International School of Neurology

8th International Summer School of Neurology

30 June - 4 July, 2013 | Eforie Nord | Romania

8th INTERNATIONAL SUMMER SCHOOL of NEUROLOGY

July 1-4 | 2013 | Hotel Europa
Eforie Nord | Romania

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International School of Neurology

The Society for the Study of Neuroprotection and Neuroplasticity
www.ssnn.ro

Romanian Academy of Medical Sciences
www.adsm.ro

Tel Aviv University
www.tau.ac.il

"Iuliu Haţieganu" University of Medicine and Pharmacy Cluj-Napoca, Romania
www.umfcluj.ro

Uppsala University
www.uu.se

Romanian Society of Neurology
www.neurology.ro

NeuroDiab
Societatea de Neuropatie Diabetica

Donau-Universität Krems
www.donau-uni.ac.at

EFNRS
European Federation Neurorehabilitation Societies

European Federation of Neurilogical Societies
www.efns.org

WFNR
World Federation for NeuroRehabilitation

World Federation for NeuroRehabilitation
www.wfnr.co.uk

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/in alphabetical order

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Natan Bornstein/Israel
Michael Brainin/Austria
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Registration Desk

All materials and documentation will be available at the registration desk located at SSNN booth.
The staff will be pleased to help you with all enquiries regarding registration, materials and program. Please do not hesitate to contact the staff members if there is something they can do to make your stay more enjoyable.

LANGUAGE

The official language is English. Simultaneous translation will not be provided.

CHANGES IN PROGRAM

The organizers cannot assume liability for any changes in the program due to external or unforeseen circumstances.

NAME BADGES

Participants are kindly requested to wear their name badge at all times. The badge enables admission to the scientific sessions and gala dinners.

FINAL PROGRAM & ABSTRACT BOOK

The participants documents include the program and abstract book which will be handed out together with the congress bag at the registration counter.

COFFEE BREAKS

Coffee, tea and mineral water are served morning and afternoon coffee breaks free of charge to all registered participants.

MOBILE PHONES

Participants are kindly requested to keep their mobile phones turned off while attending the scientific sessions in the meeting rooms.

CURRENCY

The official Romanian currency is RON.

ELECTRICITY

Electrical power is 220 volts, 50Hz. Two-prong plugs are standard.

TIME

The time in Romania is Eastern European Time (GMT+2).

CONTACT:

If you need further information on technical details, please contact:
Ovidiu Selejan/e-mail/ovidius@ssnn.ro
For updates and details please visit our website www.ssnn.ro

SCIENTIFIC PROGRAM

8th INTERNATIONAL SUMMER SCHOOL of NEUROLOGY

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Sunday, June 30th, 2013

Advances in brain protection and recovery
Module coordinators: Rudy J. Castellani (USA) ; Hari Shanker Sharma (Sweden)

17:00 – 17:30	Hari Shanker Sharma (Sweden)	Neurotrophic factors, a novel for the treatment of Alzheimer's disease. An Experimental Study using nanowired delivery
17:30 - 18:00	Raul Arizaga (Argentina)	Alzheimer's disease. Impact, pathogenesis, treatment, prevention
18:00 - 18:30	Rudy J. Castellani (USA)	Chronic Traumatic Encephalopathy: A case series with review of current understanding
18:30 – 19:00	Pieter E. Vos (The Netherlands)	Treatment of severe Traumatic Brain Injury. The role of the neurologist in TBI management
19:00 – 19:30	Stephen Skaper (Italy)	Ion channels on microglia as potential therapeutic targets for neuroprotection
20:00	Dinner	

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Monday, July 1st, 2013

08:45 – 09:00	Welcome Address:	Dafin F. Mureşanu (Romania), Ovidiu Băjenaru (Romania), Hari Shanker Sharma (Sweden)

Neurodegenerative disorders; Neurorehabilitation
Module coordinators: Amos Korczyn (Israel); Volker Hömberg (Germany)

09:00 – 09:30	Amos Korczyn (Israel)	What are the pitfalls in diagnosing Parkinson's disease?
09:30 – 10:00	Amos Korczyn (Israel)	The role of Apomorphine in the treatment of Parkinson's disease
10:00 - 10:30	Dafin F. Mureşanu (Romania)	Pathological plasticity in Parkinson's disease
10:30 – 11:00	Coffee Break	
11:00 – 11:30	Ovidiu Băjenaru (Romania)	Treatment of Parkinson's disease
11:30 – 12:00	Anton Alvarez (Spain)	Neurorestoration and clinical recovery: role of neurotrophic factors
12:00 – 12:30	Coffee Break	
12:30 – 13:00	Volker Hömberg (Germany)	The comprehensive approach of rehabilitation medicine, ethical and legal aspects
13:00 – 13:30	Volker Hömberg (Germany)	The bio-psycho-social paradigm of disease understanding and ICF
13:30 – 14:00	Heinrich Binder (Austria)	Neurological diagnostic tools (neurophysiological, neurosonological imaging) for prognosis and goal definition in neurorehabilitation
14:00	Lunch	
18:00 - 20:00	Case presentations | Neurorehabilitation	
20:00	Dinner	

Tuesday, July 2nd, 2013

Stroke
Module coordinators: Natan Bornstein (Israel); Dafin F. Mureşanu (Romania)

09:00 – 09:45	Natan Bornstein (Israel)	The heart's effect on the brain. Atrial fibrillation and stroke prevention-update
09:45 – 10:30	Natan Bornstein (Israel)	Secondary stroke prevention
10:30 – 11:00	Coffee Break	
11:00 – 11:45	Natan Bornstein (Israel)	Management of symptomatic carotid stenosis - CEA vs. Stent
11:45 – 12:30	Dafin F. Mureşanu (Romania)	Advances in brain protection and recovery, in acute and long term stroke treatment
12:30 – 13:15	Laszlo Csiba (Hungary)	The revised and new recommendations of 2013 American Stroke Guideline
13:30	Lunch	
18:00 – 20:00	Case presentations | Stroke	
20:00	Dinner	

Wednesday, July 3rd, 2013

Stroke; Peripheral neuropathy
Module coordinators: Michael Brainin (Austria), Ovidiu Băjenaru (Romania)

09:00 – 09:30	Michael Brainin (Austria)	How to organize stroke care?
09:30 – 10:00	Michael Brainin (Austria)	Critical appraisal of stroke studies
10:00 – 10:30	Ovidiu Băjenaru (Romania)	Clinical neurological diagnosis in the emergency department
10:30 – 11:00	Coffee Break	
11:00 – 11:30	Amorin Popa (Romania)	Clinical role of advanced glycation end products in diabetes neurological complications
11:30 – 12:00	Dafin F. Mureşanu (Romania)	Neuropathic pain and CNS plasticity
12:00 – 12:30	Dimitar Maslarov (Bulgaria)	Clinical experience on pain treatment in elderly - modulating effect of Benfotiamine on analgesic activity of NSAIDs
12:30 – 13:00	Coffee Break	
13:00 – 13:30	Ovidiu Băjenaru (Romania)	Symptomatic treatment in diabetic neuropathies
13:30 – 14:00	Bogdan Popescu (Romania)	Diabetic neuropathy – what treatment is available?
14:00	Lunch	
18:00 – 19:00	Johannes Vester (Germany)	Meta-Analyses: Basic concept, how to read forest-plots, common traps
19:00 – 20:00	Johannes Vester (Germany)	Evidence-based medicine: Basic concept, key points of the GRADE system
20:00	Dinner	

Thursday, July 4th, 2013

Multiple Sclerosis
Module coordinators: Laszlo Csiba (Hungary), Raul Arizaga (Argentina)

09:00 – 09:30	Ovidiu Băjenaru (Romania)	Current Treatments and New Perspectives for MS
09:30 – 10:00	Dafin F. Mureşanu (Romania)	Multiple Sclerosis – Understanding risks of untreated and defining poor prognosis & treatment failure
10:00 – 10:30	Mihaela Simu (Romania)	Tailoring MS treatment based on individual patient needs
10:30 – 11:00	Coffee Break	
11:00 – 11:30	Cristina Panea (Romania)	Cognition, Fatigue & MS: Their Significance & Use as Broader Clinical Indicators of Treatment Success
11:30 – 12:00	Cristina Tiu (Romania)	Management of Symptoms in MS
12:00 – 13:00	Lunch	
13:00 – 14:00	Final Examination	

14:00 - 14:30	Special lecture Meeting the Challenges in an Era of Globalization Sh. Amolak Rattan Kohli, Hon'ble Ex. Governor, Mizoram, India
14:30	Official closing

20:00	Gala Dinner

ABSTRACTS

NEURORESTORATION AND CLINICAL RECOVERY: ROLE OF NEUROTROPHIC FACTORS

ANTON ALVAREZ

Medinova Institute of Neurosciences, A Coruña, Spain

Neurotrophic factors are essential for the endogenous processes of neuroplasticity and brain repair in both pathological and physiological conditions. Acting on their receptors, neurotrophins and other trophic factors activate intracellular signaling pathways involved in regulating neural mechanisms of apoptosis and cell survival, angiogenesis, neurogenesis and neuroplasticity (cytoskeleton restructuring, dendritic sprouting and remodeling, and synaptogenesis). There is also scientific evidence that neurotrophic factors contribute to reduce Aβ production and tau hyperphosphorylation, to modulate neuroinflammation, to enhance brain metabolism, and to improve cognitive deficits. Thus, neurotrophic factors are pleiotropic peptides showing a profile of multimodal activity suitable for the therapeutic stimulation of brain repair and neurorecovery in disorders like Alzheimer's disease (AD), stroke and traumatic brain injury (TBI). However, its therapeutic use has several important limitations such as their rapid enzymatic inactivation and low uptake through the blood-brain barrier (BBB). Trying to overcome these limitations, several naturally cleaved peptides (BDNF and IGF-I derived peptides), synthetic analogues and mimetic peptides are being investigated as promising alternatives for the treatment of patients with AD, stroke or TBI.

Cerebrolysin is a peptidergic drug with neuroprotective and neurorestorative properties, consisting of low molecular weight peptides able to cross the BBB and mimic the action of endogenous neurotrophic factors. Cerebrolysin acts as a multimodal drug exerting, probably through synergistic actions of its peptides, pleiotropic positive effects on Aβ and tau pathologies, neuroinflammation, neurotrophic factors, oxidative stress, excitotoxicity, neurotransmission, brain metabolism, neuronal apoptosis and degeneration, neuroplasticity, neurogenesis, and cognition as shown in experimental and human studies. The pleiotropic effects are consistent with a puta-tive neurotrophic-like mode of action of the drug exerted through, at least, activation of the PI3K/Akt/GSK-3β intracellular signaling pathway. In clinical studies the neurotrophic factors exerted positive effects in TBI, stroke, vascular dementia (VaD) and AD patients. These studies demonstrated the safety and the efficacy of neurotrophic factors monotherapy in AD and VaD, and support its suitability for combined AD treatment. Results of a recent trial indicate that the combined therapy with neurotrophic factors and cholinergic drugs might provide long-term clinical benefits for AD patients. The synergistic effect of this combination treatment on AD clinical outcome is consistent with its influence on the circulating levels of trophic factors (brain-derived neurotrophic factor –BDNF- and vascular endothelial growth factor –VEGF-). These findings provide new insights on the relevance of neurotrophic factors in neurorestoration and clinical recovery.

ALZHEIMER'S DISEASE. IMPACT, PATHOGENESIS, TREATMENT, PREVENTION

The presentation aims first to discuss some of the reasons that have made Alzheimer's disease a public health problem of such enormous magnitude. An update will be presented of the pathogenesis in light of the advances in basic and clinical research that have been made, particularly with regard to biomarkers (in neuroimages, CSF and cognitive assessment). The risk and protective factors that define the heterogeneity of the disease, together with the effect of brain reserve, will also be considered. A look at available treatments, future therapeutic alternatives and, finally, prevention and non-pharmacological management alternatives will be analyzed.

