui curs este acela de a oferi o imagine de ansamblu cu privire la evidențele confirmate și perspectivele sonotrombolizei în tratamentul AVC ischemic acut. Se va discuta, de asemenea, utilizarea TCD ca instrument important în evaluarea vasospasmului din hemoragia subarahnoidiană.

LÁSZLÓ CSIBA
/HUNGARY

DETECȚIA MICROEMBOLIILOR (MES)

Detecţia microemboliilor (ME) în circulaţia cerebrală: vor fi prezentate tehnica folosită, aspectul ME şi principalele surse de microembolii cerebrale (plăcile aterosclerotice instabile, fibrilaţia atrială, stenoza arcului aortic, disecţia carotidiană, stenozele intracraniene, procedurile invazive vasculare sau cardiace).

MONITORIZAREA CU AJUTORUL ULTRASONOGRAFIEI

Monitorizarea cu ajutorul ultrasonografiei va cuprinde prezentări de cazuri clinice specifice.

FIRST NEUROSONOLOGY **TEACHING COURSE**

BASIC ULTRASOUND PRINCIPLES

MILIJA MIJAJLOVIC /SERBIA

Neurosonology involves exploration of cervical cerebral circulation using ultrasound. It is is highly suited for the assessment of the carotid and vertebral arterial system on account of its widespread availability and its unique capacity to study real-time hemodynamics.

In the first part of the course the basic concepts of ultrasound doppler will be presented, regarding the physical parameters (wavelength, frequency, power, reflection, refraction, depth of penetration, Doppler principle) and hemodynamic parameters used for learning about the blood flow (speed, type of flow, resistance to flow). Also will be discussed technical issues- examining methods, artifacts examination and notions of anatomy, morphology and ultrasound aspect of vascular wall.

INTRODUCTION AND CLINICAL APPLICATIONS FOR TCCD

Transcranial color-coded duplex ultrasonography (TCCD) combines real-time ultrasound imaging with color coded Doppler signal to display the arterial anatomy and show the flow direction, in this way becoming more accurate than transcranial Doppler (TCD) for the examination of cerebral circulation. It will be disscused the application of TCCD in evaluation of occlusive cerebral arterial disease, trombosis in venous system, cerebral aneurysms, arterio-venous malformations, hydrocephalus.

PRIMUL CURS DE **NEUROSONOLOGIE**

PRICIPII DE BAZĂ ÎN ULTRASONOGRAFIE

Neurosonologia reprezintă explorarea vasculară ultrasonografică a circulației cervico-cerebrale. Ea este foarte utilă în evaluarea sistemului arterial carotidian și vertebral datorită disponibilității sale pe scară largă și a capacității sale de a monitoriza modificările hemodinamice în timp real.

În prima parte a cursului vor fi prezentate noțiuni fundamentale de ultrasonografie doopler, cu privire la parametrii fizici (lungimea de undă, frecvența, puterea, reflexia, refracția, adâncimea de penetrare, principiul Doppler) și hemodinamici cu ajutorul cărora se pot afla informații despre fluxul sangvin (viteză, tip de curgere, rezistența la flux). De asemenea vor fi discutate și problemele care apar în metodele tehnice de examinare, artefacte de examinare și noțiuni de anatomie, morfologie și aspecte ultrasonografice ale peretelui vascular.

MILIJA MIJAJLOVIC /SERBIA

INTRODUCERE ȘI APLICAȚII CLINICE PENTRU TCCD

Examinarea duplex color codată transcraniană (TCCD) combină ecografia în timp real cu semnalul Doppler codat color pentru a evidenția morfologia arterială și pentru a arăta direcția fluxului sanguin, în acest fel fiind mai precisă decât examinarea Doppler transcraniană în explorarea circulației cerebrale. Se va discuta despre aplicarea TCCD în evaluarea ocluziilor arteriale cerebrale, trombozei la nivelul sistemului venos, anevrismelor cerebrale, malformațiilor arterio-venoase, hidrocefaliei.

FIRST NEUROSONOLOGY **TEACHING COURSE**

VERTEBRAL ARTERIES-EXTRA- AND INTRACRANIAL INVESTIGATIONS

In addition to examining the cervico-cerebral system, the neurosonology brings important information regarding subclavio-vertebral axis.

This presentation will show the technical aspects of ultrasound scanning of posterior cerebral circulation and pathologic findings of vertebral artery (VA) and subclavian artery (SA): vertebral artery (VA) stenosis (including both direct and indirect signs), proximal and distal VA occlusion, gauge variations and hypoplasia of VA, VA dissection and aneurysm and SA stenosis with specific clinical presentation.

Will also be presented the specific ultrasound findings of subclavian steal syndrome and thoracic outlet syndrome.

CRISTINA TIU
/ROMANIA

PRIMUL CURS DE **NEUROSONOLOGIE**

ARTERELE VERTEBRALE – INVESTIGAȚII EXTRA ȘI INTRACRANIENE

În afară de examinarea arterelor cervico-cerebrale, neurosonologia aduce informaţii importante privind axul subclavio-vertebral.

În această prezentare vor fi expuse tehnicile ultrasonografice de explorare a circulaţiei cerebrale posterioare şi aspectele patologice de la acest nivel, cum ar fi stenoza de arteră vertebrală (AV) (semne directe şi indirecte), ocluzia proximală şi distală a AV, hiploplazia şi alte modificări de calibru al AV, disecţia, anevrismul AV şi stenoza de arteră subclavie cu manifestările clinice specifice.

De asemenea, vor fi prezentate modificarile sonografice care pot să apară în sindromul de furt subclavicular şi sindromul de apertură toracică.

CRISTINA TIU
/ROMANIA

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