RAUL ARIZAGA

Cognitive Neurology Unit, Neuraxis Institute, Neurological Foundation,

Buenos Aires, Argentina

CURRENT TREATMENTS AND NEW PERSPECTIVES FOR MS THERAPY

OVIDIU BĂJENARU

University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania

Director of the Department of Neurology, Neurosurgery and Psychiatry Chairman and Head of Dept. Neurology - University Emergency Hospital, Bucharest, Romania

Care of the patient with multiple sclerosis (MS) is becoming increasingly complex, with new therapies, enhanced use of disease-modifying therapies that are potentially both more efficacious and more risky than currentimmunomodulators, the advent of oral disease-modifying therapies (teriflunomide, laquinimod, dimethyl fumarate) and the possibility of regenerative or reparative therapies (e.g anti-LINGO therapies).

The inflammation and oxidative stress are central to the pathophysiology of multiple sclerosis and they are associated with significant damage to the blood brain barrier myelin and axon damage, resulting in clinical symptoms. Beyond inflammation, the studies suggest that oxidative stress is linked to neurodegeneration. It is reasonable to pursue oxidative stress as a therapeutic target in MS by enhancing intrinsic antioxidant pathways.

Treatments that demonstrate both clinical and MRI efficacy in the course of the disease are likely to slow disability progression.

In an integrated analysis of pooled data from DEFINE and CONFIRM, dimethyl fumaratevs placebo statistically significantly reduced annualized relapse rate over 2 years and number of new/enlarging T2 lesions and confirmed also slowing disability progression.

CLINICAL NEUROLOGICAL DIAGNOSIS IN THE EMERGENCY DEPARTMENT

An key feature in the activity of a neurologist is the ability to make a quick positive and differential diagnosis for neurological emergencies, which represent in most situations severe conditions menacing the patient's life or with an increased potential to generate long-term physical and/ or mental disabilities. The difficulty of such an approach is increased by the fact that the initial symptoms in neurological emergencies are very different and very often not specific and quite confusing. This presentation will focus in a practical manner on the approach of a patient in the emergency room, according to the Initial clinical manifestations of neurological emergencies: disorders of consciousness, motor weakness (diffuse, focal), other focal neurological deficits, gait and equilibrium disorders, seizures and other paroxistic manifestations, acute vertigo, cephalalgia, visual disturbances, excessive day sleepiness, involuntary movements (tremor, chorea, athetosis, myoclonus, dystonia).

TREATMENT OF PARKINSON's DISEASE

One of the most challenging aspects in the treatment of patients with Parkinson's disease is theirmanagement in advanced clinical stages when the motor and non-motor symptoms of the disease interfere with the complications and adverse effects of the dopaminergic drugs. The last line of therapeutical interventions in such cases consists mainly in choosing among three types of interventional therapies, respectively deep brain stimulation, apomorphine infusion. The advantages and disadvanteges of each of these methods have to be very well known and understood as they represent the rationale for an adequate choice according to the patient's clinical particularities. The clinical results of the international trials and national Romanian experience presented emphasizing the motor and non-motor long-term clinical improvement and the sustained improvement of quality of life in these patients; in the same time the these optimal results are conditioned by a rigurous selection of the patients based on their clinical, psychological and social features and by a specific and good professional collaboration among the partners of the complex medical team (neurologist, gastro-enterologist, surgeon, radiologist, GPs, nurses) trained to use this type of treatment both in the hospital and during the out-hospital follow-up and management.

SYMPTOMATIC TREATMENT IN DIABETIC NEUROPATHIES

Diabetes mellitus is the most frequent cause of peripheral neuropathy in the developed countries. It represents a heterogenous clinical and pathophysiological condition, and certain forms are not always related to the diabetes itself, but are more frequent in patients with diabetes mellitus. The classification of diabetic neuropathies is not an easy task and today there are more such classifications related to the criteria used. The most useful and practical is that one which combines the clinical and pathogenetic criteria, due to the fact that this also allows a rationale therapeutical approach which combines the pathogenetic with the symptomatic treatment. The pathogenetic treatment is targeted to the correction of the metabolic and vascular disturbances generated by the disease itself, while the symptomatic treatment adresses to the clinical manifestations, including the neuropathic pain and dysautonomic manifestations. These options are sistematically reviewed in this presentation.

NEUROLOGICAL DIAGNOSTIC TOOLS (NEUROPHYSIOLOGICAL, NEUROSONOLOGICAL IMAGING) FOR PROGNOSIS AND GOAL DEFINITION IN NEUROREHABILITATION

HEINRICH BINDER

Landsteiner Institute for Neurorehabilitation and Space Medicine
Vienna, Austria

Prognosis and goal setting are two sides of the same coin. One represents the passive, the other active view. To venture a prognosis in the acute stage of a neurological disease like stroke or brain trauma is similarly a forecast in april. Statistics doesnt help in a given case. So we firstly depend on personal clinical competency and experience. It matters undoubtedly but errors cannot be ruled out. Therefore great efforts were made to enable to make statements as accurate as possible. Naturally we try to avail ourself the most objective methods. But whatever we try - neuroimaging, neurophysiologic or laboratory exmaninations - it was possible to improve the predictions indeed but a sound portion of uncertainty is still remaining. This applies above all for the acute stage. But as time goes by collecting repeately ascertained data the probability value comes increasingly true. Goal setting is based on monitoring over time the course of clinical development as well as the data colection. Consecutive rehabilitative measurements have to be adjusted accordingly.

THE HEART'S EFFECT ON THE BRAIN
ATRIAL FIBRILLATION AND STROKE PREVENTION-UPDATE

NATAN BORNSTEIN

Tel-Aviv University
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Head of
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Approximately 20%-25% of all ischemic strokes are cardioembolic stroke.

Atrial fibrillation (AF) is the most frequently found arrhythmia with a prevalence of 0.4 – 0.7% in the general population. The prevalence of AF rises to approximately 6% in population older than 65 years, and up to 10% in people older than 75 years.
AF related stroke comprises approximately 45% of all cardioembolic strokes.

AF is a well-established independent risk factor for stroke, leading to 5.6-fold increase of risk. Risk for recurrent stroke in AF patients without antithrombotic treatment is 12% per year. An ischemic stroke will occur during lifetime of about 35% non-anticoagulated AF patients.

According to Class I evidence, adjusted-dose warfarin reduces risk of stroke in AF patients by about 70% and aspirin by only 20%. Treatment with warfarin is recommended with target INR of 2.5 (range 2.0-3.0). Newly developed devices to occlude the left atrial appendage are currently being developed and tested in clinical trials.

Three novel anticoagulants (NOACs)-dabigatran etexilate, rivaroxaban, apixaban- have been approved in many countries for stroke prevention in atrail fibrillation, because they are associated with the same or lower rates of stroke, bleeding (particularly intracranially) and death compared with warfarin; and unlike warfarin, they can be given in fixed doses without routine coagulation monitoring. The effects of NOACs compared with warfarin are consistent in almost all populations and patients subgroups studied. The lack of antidote to the NOACs in patients who experience major bleeding has not yet been associated with worse outcome among patients treated with NOACs compared with warfarin in secondary analysis. Multiple guidelines for the management of AF now recommend the NOACs for stroke prevention among atrial fibrillation (AF) patients at risk for stroke.

MANAGEMENT OF SYMPTOMATIC CAROTID STENOSIS CEA VS. STENT

Symptomatic severe carotid stenosis (>70%) carries a high risk of subsequent stroke of about ~ 30% over 2 years.

Carotid endarterectomy (CEA) was proved to reduce the risk of stroke significantly, with Relative Risk Reduction (RRR) = 65% and Number Needed to Treat (NNT) = 6 if performed safely (perioperative

S&D =5.8%) and should be executed within 2 weeks of TIA or minor stroke (NASCET & ECST).

For carotid stenting to replace CEA we need to know the comparative safety, durability and efficacy of the procedure. Only a few randomized, controlled studies comparing CEA and stenting were conducted (CAVATAS, SAPPHIRE, EVA-3 and SPACE) with inconclusive results. There are still several ongoing studies (CREST in the USA and ICSS in Europe and Australia). Until more data will be available carotid stenting should be performed only in a selected group of patients with specific indications like: re-stenosis of the CEA, post neck radiation, inaccessible lesion for CEA and contra-indications for CEA.

SECONDARY STROKE PREVENTION

Patients with TIA or ischemic stroke carry a risk of recurrent stroke between 5 and 20% per year. In patients with TIA or ischemic stroke of noncardiac origin antiplatelet drugs are able to decrease the risk of stroke by 11-15% and the risk of stroke, MI and vascular death by 15-22%. Aspirin is the most widely used drug. It is affordable and effective. Low doses of 50-325 mg aspirin are as effective as high doses and cause less gastrointestinal side effects. Severe bleeding complications are dose-dependent. The combination of aspirin with slow release dipyridamole is superior to aspirin alone for stroke prevention (ESPS-2 and ESPRIT1). Both studies have shown approximately 20%-24% relative risk reduction (RRR) of stroke and death. Clopidgrel is superior to aspirin in patients at high risk of recurrence by about 8.7% RRR (CAPRIE2). The combination of aspirin plus clopidogrel is not more effective than clopidogrel alone but carries a higher bleeding risk (MATCH3 and CHARISMA4). None of the antiplatelet agents is able to significantly reduce mortality. The recent results of the PRoFESS trial 5,6 showed no difference between clopidogrel and aspirin with slow release dipyridamole in secondary stroke prevention.

References

1. Lancet 2006;367:1665-73
2. Lancet 1996;348:1392-1339
3. Lancet 2004;364:331-337
4. N Eng J Med 2006;354(16):1744-6
5. Cerebrovasc Dis 2007;23:368-380
6. N Engl J Med 2008;359:1238-51

CHRONIC TRAUMATIC ENCEPHALOPATHY: A CASE SERIES WITH REVIEW OF CURRENT UNDERSTANDING

RUDY J. CASTELLANI

University of Maryland, Baltimore, Maryland, USA

Chronic traumatic encephalopathy (CTE) is a putative entity associated clinically with various types of head trauma, most notably trauma occurring with participation in sports such as boxing and American football, and pathologically with the accumulation of phosphorylated tau in various distributions inconsistent with aging and Alzheimer's disease. Recent studies also suggest a link between blast exposure from armed conflicts, and accumulation of phosphorylated tau. Neuropsychiatric associations of CTE include irritability, impulsivity, aggression, depression, short term memory loss, and heightened suicidality. Since there are many unknowns about this entity including the kinetics of progression of pathology and mechanism of injury, we examined the brains of 21 consecutive subjects with unambiguous history of head trauma. Namely, each subject had anatomic evidence of remote cerebral contusion. 10 of the 21 cases showed focal AT8 positive lesions more typical for head trauma (focal astrocytic tau in depth of sulci, focal subpial and perivascular tau) than for age related tau. In one of the 21 cases, remote contusion per se had abundant associated AT8 neuropil threads. In the remaining cases, the contusions were free of AT8 lesions. In another case, a 58 year old woman with history of closed head injury, AT8 pathology was indistinguishable from advanced Alzheimer's disease. These findings raise the issue of mechanism of "tauopathy" in chronic traumatic encephalopathy, and suggest that a single traumatic event may produce tau lesions as described in CTE. The findings overall indicate that more prospective, controlled studies are necessary before concluding relationships between CTE, concussion, "subconcussive events," rate of progression, presence or absence of progression, and functional neuropsychiatric symptoms. Nevertheless, given the large numbers of individuals both in civilian and military populations exposed to head trauma, there is now an acute need for both preventative and disease-modifying therapy. One such therapeutic avenue may be the neurotrophic factors. Given its pleiotrophic and most notably neurotrophic effects in general, as well as a number of specific studies demonstrating clinical benefit in neurodegenerative disease, stroke, and neurotrauma, the neurotrophic factors may modulate the deleterious effects of progressive tauopathy in chronic traumatic encephalopathy, and positively impact clinical outcome in traumatic brain injuries. The additional, possible association between chronic traumatic encephalopa-thy and a subset of patients with post-traumatic stress disorder (PTSD), suggest that carefully directed prospective studies looking at neurotrophic factors and long term outcome of trauma, may answer additional important questions.

THE REVISED AND NEW RECOMMENDATIONS OF 2013 AMERICAN STROKE GUIDELINE

LASZLO CSIBA

Department of Neurology, Debrecen University, Hungary

Emergency Evaluation
- only the assessment of blood glucose must precede the initiation of iv-rtPA (Class I; Level of Evidence B). (Revised)
- Baseline ECG recommended but should not delay initiation of intravenous rtPA (Class I; Level of Evidence B). (Revised)

Brain and Vascular Imaging

Either NECT or MRI is recommended before intravenous rtPA administration to exclude ICH (absolute contraindication) and to determine whether CT hypodensity or MRI hyperintensity of ischemia is present (Class I; Level of Evidence A). (revised)

Iv. therapy is recommended in the setting of early ischemic changes (other than frank hypodensity) on CT, regardless of their extent (Class I; Level of Evidence A). (Revised)

A noninvasive intracranial vascular study is strongly recommended
if either intra-arterial fibrinolysis
or mechanical thrombectomy is contemplated but should not delay intrave nous rtPA if indicated (Class I; Level of Evidence A) (Revised)

Early Diagnosis: Brain and Vascular Imaging
imaging study should be interpreted within 45 minutes of patient arrival (Class I; Level of Evidence C). (Revised)
CT perfusion and MRI perfusion and diffusion imaging, beyond the time window for intravenous fibrinolysis. (Class IIb; Level of Evidence B). (Revised)
Frank hypodensity on NECT may increase the risk of hemorrhage with fibrinolysis and should be considered in treatment decisions.
If involves more than one third of the MCA territory, intravenous rtPA treatment should be withheld (Class III; Level of Evidence A). (Revised)

Symptoms that have resolved
- Noninvasive imaging of the cervical vessels should be performed routinely inTIAs (Class I; Level of Evidence A)
- Noninvasive imaging by CTA or MRA of the intracranial vasculature is recommended when knowledge of intracranial stenoocclusive disease will alter management.
- Reliable diagnosis of intracranial stenosis requires catheter angiography to confirm abnormalities detected with noninvasive testing. (Revised)

Recommendations for Patients With TIA
- TIA neuroimaging within 24 hours of symptom onset
- MRI, including DWI, preferred (Class I; Level of Evidence B). (Unchanged)

General Supportive Care and Treatment of Acute Complications
- Cardiac monitoring at least the first 24 hours (Class I; Level of Evidence B). (Revised)
- <185/110 mm Hg (Class I; Level of Evidence B) before lysis
- Be sure that the blood pressure is stabilized at the lower level before beginning treatment
- maintained below 180/105 mm Hg for at least the first 24 hours after intravenous rtPA treatment.(Unchanged)

General Supportive Care and Treatment
- Airway support and ventilatory assistance if
  decreased consciousness (Class I; Level of Evidence C).
- Oxygen >94% (Class I; Level of EvidenceC). (Revised)
- medications should be withheld unless >220 >120 mm Hg (Class I; Level of Evidence C). (Revised)
- markedly elevated blood pressure without fibrinolysis reasonable to lower blood pressure by 15% during the first 24 hours
- Hypovolemia and cardiac arrhythmias should be corrected (Class I; Level of Evidence C)

Supportive Care and Treatment
- Hypoglycemia (blood glucose <3,3mmol/L) should be treated (ClassI; Level of Evidence C),
- goal:normoglycemia (Revised)
- Initiation of antihypertensive therapy within 24 hours safe.
- antihypertensive medications is reasonable after the first 24 hours for patients pre-existing hypertension if neurologically stable (Class IIa; Level of Evidence B). (Revised)
- reasonable to treat hyperglycemia to achieve 7,8 to 10 mmol/l and monitor to prevent
- hypoglycemia in patients with acute ischemic stroke (Class IIa; Level of Evidence C). (Revised)
- Hypoglycemia (blood glucose <3,3mmol/L) should be treated (ClassI; Level of Evidence C),
- goal:normoglycemia (Revised)
- Initiation of antihypertensive therapy within 24 hours safe.
- antihypertensive medications is reasonable after the first 24 hours for patients pre-existing hypertension if neurologically stable (Class IIa; Level of Evidence B). (Revised)

- reasonable to treat hyperglycemia to achieve 7,8 to 10 mmol/l and monitor to prevent hypoglycemia in patients with acute ischemic stroke (Class IIa; Level of Evidence C). (Revised)
- iv- rtPA, benefit of therapy is time dependent
- door-to-needle should be within 60 minutes (Class I; Level of Evidence A). (New)

Intravenous FibrinolysisIntravenous rtPA
- The effectiveness of sonothrombolysis is not well established (Class IIb; Level of Evidence B). (New recommendation)

- The usefulness of tenecteplase, reteplase, desmoteplase, urokinase, or ancrod not well established (Class IIb; Level of Evidence B). (Revised)
- Use of iv fibrinolysis in
  mild stroke deficits,
  rapidly improving stroke symptoms,
  major surgery in the preceding 3 months,
  and recent myocardial infarction may be considered (Class IIb; Level of Evidence C)(New)
- The use of intravenous rtPA in patients taking
  Direct thrombin inhibitors
  or direct factor Xa inhibitors
- may be harmful and is not recommended unless
  aPTT, INR, platelet count, and ECT, TT, or appropriate direct factor Xa activity assays are normal,
- or the patient has not received a dose of these agents for >2 days (assuming normal renal metabolizing function).
- Similar consideration should be given for intra-arterial rtPA (Class III; Level of Evidence

Endovascular Interventions
Patients eligible for intravenous rtPA should receive intravenous rtPA even if intra-arterial treatments are being considered (Class I; Level of Evidence A).
Intra-arterial fibrinolysis is beneficial <6 hours duration caused by occlusions of the MCA who are not otherwise candidates for iv. rtPA (Class I; Level of Evidence B).
The optimal dose of intra-arterial rtPA is not well established (Revised)
If Mechanical thrombectomy is pursued
Solitaire FR and Trevo are preferred to coil retrievers such as Merci (ClassI; Level of Evidence A).
Penumbra System versus stent retrievers is not yet characterized. (New recommendation)
The Merci, Penumbra System, Solitaire FR, and Trevo thrombectomy devices can be useful alone or in combination with pharmacological fibrinolysis in carefully selected patients (Class IIa; Level of Evidence B).
Their ability to improve patient outcomes has not yet been established.
If Mechanical thrombectomy is pursued
Solitaire FR and Trevo are preferred to coil retrievers such as Merci (ClassI; Level of Evidence A).
Penumbra System versus stent retrievers is not yet characterized. (New recommendation)
The Merci, Penumbra System, Solitaire FR, and Trevo thrombectomy devices can be useful alone or in combination with pharmacological fibrinolysis in carefully selected patients (Class IIa; Level of Evidence B).
Their ability to improve patient outcomes has not yet been established.

Anticoagulants
argatroban or other thrombin inhibitors for treatment of patients with acute ischemic stroke is not well established (Class IIb; Level of Evidence B). These agents should be used in the setting of clinical trials. (New recommendation)
The usefulness of urgent anticoagulation in patients with severe stenosis of an internal carotid artery ipsilateral to an ischemic stroke is not well established (Class IIb; Level of Evidence B). (New recommendation)

Antiplatelet Agents
Oral administration of aspirin (initial dose is 325 mg)
within 24 to 48 hours after stroke onset is recommended for treatment of most patients (Class I; Level of Evidence A). (Unchanged)
The usefulness of clopidogrel for the treatment of
acute ischemic stroke is not well established (Class IIb; Level of Evidence C).
Further research testing on of clopidogrel is required. (Revised)
The efficacy of intravenous tirofiban and eptifibatide
is not well established and these agents should be used only in the setting of clinical trials (Class IIb; Level of Evidence C). (New recommendation)
Aspirin is not recommended as a substitute for other acute interventions for treatment of stroke, including intravenous rtPA (Class III; Level of Evidence B). (Unchanged)
agents that inhibit the glycoprotein IIb/IIIa receptor is not recommended (Class III; Level of Evidence B). (Revised)
The administration of aspirin (or other antiplatelet agents) as an adjunctive therapy within 24 hours of intravenous fibrinolysis is not recommended (ClassIII; Level of Evidence C). (Revised)

Others
The administration of high-dose albumin is not well established (Class IIb; Level of Evidence B). (New recommendation)
devices to augment cerebral blood flow for the treatment of patients with acute ischemic stroke is not well established (Class IIb; Level of Evidence B).
drug-induced hypertension in patients with acute ischemic stroke is not well established(Class IIb; Level of Evidence B). (Revised)
Hemodilution by volume expansion is not recommended (Class III; Level of Evidence A). (Revised)
Pentoxifylline is not recommended for treatment of patients with acute ischemic stroke (Class III; Level of Evidence A).

Neuroprotective Agents
continuation of statin therapy during the acute period is reasonable (Class Iia; Level of Evidence B). (New recommendation)
Hypothermia is not well established, (Class IIb; Level of Evidence B). (Revised)
transcranial near-infrared laser therapy is not well established (Class IIb; Level of Evidence B) (New recommendation)
At present, no pharmacological agents with putative neuroprotective actions have demonstrated efficacy (Class III; Level of Evidence A). (Revised)
hyperbaric oxygen are inconclusive, and some data imply that the intervention may be harmful.
Thus, with the exception of stroke secondary to air embolization, this intervention is not recommended (Class III; Level of Evidence B).

Surgical InterventionsCarotid Endarterectomy
urgent CEA not well established (Class IIb; Level of Evidence B). (New recommendation)
In stroke-in-evolution or crescendo TIA emergent CEA is not well established (Class IIb; Level of Evidence B). (New recommendation)

General AcuteTreatment
Assessment of swallowing (Class I; Level of Evidence B).
NG, nasoduodenal, or PEG tube feedings (Class I; Level of Evidence B). (Revised)

The use of aspirin is reasonable for treatment of patients who cannot receive anticoagulants for DVT prophylaxis (Class IIa; Level of Evidence A). (Revised)

General AcuteTreatment
reasonable to prefer NG tube feeding until 2 to 3 weeks after stroke onset (Class IIa; Level of Evidence B). (Revised)
the use of intermittent external compression devices is reasonable for treatment of patients who cannot receive anticoagulants (Class IIa; Level of Evidence B). (Revised)

Treatment of Acute Neurological Complications
Decompressive surgical evacuation of a space-occupying cerebellar infarction is effective in preventing and treating herniation and brain stem compression
(Class I; Level of Evidence B). (Revised)
Placement of a ventricular drain is useful in acute hydrocephalus secondary to ischemic stroke (Class I; Level of Evidence C). (Revised)
Although aggressive medical measures have been recommended for treatment of deteriorating patients with malignant brain edema after large cerebral infarction, the usefulness of these measures is not well established (Class IIb; Level of Evidence C). (Revised)

corticosteroids (in conventional or large doses) are not recommended for treatment of cerebral edema and increased ICP complicating ischemic stroke (Class III; Level of Evidence A).
Prophylactic use of anticonvulsants is not recommended (Class III; Level of Evidence C).

THE BIO–PSYCHO–SOCIAL PARADIGM OF DISEASE UNDERSTANDING AND ICF

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Medicine today uses a standardized international classification of diseases (ICD). In acute medicine treatment and diagnoses of a particular disease entities,which are defined nosologically are the most important points.

As already mentioned in module 1 in rehabilitation medicine the problem is some different: Here in the foreground of interest of physicians and patients is the ability of the patient to do particular things i.e. to find descriptors for the actual abilities, function and chances of participation for the patient.

To make also such a classification comparable on an international level and find sort of a "micro language" to describe such differences in function and abilities the world health organization (WHO) has suggested to use a standardized international classification of function (ICF).

The ICF differentiates

1. Body functions and structures
2. Activities
3. Participation

In the course of rehabilitation there is a transition from the acute medical treatment of body structures and body functions towards a more functional activity and participation related view. Within the ICF nine chapters of different activities can be differentiated from elementary mobility to major live areas as social, civic and religious actvities. Within each domain (e.g. mobility) activities can be further sub defined into sub categories:

It will be demonstrated how ICF classification can be institute to describe rehabilitation process. Furthermore it is critically discussed in how far the micro language of ICF really reflects the patients ambitions and needs in the rehabilitation process.

It is important to note to that the ICF tries to reflect a bio- psycho- social model of disease rather than a pure biological understanding.

THE COMPREHENSIVE APPROACH OF REHABILITATION MEDICINE, ETHICAL AND LEGAL ASPECTS

In acute medicine there is a clear nosological definition of a disease followed by a set of diagnostic procedures leading to a treatment approach directed towards the known properties of this disease. Threfore the entire treatment process is centered around the diagnosis and nosological entity and in some sense monodimensional.

In contrast in rehabilitation medicine a much more comprehensive multi- facetted approach has to be used. The entire social and environmental circumstances and tradition in which the individual patient is embedded in has to be taken into account. Treatment is not marshalled according to a particular diagnosis but rather oriented on the balance between what the patients is able to do and is not able to do in particular domains of behavior. These domains today can be described by the use of the international classification of functions (ICF) (see module 2). Therefore rehabilitation needs a specialized way of looking at the necessary assessment of the patient, describing the patient's needs and goals and try to find a compromise what goals can be achieved in a particular condition and giving a particular behavior repertoire the patient has access to.

In this module furthermore legal and ethical aspects will be described as well as short overview will be given about different structure of rehabilitation approaches in neurology across Europe. In this respect it is also important to define the relative roles of physicians in neurology and physical medicine/ rehabilitation contributing to the definition of neurorehabilitation procedures.

WHAT ARE THE PITFALLS IN DIAGNOSING PARKINSON'S DISEASE?

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Parkinson's disease (PD) is a common neurodegenerative condition. The accepted diagnostic criteria are outdated. They do not take into account the heterogeneity of PD, its complex pathology, and the lack of reliable biological markers.

Several potential pitfalls must be recognized.

1. Heterogeneity of the disease. Sporadic PD is heterogeneous, and is the end result of several factors, protective and noxious, genetic and environmental. These factors need to be considered.

2. Comorbid conditions, particularly vascular disease and mental changes unrelated to PD itself, might influence the course of the disease and the response to therapy.

THE ROLE OF APOMORPHINE IN THE TREATMENT OF PARKINSON'S DISEASE

Apomorphine is the oldest dopaminergic medication and was initially known for its emetic properties. It was initially used for Parkinson's disease over 60 years ago but later ignored for many years following levodopa introduction. It is also the most potent dopamine agonist and its administration can provide symptom relief comparable to levodopa. Apomorphine exerts its antiparkinsonian effect by direct stimulation of striatal postsynaptic dopamine D1 and D2 receptors. The drug has a rapid absorption after subcutaneous injection (Cmax 20 min), and a short half-life (almost 43 min), and this is consistent with its rapid onset of action, with effects apparent within 5–15 minutes of subcutaneous administration. Clinical studies and evidence-based reviews generally support a role for apomorphine infusion as an effective option for patients with PD and severe fluctuations, poorly controlled by conventional oral drug treatment with an improvement in OFF-time between 50% and 80% as well as dyskinesia. While the benefit on off time is consistent across all studies, dyskinesia improvement generally occurs after a few weeks or months of continuous dopaminergic stimulation as a result of wider therapeutic window. Moreover it can be best achieved with apomorphine monotherapy that may require high infusion doses.

Intermittent subcutaneous apomorphine (penjet) may instead be suitable for the long-term acute treatment of OFF episodes in patients with advanced PD. Apomorphine injections can be a particularly helpful in the management of patients who undergo surgical procedures and cannot take medication by mouth or to treat additional severe non-motor symptoms occurring during OFF periods.

References:

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CLINICAL EXPERIENCE ON PAIN TREATMENT IN ELDERLY - MODULATING EFFECT OF BENFOTIAMINE ON ANALGESIC ACTIVITY OF NSAIDs

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The number of elderly population in EU progressively increases. The proportion of the population aged 65 and over in Bulgaria is estimated to be 33.5% in 2050 which is higher than the mean Euro area – 31.1%. This fact correlates with the increased number of cases presenting with different types of pain. Treatment of pain remains an important issue in routine clinical practice. Grouped by generic categories, NSAIDs are the most widely prescribed by all analgesic drugs for nociceptive pain treatment. Clinical as well as experimental evidence showed that most neuropathic pain syndromes responded poorly to NSAIDs or opioid analgesics. EFNS guidelines on the pharmacological treatment of neuropathic pain put on the first line antiepileptics gabapentin/pregabalin and tricyclic antidepressants: amitriptiline, clomipramine, desipramine, imipramine (Level A).

It is well known that thiamine (vitamin B1) is an effective adjuvant medicine for the treatment of neuropathic disorders. Evidence was presented recently that the effect of its lipid-soluble form benfotiamine is several times more effective in this pathology. The amount of the active metabolite thiamine diphosphate accumulated in erythrocytes was 120-fold higher after benfotiamine compared to thiamine. Within a short time after oral administration of benfotiamine plasma levels of thiamine were comparable with its levels after intravenous administration of the same dosage of water-soluble vitamin B1. Moreover, benfotiamine was found in animal experiments to have lower toxicity than the water-soluble vitamin B1. Clinically benfotiamine was found to be an indispensable element of the therapeutic regimen in patients with (painful) diabetic polyneuropathy and other pain symptoms.

Our 10 years clinical experience on different pain symptoms treatment in 2540 elderly neurology patients is presented.

ADVANCES IN BRAIN PROTECTION AND RECOVERY, IN ACUTE AND LONG TERM STROKE TREATMENT

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Neurological disorders, especially stroke, represent a leading cause of long term disability all over the world. Many advances have been done in the treatment of these pathologies, mostly confined to acute phase, especially in stroke (e.g. thrombolysis, mechanical recanalization, augmentation of cranial perfusion, etc).

The need to identify therapeutic methods, able to limit brain damage and enhance recovery of motor function through neuroprotective and neurorestorative mechanisms, even when administered at later time points, is desirable.

Neurorecovery is the positive outcome that produces clinically relevant results with immediate functional and late structural effects. Neurorecovery depends on the adaptative plasticity of the undamaged nervous tissue, and of the non-affected elements of functional network. Initial size and location of injury are the main factors that determine the extent of the recovery in the brain.

Neurorecovery can be enhanced by pharmacological intervention, physical activity, electromagnetic stimulation, psychological support, environmental stimulation or any demonstrated combinations of these factors capable of improving the patient's condition after brain injury.

From the pharmacological perspective, it is clear that focusing on molecules that are capable of mimic the function of endogenous molecules with multimodal and pleiotropic neuroprotective effects is the best approach in neurorecovery, especially when they are associated with intensive physical training.

Biological agents (e.g., neurotrophic factors and related molecules) with modulating and multimodal effects are better pharmacological agents for brain protection and recovery, because they usually have also pleiotropic neuroprotective effect. That is why they are capable of pharmacologically bridging acute neuroprotective processes with the long-term recovery processes.

There are many animal and human studies trying to elucidate the cellular and molecular mechanisms of plasticity of the nervous system. A better understanding of the mechanisms underlying the neuroplasticity will reflect in a more efficient and comprehensive treatment.

This presentation will focus also on the results of latest clinical trials for brain protection and recovery in stroke treatment.

NEUROPATHIC PAIN AND CNS PLASTICITY

Prior to 1965, was considered that pain emanate from activation of nociceptors, which initiated pain impulses that traveled through a spinal pathway to the brain. In 1965, Ronald Melzack and P. D. Wall elaborated gate control theory that consider brain as an active system that filters, selects and modulates inputs.

In 1989, R. Melzack developed the neuromatrix theory of pain that consider that pain is a multidimensional experience produced by characteristic "neurosignature" patterns of nerve impulses generated by a widely distributed neural network—the "body-self neuromatrix"—in the brain. These neurosignature patterns may be triggered by sensory inputs, but they may also be generated independently of them.

The concept of body-self matrix that generates a bodyself neurosignature of pain has gradually been transformed into an empirically driven hypothesis using imaging data. It has been shown that various brain regions form a widely distributed network within this matrix.

The regions of pain neuromatrix are densely interconnected, and also have excitatory or inhibitory projections with the rest of the brain. Imaging studies demonstrated a strong relationship between chronic pain and dysfunctional connectivity across brain networks.

In 2005, was provided the first quantitative demonstration that the brain can be characterized as a "small-world" network (also known as "six degrees of separation").

This presentation will give a brief overview regarding CNS functional, structural and biochemical changes induced by chronic pain.

PATHOLOGICAL PLASTICITY IN PARKINSON'S DISEASE

The dysfunction of dopaminergic pathways has been implicated in many neurological and psychiatric diseases. One example is Parkinson's disease (PD), in which a DA deficit is responsible for motor, cognitive, autonomic and behavioral complaints, beside many other neurotransmitters and neuromodulators dysfunction.

Many experimental studies were performed in order to identify the mechanisms leading to symptom development in PD. The main conclusion of several current theories is that the ability of neurons from the basal ganglia circuit to undergo synaptic plasticity is impaired.

Synaptic neuroplasticity is involved in the ability to encode and retain memories through the activity-dependent functional and morphological remodeling of synapses DA plays an important role in all forms of striatal plasticity; however, these mechanisms exhibit remarkable regional variation.

This presentation will highlight cellular and molecular mechanism of pathological plasticity involved dyskinesia and motor and non-motor fluctuations in advance PD.

MULTIPLE SCLEROSIS – UNDERSTANDING RISKS OF UNTREATED AND DEFINING POOR PROGNOSIS & TREATMENT FAILURE

Multiple sclerosis (MS), a chronic autoimmune disease of the central nervous system, affects patients early during life, with a major impact on a large part of their lives and a considerable economic burden.

MS does not just cause symptoms. It has a large impact on society, determining an increase of unemployment and divorce rates. In a 2004 study, 2 out of 3 patients with RRMS were unemployed due to the disease. Several studies and evidence from large patient registries have consistently shown that life expectancy for MS patients is shortened by 7 to 14 years in comparison with that of the overall population. Along with disability progression, quality of life (as measured by the EQ-52) worsens dramatically and this degree of disability should be prevented.

The cognitive abilities could be affected even after the first event characteristic for MS. An exploratory study showed that, compared with healthy controls, significantly more patients with CIS failed 2 or more neuropsychological tests and the deficits were related to memory, speed of information processing, and attention.

This evidence showing early damage further supports the need for early treatment.

But how can we predict the disease course? MRI is extensively used in clinical practice as a marker for the burden and activity of disease. Data from Queen Square longitudinal study suggests that the greater number of lesions present at the first demyelinating event is associated, the higher risk of progressing to an EDSS score ≥3. Thus, patients with CIS with ≥1 lesion had substantially higher rates of conversion to CDMS compared with patients who were lesion free. These differences were pronounced at 5, 10, and 14 years, with nearly 90% of patients with ≥1 lesions at baseline converting to CDMS within 14 years, compared with only 19% of patients with no lesions at baseline.

The choice of right first-line therapy is related to the activeness and severity of the disease. However, no therapy has a responder rate of 100%. If a patient is placed on a treatment that does not work, this patient will lose precious time for his disability progression. In addition, society will have costs without benefits. Therefore it is necessary to assess the response to a treatment, identifying the signs of clinical and subclinical activity of disease by monitoring relapses, disability progression, and new lesions in MRI. Established biomarkers that are correlated with treatment responses include neutralizing antibodies against IFNs and natalizumab.

The increasing evidence supports the recommendations of treating early and aggressively for targeting long term benefits for the patients.

COGNITION, FATIGUE & MS: THEIR SIGNIFICANCE & USE AS BROADER CLINICAL INDICATORS OF TREATMENT SUCCESS

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Cognitive impairment and fatigue are common features of multiple sclerosis (MS), with an estimated prevalence ranging approximately from 40 to 65% of patients. Information processing speed, abstract reasoning, executive functioning, sustained attention and long-term memory are the most common affected cognitive domains in MS.

Cognitive changes occur in patients with all forms of MS, including those presenting with a first event suggestive of MS known as clinically isolated syndrome.

In CHAMPIONS, the longest clinical trial of treated CIS patients to date, more than 90% of patients treated with IM IFNβ1a remained cognitively unimpaired in the domains measured by PASAT at 10 years.

The Evaluation of natalizumab for the ENER-G study was conducted to evaluate effects of natalizumab treatment on fatigue and cognition in patients with relapsing MS. Patients with relapsing MS treated with natalizumab demonstrated significant improvement on cognitive test scores Index of Cognitive Efficiency (ICE) and Procedural Reaction Time (PRO) as well as significantly improved fatigue, as measured by changes in patient-reported measures: Visual Analog Scale for Fatigue (VAS-F), Modified Fatigue Impact Scale (MFIS), and Fatigue Severity Scale (FSS), for up to 48 weeks of treatment.

CLINICAL ROLE of ADVANCED GLYCATION ENDPRODUCTS IN DIABETES NEUROLOGICAL COMPLICATIONS

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Advanced Glycation Endproducts (AGE) are the end result of the complex chemical process through which the structure of proteins is warped by exposure to sugars or by other, much more reactive molecules (arteries, kidneys, heart, eyes, skin, nerves). The atherosclerotic gunk in the hearts of people with heart disease is thick with AGEs, even no diabetes. As consequences of the accumulation of AGE because of hyperglicemia, we discuss the best terapeutical solutions. The impressive advantage to taking Benfotiamine appears through many evidences. Benfotiamine has been proven in clinical trials to restore nerve function in diabetic neuropathy, to improve nerve conduction velocity, prevents AGE - related diabetic retinal damage and to stop the development of diabetic nephropathy.

DIABETIC NEUROPATHY – WHAT TREATMENT IS AVAILABLE?

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Diabetes mellitus (DM) is one of the most prevalent diseases worldwide and its complications are conditions that need diagnosis and treatments per se. Diabetic neuropathy (DN) is a frequent such a complication, its occurrence increasing along with DM duration, more than 50% of diabetics reaching this diagnosis eventually. DN leads to various alterations of quality of life, from lack of sensibility to pain and from light foot infections to large leg amputations. In this paper I will present the pathogeny of DN and I will review the current evidence-based treatment options.

NEUROTROPHIC FACTORS A NOVEL FOR THE TREATMENT OF ALZHEIMER'S DISEASE. AN EXPERIMENTAL STUDY USING NANOWIRED DELIVERY

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Cerebrolysin is a mixture of several neurotrophic factors and active peptide fragments and has multimodal action on brain cells inducing neuroprotection, neuroregeneration and angiogenesis. Due to these potential beneficial effects clinical trial of the drug was carried out in AD. The results clearly show some benefit to AD patient giving hope for this drug as a potential future drug for treating cognitive, sensory and intellectual dysfunction commonly seen in AD.

Furthermore, it improved cognition and reduced synaptic and behavioral deficits in transgenic (tg) mice overexpressing the amyloid precursor protein (APP). The memory deficits and brain pathology were reduced up to 3 months after discontinuation of the treatment. However, these beneficial effects were no longer seen following 6 months after withdrawal. Interestingly, Cerebrolysin reduced the neocortical and hippocampal amyloid plaque load immediately after treatment but could not block these effects after 3 months of discontinuation. This suggests that neurotrophic factors may have beneficial effects independent of amyloid-β deposition and further indicate that the prolonged effects up to 3 months may be due to its neurotrophic factor-like activity.

With advancement in nanotechnology for diagnostic or drug delivery purposes, use of nanotechnology to treat AD is becoming more relevant today. Recent research in AD therapy suggests that nanodrug delivery of compounds or specific iron chelators at-taenuate AD pathology by targeting ameloid beta deposition in the brain. These treat-ments could also reduce oxidative stress in AD models. Thus, this is quite likely that therapeutic agents if delivered through nanotechnologies will induce long-term neuro-protection and improves cognitive and sensory function in AD.

The AD lesions in brain contain abnormal metal accumulation. Thus, metal chelation therapy could reduce neuronal deterioration. These chelating agents bind to and re-move excess transition metals to reduce the oxidative damages caused by these metals in the brain. Since BBB protects transport of these chelating agents to enter into the brain, nanoparticles comprising natural organic polymers could transport metal chelat-ing agents across the BBB regardless of their size and hydrophillicity. Thus, nanoparticle delivery systems for AD therapy could be exciting prospects for AD treatment in future.

Another way to use nanotechnology in AD is to use of engineered nanoparticles having high specificity for brain capillary endothelial cells. These specifically designed nanopar-ticles could be used for advanced diagnosis of AD as well as for the treatment. In addi-tion, nanoparticles with high affinity for the circulating amyloid-β(Aβ) will induce a "sink effect" causing improvement in AD. Ultrasensitive nanoparticles-based bio-barcodes,

immunosensors, and scanning tunneling microscopy are capable of detecting Aβ (1-40) and Aβ (1-42) precisely. However, possible nanoparticles-mediated adverse events in the brain or nanoneurotoxicological aspects in AD are not very well known. Thus, further studies on the use of nanoparticles in AD for diagnosis or therapy are needed. New observations in our laboratory showed that nanodrug delivery of neurotrophic factors using TiO2 nanowires in a transgenic mouse model of AD resulted in enhanced neuroprotec-tion and degradation of ABP in cortical and hippocampal areas up to 6 weeks after treatment. However, delivered normally in the transgenic AD mouse models, the neuroprotection could not be seen after 3 weeks of treatment.

These observations clearly suggests that nanotechnologies is the need of hour to treat AD in future. However, to use nanowired or nanodrug delivery of novel therapeutic agents in AD require further investigation related to the possible toxic effects of the nanomaterials used for diagnostic or drug delivery process in AD.

TAILORING MS TREATMENT BASED ON INDIVIDUAL PATIENT NEEDS

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Once MS diagnosis established, the current treatment strategy, supported by increasing evidence, is the early therapy initiation. An early therapeutic intervention aims at an early interference with the neuroinflammatory process and thus delaying disease progression as a marker of neurodegeneration. As a variety of MS treatments are currently available, an important challenge regarding therapeutic interventions is to tailor the therapy to the individual needs of the patients and the aggressiveness of the disease.

The individual approach of an MS patient in selecting the optimal DMTs has to take into consideration the need to control both the disease activity (reflected by relapses, disability and MRI activity) and the burden of this therapy upon the patient, as both can ultimately determine treatment efficacy.

The response to therapy should be continuously reassessed, clinically and imagistic. The MRI exams could highlight the subclinical activity of disease during 1st line therapy, being predictive for a worse evolution of MS.

The clinical or subclinical signs of a high active disease request the escalation of therapy. Pivotal studies as well as real world data have confirmed high efficacy outcomes of natalizumab, in terms of lack of disease activity or even improvement. As PML risk can raise concerns both to physicians and patients alike, a risk stratification algorithm (based on JC virus antibody status, duration of therapy and previous immunosuppressive treatment) can be applied in clinical practice.

The personalized management of each MS patient should always balance the progression and activity of disease with the risk – benefits profile of the therapy.

ION CHANNELS ON MICROGLIA AS POTENTIAL THERAPEUTIC TARGETS FOR NEUROPROTECTION

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Under pathological conditions microglia (resident CNS immune cells) become activated, and produce reactive oxygen and nitrogen species and pro-inflammatory cytokines: molecules that can contribute to axon demyelination and neuron death. Because some microglia functions can exacerbate CNS disorders, including stroke, traumatic brain injury, progressive neurodegenerative disorders such as Alzheimer disease, Parkinson disease, amyotrophic lateral sclerosis, and multiple sclerosis, and several retinal diseases, controlling their activation might ameliorate immune-mediated CNS disorders. A growing body of evidence now points to ion channels on microglia as contributors to the above neuropathologies. For example, the ATP-gated P2X7 purinergic receptor cation channel is up-regulated around amyloid β-peptide plaques in transgenic mouse models of Alzheimer disease and co-localizes to microglia and astrocytes. Up-regulation of the P2X7 receptor subtype on microglia occurs also following spinal cord injury and after ischemia in the cerebral cortex of rats, while P2X7 receptor-like immunoreactivity is increased in activated microglial cells of multiple sclerosis and amyotrophic lateral sclerosis spinal cord. Utilizing neuron/microglia co-cultures as an in vitro model for neuroinflammation, P2X7 receptor activation on microglia appears necessary for microglial cell-mediated injury of neurons. A second example can be found in the chloride intracellular channel 1 (CLIC1), whose expression is related to macrophage activation, undergoes translocation from the cytosol to the plasma membrane (activation) of microglia exposed to amyloid β-peptide, and participates in amyloid β-peptide-induced neurotoxicity through the generation of reactive oxygen species. A final example is the small-conductance Ca^{2+}/calmodulin-activated K^+ channel KCNN4/KCa3.1/SK4/IK1, which is highly expressed in rat microglia. Lipopolysaccharide-activated microglia are capable of killing adjacent neurons in co-culture, and show markedly reduced toxicity when treated with an inhibitor of KCa3.1 channels. Moreover, blocking KCa3.1 channels mitigated the neurotoxicity of amyloid β-peptide-stimulated microglia. Excessive microglial cell activation and production of potentially neurotoxic molecules, mediated by ion channels, may thus constitute viable targets for the discovery and development of neurodegenerative disease therapeutics.

MANAGEMENT OF SYMPTOMS IN MS

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Multiple sclerosis affects hundreds of thousands people all over the world. MS patients are usually young adults, beginning their way in life, building a career, a family. Even if the symptomatology and the disease course is very diverse, almost all patients finally experience a walking impairment of different degrees. When rating what functional impairment concerns them most, patients put on first place walking impairment. There are different aspects of the walking which can be analyzed but speed is one of the most important. Impairment of walking can limit the work ability or interfere with activities of daily living, and is correlated with decreased quality of life. Walking assessment should be an important point in clinical evaluation of MS patients. Time to walk 7.5 meters or MSWS – 12 are useful instruments for monitoring of walking performance. 4- aminopyridine (Fampridine) is a voltage gated potassium channel blocker that reduces the leakage of ionic current through these channels in demyelinated axons and improves action potential propagation. The results of trials showed that in average 25% of the patients had a constant improve of walking speed, which was seen within two weeks after initiating the treatment. Patients who do not improve are considered non- responders, but for those who improve the treament nust be continued, as the improvement of walking is stable and has a good safety profile.

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The primary goal of the statistical lectures is to provide non-statisticians with an basic understanding of the interconnections and relationships which are important in practice and the ability to implement and apply this basic knowledge in the proper interpretation of study results.

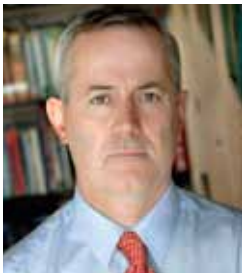
META-ANALYSES: BASIC CONCEPT, HOW TO READ FOREST-PLOTS, COMMON TRAPS

The teaching course will adress the following issues:
Meta-Analyses: Basic concept. How to read a forest-plot. Correct and false interpretation of meta-analyses through examples from the literature. Common traps.

EVIDENCE-BASED MEDICINE: BASIC CONCEPT, KEY POINTS OF THE GRADE SYSTEM

The teaching course will adress the following issues:
Evidence-based medicine: Basic concept. From effect sizes to quality of evidence. Biometric key points of the GRADE system. Interpreting strength of recommendations. Modern risk-based approaches as basis for high precision RTCs in neurosciences.

TREATMENT OF SEVERE TRAUMATIC BRAIN INJURY
THE ROLE OF THE NEUROLOGIST IN TBI MANAGEMENT



PIETER E. VOS

Radbound
University Nijmegen
Medical Centre,
Nijmege and Future
Diagnostics, Wijchen,
The Netherlands

Traumatic Brain Injury (TBI) encompasses the functional disturbances and structural damage of the brain caused by direct impact, by external acceleration, deceleration and/or rotation forces to the head. In moderate/severe traumatic brain injury a dominant view is to prevent and treat secondary brain damage. This is based on a single pathophysiological concept which states that the (duration of) elevated intracranial pressure is related to decreases in cerebral bloodflow causing brain ischemia. Classical post mortem studies have consistently demonstrated ischaemic damage and that the volume of ischaemic tissue is related to worse outcome.

However what has been somehow neglected for years is that in terms of pathophysiology, anatomical localization and extent of the damage, TBI can be very heterogeneous. Impact to the head on one end of the spectrum may induce large focal cortical lesion(s) like hematomas and contusions in or near the cortex (in 30%) while at the other end pathology may consist of diffuse widespread microstructural subcortical lesions of the white matter (diffuse axonal injury or traumatic axonal injury)(in 50%). In 20% combined focal and diffuse pathologies are found. The cellular and molecular biochemistry involving different genes underlying focal and diffuse lesions is very different which has significant implications for recuperation of brain tissue.

The single pathophysiological concept approach of TBI has resulted in a scarcity of successful evidence based strategies and in a complete lack of randomized controlled trials of targeted drug interventions with a positive effect on mortality and long term outcome. But a positive change emerges because of: 1) Increased awareness of the fact that TBI is a disease (and not merely an incident) that may lead to chronic disability and reduced quality of life years and enormous societal costs. 2) The appearance of systematic reviews and guidelines stating that TBI may benefit from an evidence based interdisciplinary approach to improve early conventional management and rehabilitation. 3) The use of new MRI techniques like DWI, SWI & DTI in the acute stages of TBI demonstrating the pathological heterogeneity of TBI which may open ways for new drug intervention studies. 4) Treatment is traditionally oriented at decreasing intracranial pressure by means of surgical removal of mass lesions (if present) and interventions including sedation, osmotic therapy, mild hyperventilation, metabolic suppression (with propofol, barbiturates, and hypothermia). New insight in the limitive value of this approach may open new treatment ways in TBI.

5) Finally it is increasingly recognized that outcome may be influenced by other factors than injury alone and that the patients previous history or pre-injury characteristics may modify the response of injured individuals.

CURRICULUM VITAE

ANTON ALVAREZ
/Spain

Medical Doctor (M.D.), University of Santiago de Compostela (1987)
Diploma of Specialist in Neuroendocrinology, University of Santiago de Compostela (1988)
Graduate in Psychology, University of Santiago de Compostela (1988)
Doctorate in Psychiatry, University of Santiago de Compostela (1988-1990)
Resident Research Fellow of the Ministry of Education and Science (1988-1992)
Department of Psychiatry, Santiago University (1988-1991)
Madrid Complutense University (1992)
Psychiatry Doctor (PhD), Department of Psychiatry, Madrid Complutense University (1997)

Dr. Alvarez has 22 years experience in Basic and Clinical Research on Alzheimer's disease.

He was involved in more than 150 research projects, including projects funded by Public Institutions, pharmaceutical R&D studies, industrial and R+D+I projects, epidemiological studies and two projects funded by the European Comunity: (1) MimoVax:

Alzheimer's disease treatment targeting truncated AB40/42 by active immunisation (an STREP -Specific Targeted Research Projects- Project approved through the Six Framework Programme of the European Community to develop and test a vaccine for Alzheimer's disease). Period: 2006-2010. (2) BIOMED-PL-950523-European Concerted Action on Pick's Disease. Period: 1995-1998.

As a result of the research activity developed during this period, Dr. Alvarez published more than 120 scientific articles in national and international journals and books. In addition, Dr. Alvarez is actively involved in several scientific forums of his specialty (Congresses, Research Groups, Scientific Journals and Associations).

RAUL ARIZAGA

/Argentina

Chairman. Research Group on Dementia. World Federation of Neurology. - Director. Cognitive Neurology Unit. Neuraxis Institute. Neurological Foundation. Buenos Aires. Argentina. - Professor of Neurology. UCES. (Universidad de Ciencias Socieles y Empresariales). Buenos Aires. Argentina - Member. Research Group on Neuroepidemiology. World Federation of Neurology. - Principal Investigator, Argentina. 10/66 Dementia Research Project. Alzheimer's Disease International. - Corresponding Fellow. American Academy of Neurology - Member. Neuroepidemiology Section. American Academy of Neurology. - Member Behavioural Neurology Section. American Academy of Neurology. - Member. International Psychogeriatric Association. - - Member International Working Group on Harmonisation of Dementia Drugs Guidelines. - Member of the Board. Psychogeriatric Commission. Psychiatrists Argentine Association - Member of the Board. Argentina Stroke Society - Member of the Editorial Board: Psychogeriatrics

OVIDIU BĂJENARU
/Romania

1983	: M.D. at the Faculty of Medecine of University of Medecine and Pharmacy "Carol Davila" Bucharest
1989	: specialist in neurology, confirmed by the Ministery of Health of Romania
1993	: Ph.D. at the University of Medecine and Pharmacy "Carol Davila" Bucharest
1999 (since)	: Professor of Neurology at the University of Medicine and Pharmacy " Carol Davila" Bucharest, Chairman and Head of the Neurology Department of the University Hospital of Emergency Bucharest
2000-2004	: Vice-Dean of the Faculty of Medecine - University of Medecine and Pharmacy "Carol Davila" Bucharest
2001 - 2013	: President of the Romanian Society of Neurology
since 2013 -	: Honorary President of the Romanian Society of Neurology
2003 – 2009	: member of the Scientific Committee of ECTRIMS
2004 - 2009	: Member of the Executive Committee of the European Society of Neurology
2008 (since)	: Romania official delegate in UEMS – EBN (Board of Neurology)

*sept. 2010: elected Sectretary of the Executive Committee of UEMS-EBN

2011 (since): Director of Department of Neurology, Neurosurgery and Psychiatry of the University of Medicine and Pharmacy "Carol Davila" Bucharest

Post graduate training :
1992 - 1994 : post graduate training in clinical neurology and functional investigations of the nervous system at University " Rene Descartes"(Paris)

Fields of interest for the scientific research

- stroke, dementia and neurodegenerative diseases (in particular Alzheimer and Parkinson's disease), multiple sclerosis
- more than 300 scientific papers published and reported in different national and international scientific meetings, 5 medical books and monographies (published in Romania), co-author (1 chapter) to the "International Neurology - A Clinical Approach", Wiley-Blackwell, 2009; Principal Investigator in 12 research grants from the Romanian National Council for Science and Research, Country Principal Investigator in an International Program of Research for genetic factors in stroke patients; 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

HEINRICH BINDER
/Austria

EDUCATION:

1965 - 1972	Faculty of Medicine at the University Vienna MD since (promotion on) 1972, June 6th
1972 - 1978	University Hospital for Neurology, graduated in Medical Specialist for Neurology and Psychiatry
9/1982	Docent for neurology, a title corresponding to PhD
since 1988	Professor for Neurology, University Vienna founding member of the Austrian Society for Neurorehabilitation
5/1989	Head of the Neurological Hospital "Maria Theresien-Schlössel"
1994-2007	Head of Ludwig Boltzmann Insitute for Restorative Neurology and Neuromodulation
Since 2008	Deputy Head of Landsteiner Institute for Neurorehabilitation and Space Medicine
since 2002	Head of the Neurological Center, Otto Wagner Hospital, Vienna. Main focus: Patients with severe neurological/ neuropsychological deficits and invasive neurorehabilitation methods

currently
President of
- Austrian Society for Neurorehabilitation (OEGNR)
- European Federation NeuroRehabilitation Societies (EFNRS)

Member of
- Management Committee of the World Federation NeuroRehabilitation (WFNR)
- Managing Board of the International Danube Symposium
- Editorial Board of "Journal of Medicine and Life":

Chairman of
- Special Interest Group/WFNR "Spinal Cord Injury"
- Special Interest Group/WFNR "Early Rehabilitation"
- Scientific panel/EFNS "Brain recovery and Rehabilitation"
- Special Branch / International Danube Symposium: "NeuroRehabilitation"

Main topic of research: Neurorehabilitation, brain injury, spinal cord injury, vegetative state/ apallic syndrome (more than 140 publications)

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

PROFESSIONAL ACHIEVEMENTS- REVIEWER

1998-present	Lancet, Ad Hoc reviewer
1998-present	Diabetes and its complications, Ad Hoc reviewer
1999-present	Journal of Neuroimaging, Reviewer
1999-present	Journal of Neurology, Ad Hoc reviewer
2000-present	Neurology, Ad Hoc reviewer
2003-present	Israeli Medical Association Journal (IMAJ), Reviewer
2003-present	Acta Neurologica Scandinavica, Ad Hoc reviewer
2006-present	Journal of Neurology, Neurosurgery & Psychiatry, Reviewer
2010-	European Neurology, Ad Hoc reviewer

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)

RUDY CASTELLANI
/USA

Education

1986	B.S.	Physiology Michigan State University
1990	M.D.	Wayne State University

Post Graduate Education and Training

1990-1993	Residency in Anatomic Pathology Wayne State University Detroit, Michigan
1993-1995	Neuropathology Fellow Case Western Reserve University Cleveland, Ohio

Certifications

1997	American Board of Pathology, Anatomic Pathology and Neuropathology
	Medical Licensures
1994	Ohio Active
2001	Michigan Active
2005	Maryland Active

Employment History

1995-1999	Assistant Professor, Pathology, University of Maryland School of Medicine
1996-1999	Neuropathology Consultant, Baltimore VA Medical Center
1997-1999	Head of Neuropathology, University of Maryland Medical System
1999-2002	Assistant Professor, Case Western Reserve University, Cleveland, Ohio
2002-2005	Associate Professor, Michigan State University, Department of Human Pathology, East Lansing, Michigan
2003-2005	Faculty member, Neuroscience Program, Michigan State University
2003-2005	Faculty member, Comparative Medicine and Integrative Biology Program, Michigan State University
2005-present	Professor, Pathology, University of Maryland School of Medicine

Professional Society Memberships

1993-present	College of American Pathologists
1996-present	American Association of Neuropathologists
2002-present	Neurotoxicity Society
2007-present	Society for Neuroscience

Clinical Activities

1995-1999	University of Maryland Medical System: Neuropathology, Cytology, General Surgical Pathology, and Autopsy
1999-2002	University Hospitals of Cleveland: Neuropathology, Cytology, General Surgical Pathology, and Autopsy
2002-2005	Sparrow Hospital, Lansing, Michigan: Neuropathology, Forensic Neuropathology, Cytology, General Surgical Pathology, and Autopsy

2005-present	University of Maryland Medical System: Neuropathology, General Surgical Pathology, and Autopsy
2005-present	University of Maryland Medical System: Neuropathology consultation: autopsy brains for dementia, forensic neuropathology, and miscellaneous conditions received from physicians and institutions through the United States – approximately 50 to 100 cases per year, and increasing;
2005-present	Development and implementation of neuromuscular disease laboratory, including the spectrum of enzyme histochemistry, immunohistochemistry for sarcolemmal proteins, teased peripheral nerve fiber preparations; establishment and maintenance of interdisciplinary neuromuscular pathology conference
2005-present	Ad Hoc consultation for Baltimore VA Medical center – surgical and autopsy neuropathology; approximately 50 cases per year
2005-present	Neuro-oncology tumor board – up to several neuropathology discussions per week.
2010-present	Muscle and nerve biopsy consultation; national scope in collaboration with Bostwick Laboratories – several hundred neuromuscular cases per year potential (final agreement pending).

LASZLO 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 stroke-related diseases, associated editor of Frontiers on Stroke and member of editorial committee (Intern. J Stroke)

VOLKER HÖMBERG
/Germany

MEDICAL DIRECTOR

St. Mauritius Therapy Hospital Meerbusch

PERSONAL DATA

Born 25 July 1954
Married to Priv.-Doz. Dr. Kristina Müller, paediatric neurologist

MEDICAL CAREER

1973 - 1980	School, Universities of Düsseldorf and Freiburg; Elective in Neurology at Boston City Hospital, Boston, Mass.; National Hospital for Nervous Diseases, London
since 1975	Junior researcher in the Department of Neuropsychology at the C. & O. Vogt Institute for Brain Research, Düsseldorf and the Department of Neurology, Freiburg (Prof. R. Jung)
1980 - 1981	Research fellow in the Department of Neuropsychology (Prof. G. Grünewald) at the C. & O. Vogt Institute for Brain Research, Düsseldorf
since 1981	Clinical training in the Department of Neurology (Prof. H.-J. Freund), Heinrich- Heine-University Düsseldorf
since 1985	Senior registrar in the Department of Neurology, Heinrich-Heine-University Düsseldorf
since 1987	Senior investigator for the German Research Council Special Task Force in Neurology at Heinrich-Heine-University (SFB 200 and SFB 194)
1987-2005	Medical director of the Neurological Therapy Center (NTC), Heinrich-Heine-University Düsseldorf
since 1988	Board examiner for Neurology at the local examination board (Ärztekammer Nordrhein)
1989-1997	Vice president of the German Society for Neurological Rehabilitation
1993	Habilitation in Neurology, Heinrich-Heine-University Düsseldorf
since 1995	Board examiner for physical medicine and rehabilitation (Ärztekammer Nordrhein)
1997-2005	Medical director of the Neurological Therapy Center, Cologne
1998-2004	President of the German Society for Neurological Rehabilitation
since 2000	Medical director and head of neurology, St. Mauritius Therapy Hospital, Meerbusch
since 2003	Secretary General World Federation for NeuroRehabilitation (WFNR)
since 10/2004	Vice president of the German Society for Neurological Rehabilitation
since 2005	Panel-Chairman Neurorehabilitation for European Federation Neurological Societies (EFNS)

AMOS KORCZYN

/Israel

Professor Amos D. Korczyn is the Sieratzki Professor of Neurology at Tel-Aviv University.
Professor Korczyn graduated from the Hebrew University – Hadassah Medical School in Jerusalem in 1966 (MD), where he also received an MSc degree in pharmacology (cum laude) in 1966. He trained in neurology at Beilinson Hospital and at the National Hospital for Nervous Diseases, Queen Square, London. He was the Chairman of the Department of Neurology at the Tel-Aviv Medical Center since 1981 until 2002. Professor Korczyn has a particular interest in dementia. He has authored or co-authored over 600 articles in peer-reviewed journals, as well as chapters in books, etc. Professor Korczyn is or has been an Editorial Board member of 15 international journals, and organized several neurological conferences, mainly in the field of dementia, Parkinson's disease and other degenerative brain disorders, as well as CONy – the International Congress on Controversies in Neurology.

DIMITAR MASLAROV
/Bulgaria

WORK EXPERIENCE

From 27. 01. 2010
First MHAT – Sofia, AD, 37 Patriarch Evtimii blvd, Sofia 1142
Neurology Clinic/Chieairman

From 01. 11. 2006
First MHAT – Sofia, AD, 37 Patriarch Evtimii blvd, Sofia 1142
Neurology Department/Chieairman

1995 - 2006
First City Hospital – Sofia, 37 Patriarch Evtimii blvd, Sofia 1142
Department of Neurology/Neurologist

1991 - 1995
Brain Research Institute, Bulgarian Academy of Sciences
Neurophysiology, Electrophysiology/Research Fellow

1989 - 1990
Pernik City Hospital
Internal Medicine/Internist

1987 - 1989
Velingrad Pneumology Hospital
Internal Medicine/Internist

EDUCATION AND TRAINING

1981 - 1987
Higher Medical School - Sofia
Medical Faculty/Physician/Dipl. No 007113/1987

1996
Higher Medical School - Sofia
Neurologist/Dipl. No 001221/1996

1999
Bulgarian GovernmentHigher Attestation Commission
PhD/Dipl. No 26234/1999

2005 - 2007
Higher Medical School - Sofia
Faculty of Public Health
Magistar on Public Health and Health Management
Dipl. No MC 021354/16006/14. 12. 2007

27.07. 2009

Bulgarian Government Higher Attestation Commission
Associated Professor
Dipl. No 25758/27. 07. 2009

MEMBERSHIP SOCIETIES

1991 - Bulgarian Society of Neurosciences
1991 - Bulgarian Physiological Society
1991 - Bulgarian Society of EEG, EMG and Clinical Neurophysiology
1994 - IBRO
1994 - EBPS
1995 - Bulgarian Society of Neurology
1999 - Bulgarian Headache Society
1999 - INRIA Rhone-Alpes
2004 - Association for GCP and Clinical Research Development in Bulgaria – Assoc. Member
2006 – Bulgarian Association for Neuroprotection and Neuroregeneration – Member of Directory Board, Secretary
2006 – Member of Editors Board "Bulgarian Neurology" Journal
2006 – Member of Executive Board "Bulgarian Neurology Association"
2007 – President – "Association Partners – Neurology"
2008 – World Stroke Organisation

DAFIN FIOR MUREŞANU
/Romania

Muresanu Fior Dafin, MD, PhD, MBA, FANA, is the President of the Romanian Society of Neurology, Professor of Neurology, Chairman of the Neurosciences Department, University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca, member of the Academy of Medical Sciences, Romania. He also acts as the President of the Society for the Study of Neuroprotection and Neuroplasticity. In these roles, he is involved as member of the faculty in international educational programs of European Master (i.e. European Master in Stroke Medicine, University of Krems), organizer and co-organizer of European and international schools and courses (International School of Neurology, European Stroke Organisation Summer School, Danubian Neurological Society Teaching Courses). His activity includes involvement in many clinical studies and research projects, memberships in the executive board of many national and international societies, participations as invited speaker in national and international congresses, a significant portfolio of scientific articles (77 papers indexed on Web of Knowledge-ISI) as well as contributions in monographs and books published by prestigious international publishing houses. In the last 7 years, he was also invited as speaker in over 200 scientific events both national and abroad. Prof. Dr. Muresanu has been honoured with the Faculty of Medicine, University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca "Octavian Fodor Award" for the best scientific activity of the year 2010 and the 2009 Romanian Academy of Medical Sciences "Gheorghe Marinescu Award" for advanced contributions in Neuroprotection and Neuroplasticity.

CRISTINA PANEA
/Romania

Cristina Aura Panea has graduated the University of Medicine and Pharmacy “Carol Davila” Bucharest in 1986. She has started the neurology specialty and her university teaching career in the Neurology Department of the University Emergency Hospital of Bucharest in 1991 and has obtained her PhD in Medical Sciences in 2000. Starting with 2003, she is Associated Professor and the Head of the Neurology Department of Elias Emergency University Hospital.

The main fields in which she has activated are epilepsy, multiple sclerosis and movement disorders – fields in which she had elaborated over 100 papers and has carried out numerous clinical researches.

She is a member of the Romanian Neurology – which treasurer she was between the years 2001 to 2009; also she is a member of the European Neurology Society, American Academy of Neurology and of the International Movement Disorders Society.

AMORIN REMUS POPA
/Romania

Present Position (including name and address of the institution):
SENIOR SPECIALIST IN DIABETES, NUTRITION AND METABOLIC DISEASES, SENIOR SPECIALIST IN INTERNAL DISEASES, HEAD OF DIABETES DEPARTMENT
EMERGENCY CLINICAL COUNTY HOSPITAL, GH. DOJA STR., NO. 65, ORADEA, 410169, ROMANIA

Starting Date in this Position: 2000

Relevant Professional Qualifications (Post Graduate Training):
SENIOR SPECIALIST IN INTERNAL MEDICINE, UNIVERSITY OF MEDICINE AND PHARMACY, BUCHAREST - 1996
SENIOR SPECIALIST IN DIABETES, NUTRITION AND METABOLIC DISEASES, CLUJ-NAPOCA - 2000

Relevant Experience / Positions (Responsibility/Years):
HEAD OF DIABETES AND INTERNAL DISEASES DEPARTMENT, EMERGENCY CLINICAL COUNTY HOSPITAL ORADEA 2005 -

EX-PRESIDENT OF THE COMISSION FOR DIABETES OF ROMANIAN MINISTER OF HEALTH

PRESIDENT OF THE SOCIETY FOR DIABETIC NEUROPATHY

MEMBER OF THE BOARD OF NUTRITION, AND OF DIABETES SOCIETIES

Other relevant information (e.g. Publications, participation in International Conferences/Clinical Trials):
PHASE III STUDIES ON DIABETES - COINVESTIGATOR 2000-2005

PHASE III, II STUDIES ON DIABETES – PRINCIPAL INVESTIGATOR 2006 -

OVER 200 NEWSPAPERS IN ROUMANIAN AND FOREIGNER MEDICAL MAGAZINES

BOGDAN O. POPESCU
/Romania

Bogdan O. Popescu - born March 8th, 1971 in Bucharest, Romania.
Address: Department of Neurology, School of Medicine, 'Carol Davila' University of Medicine and Pharmacy, Colentina Clinical Hospital, 19-21 Sos. Stefan cel Mare, sector 2, 020125, Bucharest, Romania.
Academic Education and Appointments

1996	MD, 'Carol Davila' University School of Medicine, Bucharest, Romania
1997 - 2002	Resident in Neurology, University Hospital Bucharest
2000 - 2009	Assistant Professor, 'Carol Davila' University School of Medicine
2001	PhD, 'Carol Davila' University School of Medicine - suma cum laudae
2002 - 2008	Neurologist, University Hospital Bucharest
2004	PhD, Karolinska Institute, Stockholm, Sweden
2005 -	Head of Laboratory of Molecular Medicine, 'Victor Babeş' National Institute of Pathology, Bucharest, Romania
2008-	Senior Neurologist
2009 - 2012	Lecturer, 'Carol Davila' University School of Medicine
2009 -	Senior Researcher, 'Victor Babeş' National Institute of Pathology, Bucharest, Romania
2012 -	Associate Professor, 'Carol Davila' University School of Medicine and Head of Neurology Unit II, Colentina Clinical Hospital

Awards

1999	Beaufour-Ipsen prize for the best research study in neurology
2000	Young histochemist award - International Society of Histochemistry and Cytochemistry
2004	Diploma of scientific merit – 'Victor Babeş' National Institute of Pathology
2007	Romanian Academy award for medical research
2010 and	'Science and Art National Foundation Award of Excellence for research in the field of Neuroscience Neuropathology

Other current activities
Guest editor for Alzheimer's review series at Journal of Cellular and Molecular Medicine
Executive editor of Romanian Journal of Neurology
President elect of the Romanian Society of Neurology (2017-2021) and former Secretary General (2001-2013)
Research director of the Society for the Study of Neuroprotection and Neuroplasticity
Director, Victor Babeş' National Institute of Pathology, Bucharest, Romania

Selected publications
1. Popescu BO, Gherghiceanu M, Kostin S, Ceafalan L, Popescu LM. Telocytes in meninges and choroid plexus. Neurosci Lett. 2012, 516:265-9.
2. Hort J, O'Brien JT, Gainotti G, Pirttila T, Popescu BO, Rektorova I, Sorbi S, Scheltens P; EFNS Scientist Panel on Dementia. EFNS guidelines for the diagnosis and management of Alzheimer's disease. Eur J Neurol. 2010, 17:1236-48.
3. Popescu BO, Toescu EC, Popescu LM, Bajenaru O, Muresanu DF, Schultzberg M, Bogdanovic N. Blood-brain barrier alterations in ageing and dementia. J Neurol Sci, 283:99-106, 2009.

4. Cowburn RF, Popescu BO, Ankarcrona M, Dehvari N, Cedazo-Minguez A. Presenilin-mediated signal transduction. Physiol Behav. 2007;92:93-7.
5. Hansson CA, Popescu BO, Laudon H, Cedazo-Minguez A, Popescu LM, Winblad B, Ankarcrona M. Caspase cleaved presenilin-1 is part of active gamma-secretase complexes. J Neurochem. 2006;97:356-64.
6. Popescu BO, Ankarcrona M. Mechanisms of cell death in Alzheimer's disease: role of presenilins. J Alzheimers Dis. 2004;6:123-8.
7. Popescu BO, Cedazo-Minguez A, Benedikz E, Nishimura T, Winblad B, Ankarcrona M, Cowburn RF. Gamma-secretase activity of presenilin 1 regulates acetylcholine muscarinic receptor-mediated signal transduction. J Biol Chem. 2004;279:6455-64.
8. Cedazo-Mínguez A, Popescu BO, Blanco-Millán JM, Akterin S, Pei JJ, Winblad B, Cowburn RF. Apolipoprotein E and beta-amyloid (1-42) regulation of glycogen synthase kinase-3beta. J Neurochem. 2003;87:1152-64.
9. Popescu BO, Oprica M, Sajin M, Stanciu CL, Bajenaru O, Predescu A, Vidulescu C, Popescu LM. Dantrolene protects neurons against kainic acid induced apoptosis in vitro and in vivo. J Cell Mol Med. 2002;6:555-69.
10. Popescu BO, Cedazo-Minguez A, Popescu LM, Winblad B, Cowburn RF, Ankarcrona M. Caspase cleavage of exon 9 deleted presenilin-1 is an early event in apoptosis induced by calcium ionophore A 23187 in SH-SY5Y neuroblastoma cells. J Neurosci Res. 2001;66:122-34.

HARI SHANKER SHARMA

/Sweden

Hari Shanker Sharma, (Swedish Citizen), Docent in Neuroanatomy (UU); Professor of Neurobiology (MRC), is currently working in Uppsala University Hospital, Department of Surgical Sciences, Division of Anesthesiology & Intensive Care Medicine, Uppsala University, Sweden.

Career History on Research in Neuroscience

Hari Sharma was born on Jan 15, 1955 in an Industrial town Dalmianagar (Bihar), India in a well-reputed family: Father Shri Ram Rup Sharma, M.Eng. (Cal), and one of the founders of Paper Factory under Rohtas Industries Ltd. Hari Sharma did his Higher Secondary Schooling in 1969 from Dalmianagar and enrolled in Bihar University, Muzaffarpur for higher studies. He did his Bachelor of Science with Honors from the prestigious L S College Muzaffarpur in 1973 and secured 1st position in his batch. He obtained his Master
Degree from Bihar University with special expertise in Cell Biology in 1976 and awarded Gold Medal of Bihar University for securing 1st potion in the 1st Class. Having a knowledge in cell biology with special interest in the central nervous system, Hari Sharma joined the group of Professor Prasanta Kumar Dey, a neurophysiologist by training in the Department of Physiology, Institute of Medical; Sciences, Banaras Hindu University, Varanasi in 1977 to obtain Doctor of Philosophy Degree (D. Phil) in Neurosciences. In the lab he conducted experiments on morphine dependence and withdrawal in relation to body temperature regulation, behavioral changes and neurochemistry in rat and mice models. In addition he was trained as neurophysiologist to record electrophysiological activity in relation to stress, hyperthermia and drugs of abuse. Hari Sharma was always
fascinated by the role of blood-brain barrier (BBB) in various experimental conditions and wanted to know whether brain disease has any relation with the spontaneous disruption of the BBB. His curiosity about the role of the BBB breakdown in stress condition leading to mental diseases was the basis of his Doctoral studies on "Blood-Brain Barrier in Stress" in which he for the first time showed that long or short term stress can disrupt the BBB and disrupts the EEG activity. These changes can be altered by drugs capable to modulate neurochemical metabolism of serotonin, prostaglandins and opioids in the CNS. On this work, he was awarded Ph D in 1982, that was examined and approved by the renowned team of experts on the BBB, namely: the father of Blood-Brain Barrier Research, Stanley I Rapoport of NIH, Bethesda, Maryland, USA; a pioneer on BBB in hypertension Professor Barbro Johansson, Department of Neurology of Lund University, Lund, Sweden; and noted Neuroanatomist with special regard to BBB Erik Westergaard, University of Copenhagen, Copenhagen, Denmark.

Hari Sharma after carrying out several Govt. of India Research Projects on the BBB and brain dysfunction (1982-1987), joined the lab of Neuropathology at Uppsala University with Professor Yngve Olsson in 1988 to expand his knowledge on the passage of tracer transport across the BBB in stress caused by traumatic insults to the Brain and Spinal cord at light and electron microscopy. Dr Sharma awarded the prestigious Alexander von Humboldt Foundation Fellowship of German Govt. (1989-1991) to work on hyperthermia induced BBB dysfunction at the ultrastructural level in the laboratory of Professor Jorge Cervós-Navarro (recognized as living "Legends in Neuropathology in Europe", World Federation of Neuropathology in 1990, Kyoto, Japan, and later awarded with the German Govt. highest Civil Award, Bundestag by German Chancellor in 1996). After that Dr Sharma came back to Uppsala to continue his research on Neurotrauma and established a network of collaboration on "Experimental CNS Injury Research Group" with key collaborators in various parts of Europe, USA, and Australia including his parent Institutions in India that is still continuing. The works carried out by Dr
Sharma on the pathophysiology of blood-brain barrier in hyperthermia using immunohistochemistry and elec-

tron microscopy in the Neuroanatomy Department of Uppsala University (1995-1999). On his work on hyperthermia Dr Sharma was decorated with prestigious Neuroanatomy award "Rönnows Research prize" of Uppsala University for "best neuroanatomical research of the year 1996" followed by the Award of the Degree of Doctor of Medical Sciences of Uppsala University in Neuroanatomy in 1999 (examined and approved by another legend of Blood-brain barrier Research, Professor David Begley, Kings College London, UK). The Uppsala University Thesis of Dr Sharma was also selected for the Best Thesis Award of the Medical faculty, "The Hwassers Prize" of 1999. Subsequent research of Dr Sharma in Uppsala University on the neurobiology of hyperthermia in relation to the Blood Brain barrier and Brain edema (2000-2003) has earned the prestigious title of Docent in Neuroanatomy of Medical Faculty, Uppsala University (approved and recommended by eminent Neuroanatomist, Professor Ole Petter Ottersen, University of Oslo, Norway) in April 2004.

Academic positions:

Director of Research, CNS Injury & Repair (since 1991-)
Professor of Neurobiology (MRC) (since 1999-)
Docent in Neuroanatomy (since 2004-)
Visiting Professor Uppsala University (1988-1989)
Humboldt Fellow, Berlin Free University (1989-1991)
Research Scientists Grade A Banaras Hindu University, India (1987-1989)
Research Associate Banaras Hindu University, India (1982-1987)

MIHAELA SIMU
/Romania

Mihaela Simu is presently working as Professor and Chairman of the Neurology Department II of University of Medicine and Pharmacy “Victor Babes” - Timisoara.
Professor Simu is currently Vicepresident of the Romanian Society of Neurology, one of the coordinators of the National Programme for the treatment of Multiple Sclerosis in Romania, active member of ENS, EFNS, American Academy of Neurology, and MDS.
Professor Simu has been and is involved as principal investigator in more than 20 international and national multicentric trials and 4 national research grants, and is presently the Romanian project leader in the BIOMARK HURO project (cooperation between Szeged and Timisoara medical Universities). Her interests are directed mainly in clinical neurology, in particular in multiple sclerosis, Parkinson disease, dementia, cerebrovascular and focal dystonias.
As author or co-author, has published and reported more than 100 national and international scientific papers, 3 medical books and 2 neurology courses in a bilingual (Romanian /English) version.

STEPHEN D. SKAPER
/Italy

STUDIES: B.S. (chemistry) Illinois Institute of Technology (1969); Ph.D. (biochemistry) University of South Dakota (1973); Laurea in chemistry, University of Padova (1990)

CAREER: NIH Postdoctoral Fellow, Department of Medicine, University of California, San Diego (1973-1976); Fellow in Human Genetics, Department of Pediatrics, Case Western Reserve University, Cleveland, Ohio (1977); Postgraduate Research Biologist, Department of Biology, University of California, San Diego (1978); Assistant Research Biologist, Department of Biology, University of California, San Diego (1979-1982); Associate Research Biologist, Department of Biology, University of California, San Diego (1983-1987); Head, Laboratory of Neuropharmacology, Neuroscience Research Laboratories, Fidia S.p.A. - Abano Terme, Italy (1987-1993); Principal Scientist and Head, Laboratory of Cell Biology, Researchlife S.c.p.A. (a Lifegroup Company), Biomedical Research Center, St. Thomas Hospital, Castelfranco Veneto (TV), Italy (1993-1996); Visiting Professor, Department of Pharmacology, University of Padova, Padova, Italy (1997); Assistant Director, Molecular Neurobiology Research, SmithKline Beecham Pharmaceuticals, New Frontiers Science Park, Harlow, United Kingdom (1998-2001); Senior Team Leader, Migraine and Stroke Research, Neurology & GI Centre of Excellence for Drug Discovery, GlaxoSmithKline R & D Limited, Harlow, United Kingdom (2002-2003); Senior Team Leader, Neuro Cell Sciences/Neurodegeneration Research, Neurology & GI Centre of Excellence for Drug Discovery, GlaxoSmithKline R & D Limited, Harlow, United Kingdom (2004-2007); Senior Team Leader, Target Validation Dept (Cognition and Pain), Centre of Excellence for Drug Discovery, GlaxoSmithKline R&D Limited, Harlow, United Kingdom (2008); Adjunct Professor, Department of Pharmacology and Anesthesiology, University of Padova, Faculty of Medicine, Padova, Italy (2009-present).

PROFESSIONAL MEMBERSHIPS: Sigma CI (The Scientific Research Society); Phi Lambda Upsilon (honorary chemistry society); Alpha Chi Sigma (professional society in chemistry/chemical engineering); Society for Neuroscience; International Society for Cerebral Blood Flow and Metabolism

JOURNALS EDITED: Editor-in-Chief, CNS & Neurological Disorders – Drug Targets; Editor-in-Chief, Clinical CNS Drugs; Associate Editor, American Journal of Neuroprotection and Neuroregeneration; Editorial Board Member, Nature Scientific Reports (Neuroscience); Councilor, International Association of Neurorestoratology
REVIEW PANELS: The Wellcome Trust (UK), Biotechnology and Biological Sciences Research Council (BBSRC) (UK), Austrian Science Fund (ad hoc review panel to evaluate interdisciplinary doctoral programmes in neuroscience)

RESEARCH INTERESTS: Molecular biology and cellular mechanisms of cell death in CNS aging and neurodegenerative disorders and neuroinflammation.Track record of drug discovery project leadership in kinases, ion channels, G-protein-coupled receptors, DNA repair enzymes, growth factors, identification and optimization of tools for target validation studies, utilising RNAi, conditional and viral knockdown\outs\ins, transcriptomics, proteomics and in vitro cell-based disease or mechanism relevant assays in rodent systems.

PUBLICATIONS: OVER 240 publications in the neurosciences, including book chapters and symposia proceedings.

PATENTS: Pharmaceutical compositions containing monosialoganglioside GM1 or derivative thereof suitable for the treatment of Parkinson's disease (Patent No.: US 6,620,792 B1), use of CRF receptor agonists for the treatment or prophylaxis of diseases, for example neurodegenerative diseases (US 2003/0186867 A1), treatment of conditions with a need of GSK-3 inhibition (PCT WO 02/062387 A1), use of CRF receptor agonists for the treatment or prophylaxis of diseases, for example neurodegenerative diseases (PCT WO 01/72326 A1), use of monosialoganglioside GM1 or N-dichloro-acetyl-lyso-GM1 for preventing or reversing neuronal degeneration induced by long term treatment with L-DOPA in the therapy of Parkinson's disease (EP 0 770 389 A1)

REVIEWER FOR JOURNALS: Journal of Neuroscience, PNAS, Nature Reviews, The FASEB Journal, Journal of Neurochemistry, Journal of Neuroinflammation, Neurobiology of Disease, Neurobiology of Aging, Glia, Apoptosis, Molecular & Cellular Neuroscience, Journal of Pharmacology and Experimental Therapeutics, Neuroscience, British Journal of Pharmacology, Neuropharmacology, European Journal of Pharmacology, Journal of Neurological Sciences

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...

JOHANNES C. VESTER

/Germany

Born, 1952, he specialized in Veterinary Medicine between 1971 and 1974 at the University in Munich, then changed to the University in Cologne in 1974 and specialized in Human Medicine from 1974 to 1980. In 1976 to 1979, he additionally studied biometric methods for pharmacology and clinical research at the Institute for Data Analysis and Study Planning in Munich.

While studying human medicine, he completed research work on pattern recognition in the visual brain and developed a pharmacodynamic Neuron Simulation Model at the Institute for Medical Documentation and Statistics of the University at Cologne.

From 1985 to 1995, he was member of the Ultrahigh Dexamethasone Head Injury Study Group and leading biometrician of the German GUDHIS Study.

Since 1982 he holds advanced training courses on biometry for professionals in clinical research and university establishments. His work also involves human engineering of biometric software and GCP-compliant tutorials for biometric appraisal of clinical studies.

Since 1995 he cooperates closely with the Institute for Data Analysis and Study Planning as Senior Consultant for Biometry & Clinical Research. He planned and evaluated about 150 randomized clinical studies worldwide and is member of various international advisory boards including participation as biometric expert in regulatory authority panels and in FDA, EMEA, and BfArM hearings.

PIETER E. VOS
/The Netherlands

Pieter Vos has joined the department of Neurology at the Slingeland Hospital in Doetinchem in the Netherlands recently. Research activities over the last 15 years carried out in a university medical centre were dedicated to traumatic brain injury. Focus of the research activities is to unravel the clinical, biochemical and genetic determinants of neuroplasticity and recovery after mild, moderate and severe traumatic brain injury. Pieter Vos is founder of the Dutch working group on Neurotraumatology. Current international activities: chairman of the scientist panel on neurotraumatology and head of the task force mild traumatic brain injury, both residing under the European Federation of Neurological Societies. He is a member of the editorial board of the European Journal of Neurology and treasurer for the Academia Multidisciplinaria Neurotraumatologica.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